Maine's
Public
Universities

UNIVERSITY OF MAINE SYSTEM

March 14, 2019

TO: Members of the Board of Trustees
      Faculty and Student Representatives

FR: Ellen N. Doughty, Clerk of the Board

RE: **March 2019 Board Meeting**

Enclosed are the materials for the **Board of Trustees Meeting** on **Sunday and Monday, March 24-25, 2019,** hosted by the University of Maine at Machias. Directions are included in the Board meeting materials.   Parking is available in the Powers Hall/Performing Arts Center lots.

The Board Meeting materials are available on the Diligent portal, for those who have access, and in PDF format on the Board of Trustees website at:
www.maine.edu/UMStrusteesmeetings

Live audio streaming will be available for the Board meeting on Sunday and Monday. The links to the live streaming and the captioning are on the Board of Trustees website at: www.maine.edu/board.

On Sunday, March 24th, the Board meeting will be called to order at 1:30 pm in Room 230, Torrey Hall. The Board will go directly into an Executive Session until 4:45 pm. At 5:00 pm the Board meeting will reconvene in the Performing Arts Center (PAC), with a meeting with the UMM Board of Visitors. A reception is scheduled for 6:00 pm in the Merrill Library, followed by dinner in Kilburn Commons.

On Monday, March 25th, the Board meeting will be called to order at 8:30 am with an opportunity for continental breakfast and networking starting at 8:00 am. The Board meeting on Monday will be in the PAC.

Meeting rooms have been reserved for the Faculty & Student Representatives if they would like to meet in their respective groups. These rooms are available starting at 1:00 pm on 3/24/19. The Faculty Representatives can meet in Room 226, Torrey Hall. The Student Representatives can meet in Room 221, Torrey Hall. The Faculty and Student Representatives will meet together with Tracy Bigney and Trustee Collins from 1-1:30pm in Room 226, Torrey Hall.

Overnight accommodations for those that have requested, have been reserved and hotel information is being emailed to attendees individually.

Incoming messages can be left with the UMM Head of Campus Office at 255-1342 or with Heather Massey at 991-4724 or Ellen Doughty at 949-4905.

In the event of a postponement, cancellation, or changes in the Board of Trustees meeting, a message will be recorded on the Board Office cell phone (991-4724). In addition, every effort will be made to personally contact the Board of Trustees, the Presidents, and the Faculty and Student Representatives.

cc: Chancellor James H. Page
　　 University Presidents
　　 System Staff

Directions to the University of Maine at Machias

University of Maine at Machias
16 O'Brien Avenue
Machias

From points north, follow Route 1 from Houlton to Machias.

From points south and west, follow I-95 to Bangor and exit onto I-395 to Brewer at exit 182A. At the end of I-395, follow route 1A to Ellsworth and then Route 1 to Machias. From southern Maine you may also drive north on I-95 to Augusta and exit onto Route 3 at exit 30, which leads to Belfast in the Penobscot Bay area and joins Route 1; follow Route 1 north to Machias.

From points east, follow Route 1 from Calais to Machias.

Campus Map

THE UNIVERSITY OF MAINE AT **MACHIAS** *Naturally!*
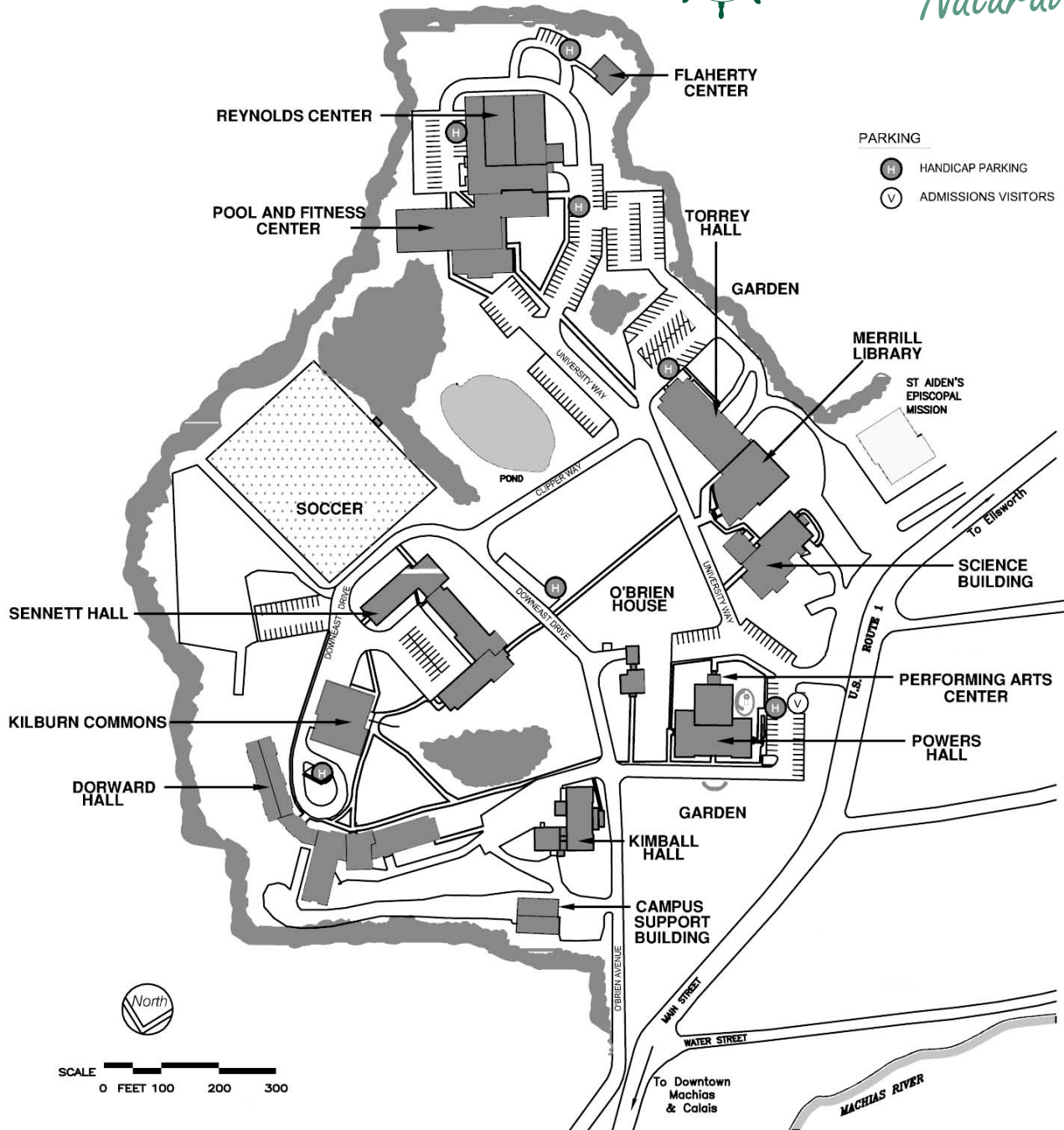
Powers Hall
- Administrative Offices
- Admissions Office
- Art Galleries
- First-Stop Student Center
- Performing Arts Center

Science Building
- Classrooms
- Community Ed and Outreach
- Faculty Offices
- GIS Lab
- Marine Education
   and Research Center

Merrill Library
- 24-Hour Computer Lab

Torrey Hall
- Classrooms
- Commuter Lounge
- Information Technology
- Student Support Services

Flaherty Center
- Early Care and Education

Support Building
- Maintenance
- Motor Pool

Reynolds Center
- Campus Fitness and Recreation
- Center for Lifelong Learning
- Intercolligate Athletics
- Murdock Bookstore

Dorward Hall
- Health Services
- Student Life Offices

Sennett Hall
- Clipper Lounge

Kilburn Commons
- Aramark Catering Services
- Faculty Dining Room

Kimball Hall
- Campus Security
- Faculty Offices
- Galley Snack Bar
- Portside
- Student Organizations
- WUMM

O'Brien House

Soccer Field

University of Maine System – Board of Trustees Meeting
March 24 & 25, 2019

at the University of Maine at Machias
Performing Arts Center

AGENDA

Faculty Representatives meeting – Room 226, Torrey Hall
Student Representatives meeting – Room 221, Torrey Hall

Faculty & Student Representatives will meet with Trustee Sam Collins & Tracy Bigney from 12:30 pm -1:30 pm on Sunday, March 24th in Room 226, Torrey Hall.

(These rooms will be available starting at 12:15 pm on 3/24/19 and all day on 3/25/19)

Sunday, March 24, 2019

Call to Order @ 1:30 pm
The Board of Trustees will go directly into Executive Session

Executive Session from 1:30 pm to 4:30 pm – Room 230, Torrey Hall

Call to Order/Reconvene Public Meeting @ 5:00 pm

Chair's Remarks

BOT/BOV meeting @ 5:05 pm
Tab 1 - Meeting with UMM BOV

Reception @ 6:00 pm – Merrill Library (Cash Bar)
(By Invitation Only)

Dinner @ 7:00 pm – Kilburn Commons
(By Invitation Only)

Monday, March 25, 2019

Coffee & Networking @ 7:30 am
Call to Order/Reconvene @ 8:00 am

Citizen Comment
The Board of Trustees provides time for citizen comment prior to the business agenda at each meeting. The Chair of the Board will establish time limits (usually three minutes per person) and determine any questions of appropriateness and relevancy. Personnel decisions, collective bargaining issues, grievances, litigation and other areas excludable from public discussion under the Maine Freedom of Access Law shall not constitute appropriate matters for such input. A person who wishes to speak during the citizen comment period should arrive prior to the meeting start time and sign up on a sheet provided, indicating name and topic of remarks.

Chair's Report (30 minutes)
- Chancellor Search Committee Update (5 minutes)
- Appointment of the Trustee Nominating Committee (5 minutes)

Chancellor's Report (30 minutes)

- Induction of Trustee Karl Turner as a Distinguished Member of the Francis Crowe Society (10 minutes)
- UMF Presidential Search Committee Update (5 minutes)
- Legislative Update (10 minutes)

Vice Chancellor for Finance and Administration & Treasurer's Report (10 minutes)
Tab 2 - Financial Update

Vice Chancellor for Academic Affairs' Report (30 minutes)
Tab 3 - Academic Initiatives Update (20 minutes)
Tab 4 - Spring 2019 Enrollment Report (10 minutes)

Action Items (15 minutes)
Tab 5 - Acceptance of Minutes
Tab 6 - Approval of the Board of Trustees Meeting Schedule and Calendar, 2019-2020 & 2020-2021
Tab 7 - Tenure Nominations for 2019
Tab 8 - Tenure at Time of Hire, Associate Professor of Nursing, USM
Tab 9 - Tenure Consideration, Professor of Business Administration, USM
Tab 10 - Tenure at Time of Hire, Professor of Mechanical Engineering, UM

Consent Agenda (5 minutes)
March 6, 2019 Finance, Facilities, Technology Committee Meeting
Tab 11 - VoIP Conversion, USM
Tab 16 - Energy Project Phase II Approval Request, UM

Break (10 minutes)

Strategic Priorities Discussion Topics
Tab 12 - Workforce Engagement Report (goal 1, action 1) (20 minutes)
Tab 13 - UMS Research & Development Plan, FY2020 – FY2024 (goal 1, action 2) (30 minutes)
Tab 14 - Adult Degree Completion: Implementation Plan (goal 2, action 1) (25 minutes)
Tab 15 - Early College Budget Overview (goal 2, action 2) (15 minutes)

Lunch Break (20 minutes) (Timing of the lunch break will be at the discretion of the Chair)

Date of the Next Meeting: May 19 & 20, 2019 at the University of Maine at Augusta

Executive Session from 12:45 pm to 3:30 pm – Room 230, Torrey Hall

Following the Executive Session the Board will reconvene the Public Meeting to take action on the following item:

Tab 17 - UMA Presidency

Attachments:
UMM BOV Membership List *(Confidential)*
Financial Update
- Managed Investment Pool
- Pension Fund
- Operating Fund
- Current Fiscal Year-to-Date Forecast to Budget
Spring 2019 Enrollment Report

- Highlights
- Spring 2019 Enrollment Report (full report)

Board of Trustees Schedule and Calendar, 2019-2020 & 2020-2021
Board of Trustees Committee Meeting Schedule, 2019-2020 & 2020-2021
Tenure Information
- Tenure & Promotion List 2019 *(Confidential)*
- Master List of Candidate Bios *(Confidential)*
- Board of Trustees Policy 310 Tenure
- Tenure Table 1 – Tabular analysis of 2019 candidates
- Tenure Table 2 – Summary of campus tenure promotions for 2019 and the previous 5 years
- Report on Tenure Statistics

Tenure Consideration, USM – Background Information *(Confidential)*
Tenure at Time of Hire, USM – Background Information *(Confidential)*
Tenure at Time of Hire, UM – Background Information *(Confidential)*
Workforce Engagement Report
- Executive Summary
- Full Report

UMS Research & Development Plan, FY2020 – FY2024
- Executive Summary
- Full Report *(Confidential)*

Adult Degree Completion
- Report
- Implementation Plan
- Gantt Chart

Agenda Calendar

Reports:
UMS Interactive Dashboard
Management Group Appointments Report
Capital Project Status Report
- Executive Summary
- Capital Project Status Report
- Capital Project Status Report – Bond Report

UMS Research Reinvestment Fund (RRF) Annual Report of Activities
Sightlines Annual Facilities Report, UMS
- Executive Summary
- Sightlines Presentation

Report on the Native American Waiver Education Program (NAWEP) Task Force

Presentations:
Academic Initiatives Update
Spring 2019 Enrollment Update
Adult Degree Completion Presentation
Early College Update

Tabs noted in red text are action items.
Note: Times are estimated based upon the anticipated length for presentations or discussion of a particular topic. An item may be brought up earlier or the order of items changed for effective deliberation of matters before the Board.

Maine's Public Universities
UNIVERSITY OF MAINE SYSTEM

AGENDA ITEM SUMMARY

1.   **NAME OF ITEM**:   Meeting with UMM Board of Visitors

2.   **INITIATED BY**:   James H. Page, Chancellor

3.   **BOARD INFORMATION**:   X   **BOARD ACTION:**

4.   **OUTCOME:**   **BOARD POLICY:**
                                                 102 Charter, Section 4B.5

5.   **BACKGROUND:**

The Board of Trustees (BOT) and the Boards of Visitors (BOV) for the universities are collaborating to increase engagement. The BOT/BOV partnership increases advocacy and adds value for UMS, our students and the State.

One aspect of this engagement is a regularly scheduled meeting of the BOT with the local BOV when the BOT meets on a campus. Members of the UMM BOV will meet with the BOT for a discussion of campus BOV strategic goals and concerns.

Attachment:

UMM BOV Membership List for 2018-2019 (confidential)

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AGENDA ITEM SUMMARY

1. **NAME OF ITEM**:   Financial Update

2. **INITIATED BY**:   James H. Page, Chancellor

3. **BOARD INFORMATION**: **X**   **BOARD ACTION**:

4. **OUTCOME**:   **BOARD POLICY**:
    Enhance fiscal positioning

5. **BACKGROUND**:

    Vice Chancellor for Finance & Administration and Treasurer Ryan Low will provide a
    brief financial update at the March 24 & 25, 2019 Board of Trustees meeting.

Attachments:

Managed Investment Pool Flash Reports
Pension Fund Flash Reports
Operating Fund Flash Reports
Current Fiscal Year-to-Date Forecast to Budget

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![University of Maine System logo - Maine's Public Universities]

AGENDA ITEM SUMMARY

1. **NAME OF ITEM**: Academic Initiatives Update

2. **INITIATED BY**: James H. Page, Chancellor

3. **BOARD INFORMATION**: **X**   **BOARD ACTION**:

4. **OUTCOME**:   **BOARD POLICY**:
    Relevant Academic Programming

5. **BACKGROUND**:
    Brief progress updates will be provided on four major academic initiatives: (a) the
    Program Innovation Fund (PIF), (b) Programs for Examination (PFE), (c) Academic
    Partnerships for online course delivery, and (d) new capabilities/tools in the UMS
    Institutional Research office. Vice Chancellor Neely will provide a summary of the
    March, 2019 CAOC recommendations to finalize this year's PFE actions; he will also
    inform the Board of the status of proposals submitted for PIF support. With respect to
    the Academic Partnerships, an overview of campus meetings at USM, UMPI and UMFK,
    progress to date, and anticipated next steps will be provided by Associate Vice
    Chancellor Placido.

    With respect to the Institutional Research office, the UMS has recently acquired two
    distinct web-based, research platforms from Burning Glass to assist in evaluation and
    planning. The new capabilities will be briefly previewed for the Board, and consist of:

    • Program InsightTM – A web-based, academic program (Degree/Non-Credit
      Program/Certificate/ Course) market research and planning tool.

    • Labor InsightTM – Burning Glass' Cloud-based, Research platform that
      provides insights about Labor Market trends, Student Market Segmentation,
      Employer/Industry Analysis and access to Job-Posts.

    In addition to use in the UMS Institutional Research office, licenses have been provided
    to each campus. We anticipate that these new research capabilities will be applicable in a
    variety of contexts, including: strategic planning, new/existing academic program
    evaluation/design/revision, program marketing, employer and industry partnership
    development, student advising and career services, and Early College, to name but a few
    possibilities.

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UNIVERSITY OF MAINE SYSTEM

AGENDA ITEM SUMMARY

1. **NAME OF ITEM**:   Spring 2019 Enrollment Report

2. **INITIATED BY**:   James H. Page, Chancellor

3. **BOARD INFORMATION**:   X   **BOARD ACTION:**

4. **BACKGROUND:**

The Spring 2019 Enrollment Report is historically run after our census date of February 15. Rosa Redonnett, Chief Student Affairs Officer, will provide a brief update to the Board of Trustees on the status of enrollment at our campuses for Spring 2019 based on the findings within the report.

Attachments:
Highlights
Spring 2019 Enrollment Report (full report)

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AGENDA ITEM SUMMARY

1. **NAME OF ITEM**:   Acceptance of Minutes

2. **INITIATED BY**:   James R. Erwin, Chair

3. **BOARD INFORMATION**:   **BOARD ACTION: X**

4.   **OUTCOME**:   **BOARD POLICY:**

5.   **BACKGROUND:**

    The following minutes will be presented to the Board of Trustees for approval at the
    March 24-25, 2019 Board meeting:

    January 27 & 28, 2019 – Board of Trustees Meeting
    March 4, 2019 – Joint Session with Academic & Student Affairs and Human Resources
                    & Labor Relations
    March 6, 2019 – Finance, Facilities, Technology Committee Meeting
    March 11, 2019 – Investment Committee Meeting

    The Board of Trustees website link to the minutes is: http://www.maine.edu/about-the-
    system/board-of-trustees/meeting-minutes/

6.   **TEXT OF PROPOSED RESOLUTION:**

    That the Board of Trustees approves the minutes as presented.

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Maine's Public Universities

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AGENDA ITEM SUMMARY

1. **NAME OF ITEM**: Approval of the Board of Trustees Meeting Calendar for 2019-2020 and 2020-2021

2. **INITIATED BY**: James H. Page, Chancellor

3. **BOARD INFORMATION**: **BOARD ACTION:** **X**

4. **BACKGROUND:**

In accordance with the University System's Charter and the Board's By-laws, the proposed calendar is submitted for approval. In order to allow as much flexibility as possible in planning schedules, the proposed calendar has been developed on a 2-year cycle.

The Board of Trustees Retreat, BOT/BOV Summits and the Special Board Meeting in October have been added to the Board Calendar.

2019-2020	**2020-2021 proposed**
July 15, 2019 hosted by UMS @ UM	July 20, 2020 hosted by UMS @ UM
September 15-16, 2019 @ UMFK	September 27-28, 2020 @ UMFK
October 20-21, 2019 – BOT Retreat	October 18-19, 2020 – BOT Retreat
October 30, 2019 – Special Board Meeting	October 28, 2020 – Special Board Meeting
November 4, 2019 – BOT/BOV Summit	November 2, 2020 – BOT/BOV Summit
November 17-18, 2019 @ UMF	November 15-16, 2020 @ UMA
January 26-27, 2020 @ UM	January 24-25, 2021 @ UM
March 15-16, 2020 @ USM	March 21-22, 2021 @ USM
May 17-18, 2020 @ UMPI	May 23-24, 2021 @ UMM
June 1, 2020 – BOT/BOV Summit	June 7, 2021 – BOT/BOV Summit

The Board of Trustees Office in consultation with the Chancellor and the Board Chair can modify the Board calendar as necessary to accommodate the needs of the Board.

5. **TEXT OF PROPOSED RESOLUTION:**

That the Board of Trustees approves the Board of Trustees meeting calendar for 2019-2020 and 2020-2021, as presented.

Attachment:
Board of Trustees Meeting Calendar for 2019-2020 and 2020-2021
Board of Trustees Committee Meeting Schedule for 2019-2020 and 2020-2021

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![Maine's Public Universities - University of Maine System logo]

AGENDA ITEM SUMMARY

1. **NAME OF ITEM:**   Tenure Nominations 2019

2. **INITIATED BY**:   James H. Page, Chancellor

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3. **BOARD INFORMATION:**   **BOARD ACTION:**   X

4. **OUTCOME:**   **BOARD POLICY:**
   All Primary Outcomes

5. **BACKGROUND:**
   Candidates recommended for tenure in the University of Maine System are brought forward for approval by the Board of Trustees in March with action to take effect September 1, 2019. Following material and information relevant to the tenure approval process:

   Items in italics are for Board of Trustees only.

   - Description of the tenure review process
   - *Names of candidates for tenure for 2018, listed by institution*
   - *Brief abstracts of candidates*
   - Table 1: Tabular analysis of 2018 candidates
   - Table 2: Summary of campus tenure promotions for 2019 and the previous five years
   - Report on Tenure Statistics

   An additional Diligent Board Book is available in the Diligent Portal to provide supplemental information to Trustees about Tenure Candidates.

   The Academic and Student Affairs Committee approved this recommendation to be forwarded to the March 24-25, 2019, Board of Trustees meeting for approval.

6. **TEXT OF PROPOSED RESOLUTION**

   That the Board of Trustees approves the recommendations for tenure submitted by the universities of the University of Maine System. Approvals will take effect September 1, 2019 for faculty with academic-year appointments and July 1, 2019 for faculty with fiscal-year appointments.

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**Maine's
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UNIVERSITY OF MAINE SYSTEM

AGENDA ITEM SUMMARY

1. **NAME OF ITEM**:   Tenure at Time of Hire, Associate Professor of Nursing, USM

2. **INITIATED BY**:   James H. Page, Chancellor

3. **BOARD INFORMATION**:   **BOARD ACTION: X**

4. **OUTCOME:**   **BOARD POLICY:**
                                   Policy 310

5. **BACKGROUND:**

As the incoming Associate Dean of Nursing, USM has requested that Dr. Brenda Petersen be given an initial appointment with tenure at the rank of Associate Professor. This tenure request is an exception to Board of Trustee Policy 310.5 and 310.14 because the rank is below full professor and the administrative appointment is below the level of vice president, respectively.

Dr. Petersen brings to the USM position a strong record of external funding from the Robert Woods Johnson Foundation, the New Jersey Department of Education, and the Council of Independent Colleges, and a record of publication in nursing practitioner empowerment and educator advancement and leadership. Further, her record of teaching includes online delivery in nursing, policy and public health, including strong advocacy for experiential practice and learning.

This recommendation has unanimous support from the USM peer faculty, Dean, Provost and President.

The Academic and Student Affairs Committee approved this recommendation to be forwarded to the March 24-25, 2019, Board of Trustees meeting for approval.

6. **TEXT OF PROPOSED RESOLUTION:**

That the Board of Trustees approves tenure at the rank of Associate Professor of School of Nursing at the University of Southern Maine to Dr. Brenda Petersen with tenure to be effective on the date that Dr. Peterson assumes a full-time faculty position after leaving the position of Associate Dean of Nursing.

Attachment:
Tenure at Time of Hire, Associate Professor of Nursing, USM - Background Info *(Confidential)*

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Maine's Public Universities

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AGENDA ITEM SUMMARY

1. **NAME OF ITEM**:   Tenure Consideration, Professor of Business Administration, USM

2. **INITIATED BY**:   James H. Page, Chancellor

3. **BOARD INFORMATION**:   **BOARD ACTION: X**

4. **OUTCOME:**   **BOARD POLICY:**
                                          Policy 310

5. **BACKGROUND:**

    USM has requested that Dr. Richard Arend be given an initial appointment to the position of Professor of Business Administration and LL Bean/Lee Surarce Chair in Strategic Management, with approval for Dr. Arend to seek tenure during his second year of appointment in accordance with Board of Trustee Policy 310.5. Dr. Arend comes to USM with a strong record of teaching and scholarship, with 28 peer-reviewed publications in major journals in his discipline and a second book under contract for publication. This recommendation has unanimous support from the USM peer faculty, Dean, Provost and President.

    The Academic and Student Affairs Committee approved this recommendation to be forwarded to the March 24-25, 2019, Board of Trustees meeting for approval.

6. **TEXT OF PROPOSED RESOLUTION:**

    That the Board of Trustees approves the appointment of Dr. Richard Arend at the rank of Professor of Business Administration at the University of Southern Maine, with the opportunity apply for tenure in his second year of appointment.

Attachment:
Tenure Consideration, Professor of Business Administration, USM – Background Info
(*Confidential)*

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AGENDA ITEM SUMMARY

1. **NAME OF ITEM**:   Tenure at Time of Hire, Professor of Mechanical Engineering, UM

2. **INITIATED BY**:   James H. Page, Chancellor

3. **BOARD INFORMATION**:   **BOARD ACTION:** X

4. **OUTCOME:**   **BOARD POLICY:**
                                                             Policy 310

5. **BACKGROUND:**

    The University of Maine (UM) has requested that Dr. Richard Kimball be awarded tenure
    at the rank of professor, effective September 1, 2019 in accordance with Board of Trustee
    Policy 310. Dr. Kimball has served as a professor of engineering at the Maine Maritime
    Academy (MMA), where he has held the rank of full professor since 2013. His record of
    scholarly achievement is impressive and meets UM tenure standards, including 38
    published journal and conference papers in leading disciplinary journals, as well as >$7
    million in extramural research funding, including grants from DOE, DOT, NSF and
    others. In addition to his research productivity, with a heavy teaching load at MMA, Dr.
    Kimball has established himself as an outstanding teacher.

    This recommendation has unanimous support from the faculty, Dean, Provost and
    President at UM.

    The Academic and Student Affairs Committee approved this recommendation to be
    forwarded to the March 24-25, 2019, Board of Trustees meeting for approval.

6. **TEXT OF PROPOSED RESOLUTION:**

    That the Board of Trustees approves tenure at the rank of Professor of Mechanical
    Engineering the University of Maine to Dr. Richard Kimball with tenure to be effective at
    the time of hiring.

Attachment:
Tenure at Time of Hire, Professor of Mechanical Engineering, UM – Background Info
     (C*onfidential)*

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Maine's Public Universities
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AGENDA ITEM SUMMARY

1. **NAME OF ITEM**: VoIP Conversion, USM

2. **INITIATED BY**: James H. Page, Chancellor

3. **BOARD INFORMATION**:   **BOARD ACTION: X**

4. **OUTCOME:**   **BOARD POLICY:**
   Improve stability, functionality and telecommunication   701 Financial Affairs-Operating &
   capacity;   Capital Budget
   Achieve consistency and parity in telecommunications
   infrastructure across UMS

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5. **BACKGROUND:**

   The University of Maine System requests authorization to expend up to $809,000 over three years to migrate telephony services at the University of Southern Maine to Voice-over-IP. Funding for this initiative is available through IT Capital Reserves.

   This request is pursuant to Board of Trustees Policy 701 Financial Affairs, which requires projects with a total cost of more than $500,000 to be considered by the Board of Trustees or its Finance, Facilities and Technology Committee.

   This project will serve to establish parity of telecommunications services across the University of Maine System and provide direct benefit to the USM community by improving telephony reliability, functionality and capacity. This project will also benefit from recent investments in data wiring infrastructure at USM which has effectively reduced cost estimates for VoIP deployment with updated networking equipment and wiring now available.

   Total project costs is estimated at $809,000 with work ready to begin in April 2019 and extending through August 2021.

6. **TEXT OF PROPOSED RESOLUTION:**

   The the Board of Trustees approves the recommendation of the Finance, Facilities and Technogy Committee and authorizes the University of Maine System to expend up to $809,000 from IT Capital Reserves over three years to complete the migration of telephony services at the University of Southern Maine to Voice-over-IP.

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AGENDA ITEM SUMMARY

1. **NAME OF ITEM**:   Presentation of Preliminary Workforce Engagement Report

2. **INITIATED BY**:   James H. Page, Chancellor

3. **BOARD INFORMATION**:   **X**   **BOARD ACTION**:

4.   **OUTCOMES:**   **BOARD POLICY:**
    Advancing Workforce Readiness and   305/305.1 Program Inventory, Review
    Economic Development   and Elimination

5.   **BACKGROUND:**

On December 19, 2018, the University of Maine System Board of Trustees adopted the Declaration of Strategic Priorities to Address Critical State Needs ("Declaration"). The Declaration calls on UMS senior and campus leadership to take coordinated strategic actions to achieve the Board's 2016 Primary and Secondary Outcomes by, among other things, Advancing Workforce Readiness and Economic Development.

As one of the ways to meet the goal of Advancing Workforce Readiness and Economic Development, the Declaration called on UMS to create effective partnerships and feedback loops with each major industry and employment sector that align priority program instruction, including experiential learning opportunities, with UMS capacity and workforce needs in order to maximize student employment readiness and executive and professional development and advancement. The Declaration stated the expectation that every UMS program would have the means to acquire continuous feedback from relevant market segments and provide meaningful work or professional development-related experiences for its students.

The Declaration charged the Chancellor, working with senior leadership and using the most relevant current market data, to deliver a Workforce Engagement report that prioritized programs and associated industries that maximize workforce impact and business and economic development, and that included a gap analysis of UMS capacity, with recommended steps for achieving full engagement, program alignment mechanisms, pathways for experiential learning opportunities, etc., for presentation at the Board's March 2019 meeting.

A working committee convened by Bob Neely, Vice Chancellor for Academic Affairs, and James Thelen, Chief of Staff and General Counsel, and including Rosa Redonnett, Chief Student Affairs Officer; Kay Kimball, Deputy Vice Chancellor for Academic Affairs; and Robert Placido, Associate Vice Chancellor for Academic Affairs, prepared a preliminary Workforce Engagement Report that will be presented by Chief of Staff and General Counsel Thelen on March 25, 2019. A written report will be submitted to the Board in advance.

Attachments:
Workforce Engagement Report - Executive Summary
Workforce Engagement Report

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AGENDA ITEM SUMMARY

1. **NAME OF ITEM**:   UMS Research & Development Plan FY2020-FY2024

2. **INITIATED BY**:   James H. Page, Jr., Chancellor

3. **BOARD INFORMATION**: X   **BOARD ACTION:**

4. **OUTCOME:**   **BOARD POLICY:**
   All Primary &
   Secondary Outcomes

5. **BACKGROUND:**

   From the UMS Board of Trustees Declaration of Strategic Priorities to Address Critical State Needs:

   Goal 1: Advancing Workforce Readiness and Economic Development – The State of Maine's declared higher education public policy requires UMS universities to cooperate among themselves and with Maine businesses to develop educational programs that produce critical thinkers with adaptable, transferable skills who will advance the Maine economy. Given Maine's demographic and economic challenges and workforce needs, UMS must strategically manage a collaborative, student-centered public higher education system that maximizes learner employability and economic opportunity and development, characterized by flexible, 21st century life-long learning opportunities, business and economic development, and research that drives economic innovation, all derived from effective partnerships and continuous feedback among students, parents, public education systems, policy makers, and employers.

   Action 2: Strengthen research and economic development efforts to support Maine industries and to foster business formation and expansion.

   > **Immediate Deliverable**: As chartered by the Chancellor, and in consultation with other System presidents and the Vice Chancellor for Academic Affairs, the University of Maine President will, by March 2019, deliver a multi-year plan for prioritizing expanded research and development across the University of Maine System.

   UM President Joan Ferrini-Mundy will present the UMS Research & Development Plan for FY2020-FY2024 at the March 24-25, 2019 Board of Trustees meeting.

   Attachment:
   UMS Research and Development Plan FY 2020 – FY2024 - Executive Summary
   UMS Research and Development Plan FY 2020 - FY2024 - Full Report

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Maine's Public Universities

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AGENDA ITEM SUMMARY

1. **NAME OF ITEM**:   Adult Degree Completion: Implementation Plan

2. **INITIATED BY**:   James H. Page, Chancellor

3. **BOARD INFORMATION**: X   **BOARD ACTION:**

4. **OUTCOME:**
   Primary Outcome: Enrollment, Workforce Development

5. **BACKGROUND:**

   A critical element of Maine's economic future centers on increasing statewide educational attainment so that 60% of Maine adults ages 25+ have a post-secondary degree or a vocationally significant credential by 2025. Given Maine's demographics, that number cannot be reached without a major increase in the number of adults seeking and obtaining post-secondary credentials.

   Engaging adult learners is a well-established University of Maine System (UMS) priority. UMS's Adult Degree Completion (ADC) initiative has been active since 2013 and in November 2013, the Board of Trustees passed a resolution recognizing adult learners as a core student constituency. More recently, led in part by UMS, Maine was one of four states selected by SHEEO[1] with funding from Lumina to participate in a multi-state pilot for engaging and retaining adult learners (Maine Adult Promise). The recent report, *Making Maine Work: Critical Investments for the Maine Economy*, co-sponsored by the Maine State Chamber of Commerce, Maine Development Foundation and Educate Maine, reinforces the importance of credential and/or degree attainment for this population as one of the critical strategies in meeting Maine's workforce and economic development challenge (Goal B within the recommendations contained within that report). The UMS is one of six core team members of MaineSpark, Maine's statewide initiative to meet these challenges; connecting to the work of MaineSpark and its strategic focus on adults, Maine Adult Promise, will be an important factor in the "next generation" of the UMS' approach to responding to the adult credential and degree attainment challenge.

   UMS now needs to better integrate its adult learner initiatives and programs in order to respond to this challenge. A complete implementation plan with resource needs and responsibility areas identified has been developed and is already underway.

   The adult population is a critical enrollment strategy for the sustainability of the campuses of the UMS and for our service to the state of Maine. More importantly, serving this population is an obligation – the transformative power of higher education

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produces significant gains in the lives of our students, their families, their communities and the state. Many of the recommendations made in 2013 are still true today – little has changed in the barriers students face, their need for a menu of credentials and/or degrees that are accessible across the state and are flexible in their modality and scheduling, their need for understanding and informed service which helps them persist and successfully complete their programs. Our adult degree completion work could be argued to be an excellent example of "culture trumps strategy" – the higher education culture has been predominantly one that sees its role as educating and serving a traditional age population and we have been slow in making the transition. Absent an intentional re-focusing to incorporate adult learners and the programs and services they need into the mix, some campuses just were/are not ready to respond in a comprehensive way. It is time to address this, and to do so in collaboration across our System and within the state through the work of MaineSpark and other associated state initiatives.

Rosa Redonnett, Chief Student Affairs Officer for the UMS and Chair of the Adult Degree Completion Steering Committee, will update the Board of Trustees on the implementation plan, focusing on those elements identified as most critical. In addition, she will provide a brief overview of those elements already underway. Finally, there will be a brief discussion of how the Board of Trustees can support this work and how we can work in partnership to adapt to the changing higher education environment and deliver on our shared promise to make education accessible, affordable and flexible to respond to the needs of these students across the entire state, and to respond to the broader economic, workforce and community development needs of Maine.

Attachments:
Adult Degree Completion Report
Implementation Plan
Gannt Chart

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[1] SHEEO is the State Higher Education Executive Officer organization

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Maine's Public Universities

UNIVERSITY OF MAINE SYSTEM

AGENDA ITEM SUMMARY

1. **NAME OF ITEM**:   Early College: Budget Overview

2. **INITIATED BY**:   James H. Page, Chancellor

3. **BOARD INFORMATION**: X   **BOARD ACTION:**

4. **OUTCOME:**   **BOARD POLICY:**
    Primary Outcomes:
        Increase enrollment
        Improve student success and completion
        Support Maine through research and economic development
    Secondary Outcomes:
        Relevant academic programming
        University workforce engagement

5. **BACKGROUND:**

    The University of Maine System's (UMS) Early College program allows high school
    students to enroll in college courses and earn credits on both their high school and college
    transcripts. Early College programs are based on partnerships between Maine's Public
    Universities and high schools to help students, especially those who may not aspire to a
    college education, successfully transition to college.

    The funds in the Governor's budget will be used to build infrastructure and programming
    critical for student success, and allow the UMS Early College programs to expand. Key
    expenditures include NetTutor, a customized, online tutoring service available 24/7, 365
    days a year, and Canusia, a software management system designed specifically for Early
    College programs that will be integrated into the UMS PeopleSoft system. In addition,
    the new funds will allow the development of important programs for students moving
    from the high schools to the college campuses and assist them during this critical
    transition period.

Presentation:
Early College Budget Overview

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Maine's Public Universities

UNIVERSITY OF MAINE SYSTEM

AGENDA ITEM SUMMARY

1. **NAME OF ITEM**:   Energy Project Phase II Approval Request, UM

2. **INITIATED BY**:   James H. Page, Chancellor

3. **BOARD INFORMATION**:   **BOARD ACTION: X**

4. **OUTCOME:**   **BOARD POLICY:**
    Improve Student Success and Completion   701 – Budgets-Operating & Capital
    Enhance Fiscal Positioning

5. **BACKGROUND:**
    This is an update regarding the proposed energy center project at the University of Maine and request by the University of Maine System acting through the University of Maine to proceed to the next phase of the project in which the University will have financial risk for the first time.

    In order to continue the project, UM is requesting to expend as much as $5.7 million in connection with the costs of its own experts and diligence as well as the cost of the contractual obligations to the private partner in the project. Of that total, $4.2 million could be due to Honeywell for design services and the remaining $1.5 million is the anticipated cost for various experts to support the University's own diligence.

    The project concept as currently envisioned ultimately would see a new energy plant constructed at UM including a 6 megawatt combined heat and power plant fueled by sustainably harvested wood energy and a 6 megawatt direct current solar photovoltaic system to provide, distribute, and manage steam and electricity. For context, the Calpine power station in Westbrook is 552 megawatts and a publicly claimed capacity to power 500,000 homes. In addition to achieving carbon reductions and fiscal benefits, the project would replace critical steam and electrical infrastructure that has reached or exceeded its useful life.

    Honeywell asserts that its proposal will provide the University with approximately $111 million of cumulative savings (in excess of $50 million of savings on a relative net present value basis) over a thirty-year analysis period compared to a Base Case.

    This request to continue with project diligence and planning is pursuant to prior commitments made to Trustees when the initiative was first presented in January 2016 as well as pursuant to Board of Trustee Policy 701. Typically, the University determines and designs the best solution for a given situation and then seeks construction bids. However, this project was pursued initially as a power purchase agreement in which the University defined the thermal and electrical energy challenge and then opened the doors through a public, competitive process to the private sector to propose solutions. As stated in 2016: "In this case, the solution or solutions will emerge from the competitive process rather than be determined by the University ahead of time…to ensure transparency and notice, the University is alerting Trustees now of this plan and approach."

    The University subsequently published a solicitation in February 2016. An initially selected partner withdrew from the project in February 2018 and the University then awarded the right to negotiate to the ultimately selected and current partner: Honeywell International Inc.

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The information provided to Trustees in 2016 further stated: "Should this initiative result in capital improvements, leases or other matters requiring Trustee consideration – under Polices 701, 801 or 802, for example – those matters would return to the Trustees in the future and prior to the execution of any binding agreements."

That point has now arrived. Honeywell has proposed a major project with an estimated capital investment cost of $123 million +/- 30%. The project as preliminarily conceived involves replacement of core infrastructure at or beyond its anticipated lifecycle, new biomass and solar energy production facilities, environmental advantages, cost containment, price stability, increased reliability, and a greater focus on local energy and investments.

All preliminary design and project development discussions indicate the project would be advantageous to the University. As summarized by Competitive Energy Services, a 3rd party energy firm advising the University on the project:

> *"CES reviewed Phase 1 materials for Honeywell's proposed UMaine Energy Center (UMEC). CES finds that the UMEC would reduce overall energy efficiency compared to current conditions. The efficiency reduction is offset by: (1) lower fuel costs (2) reduced greenhouse gas emissions and (3) infrastructure upgrades. Subject to issues detailed in our memo dated 11/13/2018, and to the understanding that Phase 2 will refine the project design, CES believes it reasonable to proceed to Phase 2. It is not possible to quantify fiscal savings in Phase 1; CES expects that information required to estimate savings will be developed in Phase 2."*

In general, the now-concluded Phase I of this project has involved the negotiations between the parties to preliminarily define the project and estimate its benefits. Honeywell, which has been working on the project for more than a year, has borne the risk of Phase I. Phase II, the currently proposed phase, is the design work needed to firm up the project scope and financials. The conclusion of Phase II will result in a firm fixed price and agreements to be brought to the Board for consideration and approval to commence Phase III of the project, which is the final design, construction and start of service.

The Finance, Facilities and Technology Committee approved this item at its March 6, 2019 Finance, Facilities and Technology Committee Meeting. The item, pursuant to Trustee policy, requires the approval of the full Board of Trustees and has been placed on the Consent Agenda for Board of Trustee approval at the March 24-25, 2019 Board meeting in compliance with Trustee policy.

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6. **TEXT OF PROPOSED RESOLUTION:**

That the Board of Trustees, following the vote of approval for this item by the Finance, Facilities and Technology Committee, authorizes the University of Maine System acting through the University of Maine to pursue the University of Maine Energy Center project and to enter agreements under which as much $5.7 million could be expended from University funds identified by the Chief Business Officer and Treasurer, subject to review by the Vice Chancellor for Finance and Administration and Treasurer and University Counsel.

AGENDA ITEM SUMMARY

1. **NAME OF ITEM**:   UMA Presidency

2. **INITIATED BY**:   James H. Page, Chancellor

3. **BOARD INFORMATION**:   **BOARD ACTION:**   X

4. **OUTCOME:**   **BOARD POLICY:**
    All primary and secondary outcomes   204 – President –Appointment and
                                              Responsibilities

5. **BACKGROUND:**

    University of Maine at Augusta president Dr. Rebecca Wyke is in the second year of a
    three-year fixed-length term appointment. At the time of her appointment, it was agreed
    that a review would occur in the second year to determine the future status of the
    president's appointment. Chancellor Page has completed a review by conducting
    listening sessions and requesting input from UMA constituents.

    The Board of Trustees will discuss the review during executive session, and a resolution
    for action may be presented at the Board of Trustees meeting.

6. **TEXT OF PROPOSED RESOLUTION:**

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03/20/2019

University of Maine System Managed Investment Pool

TOTAL PLAN PERFORMANCE

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
MIP Composite	326,303,513	100.0	100.0	4.8	-2.4	-5.2	5.2	7.2	4.0	5.9	8.2
Allocation Index				5.2	-1.2	-4.5	6.2	7.9	4.8	6.2	8.2
Policy Index				5.4	-0.9	-4.1	6.8	8.7	5.2	6.4	8.3
Total Domestic Large Cap	61,337,536	18.8	16.0	8.0	0.6	-2.4	11.0	13.9	10.9	13.0	15.2
S&P 500				8.0	0.6	-2.3	11.1	14.0	11.0	13.2	15.0
SSgA S&P 500	61,337,536	18.8	16.0	8.0	0.6	-2.4	11.0	13.9	10.9	13.2	14.9
S&P 500				8.0	0.6	-2.3	11.1	14.0	11.0	13.2	15.0
Total Domestic Small/Mid Cap	20,345,340	6.2	6.0	11.4	-8.1	-6.1	7.6	14.8	7.3	11.5	14.9
Russell 2500				11.5	-4.8	-2.6	7.5	14.4	8.0	11.7	15.5
Westfield Capital	10,091,583	3.1	3.0	10.9	-6.9	-4.5	13.1	16.6	8.1	11.8	16.4
Russell 2500 Growth				11.9	-4.2	-1.4	12.2	16.2	9.0	12.6	16.8
DFA	10,253,757	3.1	3.0	11.9	-9.1	-7.6	1.5	12.0	6.0	10.8	--
Russell 2000 Value				10.9	-8.3	-4.5	2.5	13.8	6.6	10.2	13.3
Total International Equity (including emerging markets)	74,584,214	22.9	23.0	5.8	-8.0	-15.1	4.5	6.3	2.3	4.4	8.3
MSCI EAFE				6.6	-5.5	-12.5	5.7	7.7	2.7	5.9	8.1
Morgan Stanley	20,325,581	6.2	6.3	5.3	-7.6	-12.5	5.2	5.0	2.1	5.4	7.2
Globeflex	20,266,886	6.2	6.3	8.1	-10.5	-15.5	5.2	7.2	2.8	6.3	8.3
MSCI EAFE				6.6	-5.5	-12.5	5.7	7.7	2.7	5.9	8.1
Kabouter International Opportunities Offshore Fund II	11,118,494	3.4	3.5	4.5	-14.2	-19.4	--	--	--	--	--
MSCI EAFE Small Cap				8.1	-10.1	-15.6	6.8	9.4	5.0	8.8	12.1
Emerging Markets Equity	22,873,253	7.0	7.0	4.9	-2.5	-15.3	3.8	7.0	2.1	1.1	--
MSCI Emerging Markets				8.8	-0.5	-14.2	10.0	14.9	4.8	2.9	9.7
Aberdeen Emerging Mrkts	11,818,926	3.6	3.5	7.4	3.0	-14.7	6.5	11.6	4.1	2.5	10.8
MSCI Emerging Markets				8.8	-0.5	-14.2	10.0	14.9	4.8	2.9	9.7
Mondrian EM Small Cap	11,054,327	3.4	3.5	2.4	-7.9	-16.0	0.9	2.4	--	--	--
MSCI Emerging Markets Small Cap				5.4	-6.3	-18.9	4.7	8.4	2.6	3.0	11.2
Total Fixed Income	71,498,996	21.9	21.0	1.5	1.1	1.6	2.6	4.0	2.8	3.7	5.7
BBgBarc US Aggregate TR				1.1	2.7	2.3	2.2	2.0	2.4	2.1	3.7
Commonfund	18,456,501	5.7	5.0	1.1	2.3	1.7	2.8	3.1	2.8	3.2	5.4
BBgBarc US Aggregate TR				1.1	2.7	2.3	2.2	2.0	2.4	2.1	3.7
Vanguard Inflation-Protected Securities	26,820,899	8.2	8.0	1.4	0.1	0.9	1.0	--	--	--	--
BBgBarc US TIPS TR				1.3	0.1	0.9	1.1	2.1	1.6	0.7	3.6
Blackrock Strategic Income Opportunities	10,218,328	3.1	3.0	1.3	1.3	--	--	--	--	--	--
3-Month Libor Total Return USD				0.2	1.5	2.4	1.9	1.5	1.0	0.8	0.7

NEPC

January 31, 2019

University of Maine System Managed Investment Pool
TOTAL PLAN PERFORMANCE

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Bain Capital Senior Loan Fund	14,404,216	4.4	5.0	2.5	--	--	--	--	--	--	--
Credit Suisse Leveraged Loans				2.3	1.1	2.4	3.6	6.1	3.7	4.6	7.9
Guggenheim US Bank Loans	1,599,052	0.5									
Total GAA	**74,642,429**	**22.9**	**23.0**	**3.8**	**-0.8**	**-4.0**	**3.8**	**5.6**	**2.3**	**3.7**	**5.9**
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				5.7	-0.4	-5.0	6.8	8.6	4.9	6.1	8.5
GMO Global Absolute Return	25,463,330	7.8	7.7	5.0	0.6	-5.0	4.7	6.2	2.8	4.3	5.6
Blended Index				2.5	2.3	1.5	3.1	4.2	3.5	3.5	5.8
Wellington	24,115,183	7.4	7.7	4.7	-5.6	-10.2	2.7	6.3	3.1	4.6	7.4
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				5.7	-0.4	-5.0	6.8	8.6	4.9	6.1	8.5
Newton Global Real Return	25,063,915	7.7	7.7	1.9	2.6	3.6	3.9	--	--	--	--
60% MSCI ACWI (Net)/ 40% BBgBarc Global Agg				5.3	-0.2	-4.7	6.6	8.2	4.6	5.7	8.1
Total Hedge Funds	**18,206,413**	**5.6**	**6.0**	**3.5**	**-5.0**	**-4.1**	**1.3**	**3.2**	**0.9**	**2.1**	**3.0**
HFRI Fund of Funds Composite Index				2.6	-2.3	-3.8	2.5	3.1	2.0	3.0	3.3
Lighthouse	18,206,413	5.6	6.0	3.5	-5.0	-2.9	2.7	3.6	--	--	--
Credit Suisse Long Shrt Eqt USD				3.5	-1.9	-4.2	5.2	3.6	3.4	5.4	6.2
Total Real Assets	**1,538,178**	**0.5**	**3.0**	**0.0**	**-5.8**	**-6.3**	**-2.3**	**-3.4**	**-0.2**	**3.7**	**--**
NCREIF Timberland Index				0.0	2.0	3.4	3.5	3.3	5.0	6.1	3.8
John Hancock Timber Fund	1,538,178	0.5	3.0	0.0	-5.8	-6.3	-2.3	-3.4	-0.2	3.7	0.0
NCREIF Timberland Index				0.0	2.0	3.4	3.5	3.3	5.0	6.1	3.8
Private Equity	**1,951,146**	**0.6**	**2.0**	**0.0**	**5.8**	**9.6**	**15.5**	**15.1**	**--**	**--**	**--**
Landmark Equity Partners XV	1,951,146	0.6	2.0	0.0	5.8	9.6	15.5	15.1	--	--	--
Cambridge Associates US All PE (1 Qtr Lag)				0.0	9.4	18.0	17.5	14.5	13.4	14.3	12.1
Total Cash	**2,199,262**	**0.7**	**0.0**								
Distribution Account	2,199,262	0.7	0.0	0.2	1.1	1.7	1.2	0.8	0.5	0.4	0.3
91 Day T-Bills				0.2	1.3	2.0	1.5	1.1	0.7	0.5	0.4

Notes:
Fiscal YTD begins 7/1
Blended Index: 40% BC Aggregate, 30% BC U.S. TIPS 1-10YR, 10% S&P 500, 10% BC High Yield, 10% JPM EMBI+
Returns are net of manager fees
John Hancock Timber market value as of 12/31/18
Landmark market value estimated as of 01/31/19
Cash account includes $1,392 currently being held in the MetWest account and $1,137 being held in the TCW account
Guggenheim market value is a holdback.

January 31, 2019

University of Maine System Managed Investment Pool

CASH FLOW SUMMARY

	Month Ending January 31, 2019						
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
Aberdeen Emerging Mrkts	$11,007,187	$0	$0	$0	-$10,834	$811,739	$11,818,926
Bain Capital Senior Loan Fund	$14,047,819	$0	$0	$0	-$5,966	$356,398	$14,404,216
Blackrock Strategic Income Opportunities	$10,086,346	$0	$0	$0	-$4,513	$131,981	$10,218,328
Commonfund	$18,255,618	$0	$0	$0	-$2,461	$200,883	$18,456,501
DFA	$9,163,226	$0	$0	$0	-$3,503	$1,090,530	$10,253,757
Distribution Account	$1,050,425	$6,413,805	-$5,271,022	$1,142,782	$0	$6,055	$2,199,262
Globeflex	$17,814,210	$1,000,000	$0	$1,000,000	-$12,667	$1,452,675	$20,266,886
GMO Global Absolute Return	$24,230,066	$0	$0	$0	-$21,219	$1,233,264	$25,463,330
Guggenheim US Bank Loans	$1,599,052	$0	$0	$0	-$666	$0	$1,599,052
John Hancock Timber Fund	$1,538,178	$0	$0	$0	$0	$0	$1,538,178
Kabouter International Opportunities Offshore Fund II	$10,136,408	$500,000	$0	$500,000	-$9,265	$482,086	$11,118,494
Landmark Equity Partners XV	$2,092,968	$0	-$141,822	-$141,822	$0	$0	$1,951,146
Lighthouse	$17,582,499	$0	$0	$0	$0	$623,915	$18,206,413
Mondrian EM Small Cap	$10,790,729	$0	$0	$0	-$8,751	$263,598	$11,054,327
Morgan Stanley	$18,787,807	$500,000	$0	$500,000	-$16,091	$1,037,774	$20,325,581
Newton Global Real Return	$24,590,681	$0	$0	$0	-$16,709	$473,234	$25,063,915
SSgA S&P 500	$55,152,258	$1,650,000	$0	$1,650,000	-$2,461	$4,535,278	$61,337,536
Vanguard Inflation-Protected Securities	$26,449,492	$0	$0	$0	-$1,565	$371,407	$26,820,899
Wellington	$23,020,604	$0	$0	$0	-$22,106	$1,094,579	$24,115,183
Westfield Capital	$8,372,931	$740,000	-$18,251	$721,749	-$6,254	$996,903	$10,091,583
Total	**$305,768,503**	**$10,803,805**	**-$5,431,095**	**$5,372,709**	**-$145,032**	**$15,162,301**	**$326,303,513**

University of Maine System Pension Plan
TOTAL PLAN PERFORMANCE

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Pension Composite	**26,946,678**	**100.0**	**100.0**	**2.9**	**-0.7**	**-1.7**	**4.2**	**5.5**	**3.7**	**5.3**	**7.2**
Allocation Index				3.7	-0.1	-2.2	5.5	6.4	4.7	6.0	7.7
Policy Index				3.9	0.3	-1.9	5.5	6.7	4.9	6.2	8.0
Total Domestic Large Cap	**2,131,516**	**7.9**	**8.0**	**8.0**	**0.6**	**-2.3**	**11.1**	**14.0**	**10.9**	**13.1**	**13.7**
S&P 500				8.0	0.6	-2.3	11.1	14.0	11.0	13.2	15.0
Vanguard S&P 500 Index	2,131,516	7.9	8.0	8.0	0.6	-2.3	11.1	14.0	10.9	--	--
S&P 500				8.0	0.6	-2.3	11.1	14.0	11.0	13.2	15.0
Total Small Cap Composite	**951,247**	**3.5**	**4.0**	**11.3**	**-8.1**	**-3.5**	**6.3**	**14.7**	**7.1**	**10.8**	**--**
Russell 2000				11.2	-8.0	-3.5	6.3	14.7	7.3	11.0	14.5
SSgA R2000 Index Fund Non Lending	951,247	3.5	4.0	11.3	-8.1	-3.5	6.3	14.7	7.1	10.9	--
Russell 2000				11.2	-8.0	-3.5	6.3	14.7	7.3	11.0	14.5
Total International Equity (including emerging markets)	**2,564,154**	**9.5**	**10.0**	**4.4**	**-7.7**	**-13.4**	**3.9**	**4.2**	**1.6**	**3.8**	**6.0**
MSCI EAFE				6.6	-5.5	-12.5	5.7	7.7	2.7	5.9	8.1
Morgan Stanley Int'l	1,780,151	6.6	7.0	5.3	-7.7	-12.5	5.2	5.1	2.2	5.5	7.2
MSCI EAFE				6.6	-5.5	-12.5	5.7	7.7	2.7	5.9	8.1
Emerging Markets Equity	**784,003**	**2.9**	**3.0**	**2.4**	**-7.9**	**-16.0**	**0.9**	**2.4**	**0.0**	**--**	**--**
MSCI Emerging Markets				8.8	-0.5	-14.2	10.0	14.9	4.8	2.9	9.7
Mondrian EM Small Cap	784,003	2.9	3.0	2.4	-7.9	-16.0	0.9	2.4	--	--	--
MSCI Emerging Markets Small Cap				5.4	-6.3	-18.9	4.7	8.4	2.6	3.0	11.2
Total Fixed Income	**10,161,889**	**37.7**	**35.0**	**1.3**	**1.8**	**1.8**	**2.3**	**2.7**	**2.3**	**2.9**	**4.8**
BBgBarc US Aggregate TR				1.1	2.7	2.3	2.2	2.0	2.4	2.1	3.7
Vanguard Total Bond Market Index	5,987,745	22.2	20.0	1.0	2.7	2.1	2.1	1.9	--	--	--
BBgBarc US Aggregate TR				1.1	2.7	2.3	2.2	2.0	2.4	2.1	3.7
Vanguard Inflation-Protected Securities	1,868,730	6.9	7.0	1.4	0.1	1.0	--	--	--	--	--
BBgBarc US TIPS TR				1.3	0.1	0.9	1.1	2.1	1.6	0.7	3.6
BlackRock Strategic Income Opportunities	758,726	2.8	3.0	1.3	1.3	--	--	--	--	--	--
3-Month Libor Total Return USD				0.2	1.5	2.4	1.9	1.5	1.0	0.8	0.7
Bain Capital Senior Loan Fund	1,391,373	5.2	5.0	2.5	--	--	--	--	--	--	--
Credit Suisse Leveraged Loans				2.3	1.1	2.4	3.6	6.1	3.7	4.6	7.9
Guggenheim US Bank Loans	155,315	0.6									

University of Maine System Pension Plan

TOTAL PLAN PERFORMANCE

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Total GAA	**7,340,352**	**27.2**	**27.5**	**3.2**	**-1.4**	**-3.3**	**3.5**	**5.4**	**2.1**	**3.3**	**6.6**
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				5.7	-0.4	-5.0	6.8	8.6	4.9	6.1	8.5
Wellington	3,644,263	13.5	13.8	4.6	-5.5	-10.1	2.8	6.4	3.2	4.7	7.4
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				5.7	-0.4	-5.0	6.8	8.6	4.9	6.1	8.5
Newton Global Real Return	3,696,090	13.7	13.8	1.9	2.6	3.6	3.9	--	--	--	--
60% MSCI ACWI (Net) / 40% FTSE WGBI				5.3	-0.3	-4.7	6.7	8.1	4.5	5.4	7.8
Total Alternative Investments	**1,176,785**	**4.4**	**4.5**	**3.5**	**-5.0**	**-4.1**	**1.3**	**3.0**	**1.5**	**2.4**	**3.3**
HFRI Fund of Funds Composite Index				2.6	-2.3	-3.8	2.5	3.1	2.0	3.0	3.3
Lighthouse	1,176,785	4.4	4.5	3.5	-5.0	-2.9	2.7	3.6	--	--	--
Credit Suisse Long Shrt Eqt USD				3.5	-1.9	-4.2	5.2	3.6	3.4	5.4	6.2
Total Real Assets	**2,226,025**	**8.3**	**8.0**								
Principal	2,226,025	8.3	8.0	0.3	4.0	7.4	7.9	8.3	10.1	10.8	6.5
NCREIF ODCE				0.0	3.9	8.3	8.0	8.2	10.4	11.0	7.0
Total Cash	**394,709**	**1.5**	**3.0**								
Distribution Account	394,709	1.5	3.0	0.2	1.1	1.7	1.2	0.8	0.5	0.3	0.3
91 Day T-Bills				0.2	1.3	2.0	1.5	1.1	0.7	0.5	0.4

Notes:

Fiscal YTD begins 7/1

Blended Index: 40% BC Aggregate, 30% BC U.S. TIPS 1-10YR, 10% S&P 500, 10% BC High Yield, 10% JPM EMBI+

Returns are net of manager fees

Guggenheim market value is a holdback

January 31, 2019

University of Maine System Operating Fund
TOTAL PLAN PERFORMANCE

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Operating Funds Composite	341,385,124	100.0	100.0	1.5	1.0	0.7	2.6	3.3	1.9	2.4	3.2
Allocation Index				1.7	1.4	0.9	2.9	3.2	2.2	2.5	--
Liquidity Pool Composite	136,935,554	40.1	25.0	0.2	1.1	1.7	1.3	1.0	0.7	0.5	0.5
State Pool	70,970,717	20.8		0.2	1.1	1.7	1.4	1.1	0.7	0.6	0.6
BOA General Fund	184,079	0.1		0.2	0.7	0.9	0.5	0.3	0.2	0.2	--
Federated Gov't Obligations	21,211,116	6.2		0.2	1.2	1.8	1.3	--	--	--	--
JP Morgan US Gov't Money Market Fund	44,569,642	13.1		0.2	1.2	1.8	1.3	--	--	--	--
FTSE T-Bill 3 Months TR				0.2	1.3	2.0	1.4	1.1	0.6	0.5	0.4
Income Pool Composite	137,955,195	40.4	50.0	1.0	1.6	1.6	1.7	2.3	1.8	2.3	4.3
Income Research + Management	75,813,902	22.2	26.7	0.5	1.9	2.2	1.4	1.3	1.1	--	--
BBgBarc US Govt/Credit 1-3 Yr. TR				0.4	1.9	2.3	1.3	1.2	1.1	1.0	1.5
BlackRock Strategic Income Opportunities	17,537,303	5.1	6.7	1.3	1.3	-0.6	2.5	3.3	--	--	--
3-Month Libor Total Return USD				0.2	1.5	2.4	1.9	1.5	1.0	0.8	0.7
Loomis Sayles Bank Loans	18,827,200	5.5	6.7	2.5	0.7	1.5	2.6	4.4	2.9	3.6	6.2
Loomis Bank Loans Custom Index				3.1	1.0	1.9	3.0	4.6	3.5	4.4	8.1
Vanguard Total Bond Market Instl' Fund	13,064,990	3.8	5.0	1.0	2.7	2.1	2.1	1.9	2.4	2.1	--
BBgBarc US Aggregate TR				1.1	2.7	2.3	2.2	2.0	2.4	2.1	3.7
Vanguard Inflation-Protected Securities	12,711,800	3.7	5.0	1.4	0.1	1.0	--	--	--	--	--
BBgBarc US TIPS TR				1.3	0.1	0.9	1.1	2.1	1.6	0.7	3.6
Total Return Pool Composite	66,494,375	19.5	25.0	4.5	-0.6	-2.8	5.3	7.4	3.8	4.7	6.4
Lighthouse	14,073,935	4.1	5.0	3.5	-5.0	-2.9	2.7	3.6	--	--	--
Credit Suisse Long Shrt Eqt USD				3.5	-1.9	-4.2	5.2	3.6	3.4	5.4	6.2
Newton Global Real Return	17,637,165	5.2	6.3	1.9	2.6	3.5	3.9	--	--	--	--
60% MSCI ACWI (Net)/ 40% BBgBarc Global Agg				5.3	-0.2	-4.7	6.6	8.2	4.6	5.7	8.1
PIMCO All Asset	17,334,090	5.1	6.3	4.5	1.4	-3.1	5.2	9.1	3.6	4.0	7.3
Blended Index				2.5	2.3	1.5	3.1	4.2	3.5	3.5	5.8
Vanguard Total World Stock Index	17,449,185	5.1	7.5	8.1	-2.2	-7.4	8.6	11.8	7.0	--	--
FTSE Global All Cap Index				8.1	-2.3	-7.3	8.5	11.0	5.5	7.2	9.9

Notes:

Returns are net of manager fees.

The inception date for the allocation index is 07/01/2009

Fiscal YTD begins 7/1

Blended Index: 40% BC Aggregate / 30% BC U.S. TIPS 1-10YR / 10% S&P 500 / 10% BC High Yield / 10% JPM EMBI+

Loomis Bank Loans Custom Index blends performance of "S&P/LSTA Leveraged Loan Index" before 9/1/2014 and "S&P/LSTA Leveraged BB Loan Index" after 9/1/2014. Composite excludes external loans. Blackrock SIO changed its share class in May 2018 to BSIKX.

NEPC

Maine's
Public
Universities

UNIVERSITY OF MAINE SYSTEM

FY2019
E&G and Auxiliary
Forecast
As of 2/28/2019

(Based on internal budget format)

UNIVERSITY OF MAINE SYSTEM
FY2019 E&G and AUXILIARY FORECAST #2
As of 02/28/19

Excluding unrestricted investment income and transfers from reserves, the Universities, Governance, and University Services are projecting an operating loss of $3.2 million; an improvement of $0.7 million since the 1st Forecast and $1.4 million compared to the budgeted loss of $4.6 million.

E & G and AUXILIARY FY2019			
	Operations		
Institution	**Budget**	**Forecast**	**Variance**
UMAINE	$ -	$ 883,912	$ 883,912
UMM	-	(166,541)	(166,541)
UMA	(2,999,008)	(2,389,778)	609,230
UMF	-	(714,593)	(714,593)
UMFK	6,633	6,633	-
UMPI	-	(202,255)	(202,255)
USM - Excluding Law	195,981	737,543	541,562
USM - Law[1]	(1,231,216)	(973,988)	257,228
Campus Total	**(4,027,610)**	**(2,819,067)**	**1,208,543**
Governance	-	-	-
University Services	(525,433)	(361,811)	163,622
TOTAL	**$ (4,553,043)**	**$ (3,180,878)**	**$ 1,372,165**

[1] *USM - Law is approved to receive up to $500,000 of Budget Stabilization Funds at year end to offset any deficit.*

Unrestricted Investment Income	$ 4,387,337	$ 3,494,283	$ (893,054)

Major factors impacting FY2019 forecast

➢ Unrestricted investment income is budgeted at $4.4 million; current fiscal year earnings are $3.5 million for a budget-to-actual negative variance of $0.9 million to date. This forecast does not make any projections for future periods.

➢ Total enrollments were below budget at all campuses but non-resident credit hours exceeded budget by 5,230 or 3.4%.

FY19 ENROLLMENT (CREDIT HOURS)					VARIANCE BY RESIDENCY	
	Budget	**Actual**	**Variance**		**Resident**	**Non-Resident**
UMAINE	283,969	283,573	(396)	(0.14%)	(140)	(256)
UMM	15,000	13,606	(1,394)	(9.29%)	(112)	(1,282)
UMA	74,183	73,923	(260)	(0.35%)	(1,789)	1,529
UMF	56,959	52,523	(4,436)	(7.79%)	(3,543)	(893)
UMFK	31,269	28,763	(2,506)	(8.01%)	(1,548)	(958)
UMPI	30,717	27,661	(3,056)	(9.95%)	(2,776)	(280)
USM - Excluding Law	176,058	175,959	(99)	(0.06%)	(7,012)	6,913
USM - Law	7,622	7,422	(200)	(2.62%)	(657)	457
TOTAL	**675,777**	**663,430**	**(12,347)**	**(1.83%)**	**(17,577)**	**5,230**

- UM projects positive operating results due primarily to anticipated vacancy savings.
- UMM's revenue is $1M (9.5%) below budget; expenses are currently projected at 8.0% below budget resulting in the projected loss. UMM will continue to monitor expenses to secure as many one-time savings as are feasible to offset the projected loss.
- UMA credit hours are only 0.4% below budget but reflect an increase in non-resident credit hours. UMA's projected loss of $2.4M is $600,000 less than the budgeted loss of $3 million. This favorable variance is due to identified vacancy savings and reductions in other expenses.
- UMF continues to project an operating loss. Revenue projections are $1.9 million below budget; this is partially offset by estimated reductions in operating costs ($400 thousand) and capital investments ($760 thousand).
- UMFK continues to project positive operating results due to reversing the planned expansion of athletic scholarships, eliminating 2.75 new positions proposed in the FY19 budget, and not offering a new tennis program.
- UMPI's projected loss has increased from $46 thousand to $202 thousand as a result of both Fall and Spring enrollments below budget. UMPI is holding vacant positions to help offset the tuition shortfall and is also experiencing energy costs below budget.
- USM's total enrollment was extremely close to budget and non-resident credit hours were 37% above budget; however, waivers and scholarships will exceed budget and bookstore revenues continue to decline resulting in a projected negative variance in revenue. To offset the lower revenue, USM is projecting a 1% reduction in operating expenses.
- Law School's projected loss is $257 thousand less than originally budgeted due to projected vacancy savings.
- University Services budget included the planned use of reserves to provided universities a one-time reduction in certain allocated costs. University Services is currently projecting savings to reduce the need to utilize reserves.
- Employee benefits are currently trending as budgeted.

Travel & Memberships/Contributions Reporting

Public Law 2011, Chapter 616 requires periodic reporting of the actual travel & contribution costs to the Board of Trustees. The budget-to-actual comparisons through February 2019 are below.

Travel, Meals & Entertainment				
Funding Source	**Budget**	**Actuals**	**Unexpended**	
E&G/Auxiliary	$ 6,482,306	$5,178,804	$1,303,502	20.1%
Restricted/Other	4,773,200	2,351,841	2,421,359	50.7%
Total	$ 11,255,506	$7,530,645	$3,724,861	33.1%

Memberships, Gifts, Donations & Sponsorships				
Funding Source	**Budget**	**Actuals**	**Unexpended**	
E&G/Auxiliary	$ 1,568,744	$1,135,939	$ 432,805	27.6%
Restricted/Other	566,400	420,182	146,218	25.8% *
Total	$ 2,135,144	$1,556,121	$ 579,023	27.1%

Excludes reversal for payover to the new USM Osher Map Library Foundation

Spring 2019 Enrollment Report – The University of Maine System

HIGHLIGHTS

- Compared to Spring 2018, undergraduate headcount and credit hours are up slightly (0.9% and 0.6% respectively) across the system. UMA and USM showed increases in undergraduate credit hours compared to last spring, while undergraduate credit hours declined slightly at UM and UMPI and more significantly at UMF, UMFK, and UMM.

- Credit hours among Early College students showed an increase (8.2%) compared to Spring 2018 and a substantial increase (169%) compared to Spring 2015. Compared to the previous Spring term, every campus with the exception of UMM saw an increase in Early College student headcounts and 5 of the 7 campuses saw increases in Early College credit hours. Credit hours from Early College programs accounted for 2.7% of all undergraduate credit hours in Spring 2019.

- Graduate student headcounts are up 5.0% since last year and 12.3% relative to Spring 2015. Graduate credit hours were the highest they have been in the past five spring terms and showed an increase of 2.7% since Spring 2018 and an increase of 2.5% compared to Spring 2015. UM's graduate credit hours increased 7.6% from last spring and 10.2% since Spring 2015, whereas UMF and USM graduate credit hours saw declines relative to last year, though UMF showed an increase of 58.6% from Spring 2015.

- Credit hours from NEBHE students are down 1.9% from last spring (and -1.8% compared to Spring 2015). However, there has been significant growth in credit hours among other out-of-state students, which have increased 52.4% since Spring 2015. Credit hours among in-state students declined 8.0% over the last five spring terms but showed only a slight decline relative to last spring (-0.7%). Credit hours and headcounts have declined substantially at the Associate-degree level, driven largely by the elimination of two-year degree programs across the system in recent years.

- The number of incoming students (first-time, transfers, readmits, etc.) increased 7.7% relative to last spring and is the largest group of entering students over the past five spring semesters. The number of first-time students increased 27.1% relative to last spring and 12.4% since Spring 2015. First-time students are increasingly entering as full-time students, a population that has increased 51.2% relative to last year. Transfer-ins also saw an increase of 5.3% relative to Spring 2018 and 3.3% compared to Spring 2015. Transfer students are increasingly coming from the Maine Community College System and other non-UMS institutions.

- Compared to either a year ago or five years ago, there are now more Black/African American, Hispanic/Latino, Asian, and multi-racial/ethnic students enrolled in the UMS, which helps to explain some of the growth in overall student headcounts. The total number of white students increased 0.5% since last Spring, while the total number of Non-Resident Alien (International) students has dropped by 7.5% since last year (and by 21.2% in the last five spring terms). American Indian/Alaska Native students also saw substantial declines during the same time periods (-5.8% and -21.8% respectively).

- The delivery of credit hours continued to shift toward Distance Education—toward Distance Online in particular, which grew by 10.5% since last year and 29.3% since Spring 2015. Distance ITV is also up from last year (12.3%), while Distance Onsite and Distance Video Conference credit hours fell nearly 11% and 20% respectively. Traditional campus credit hours declined only slightly over the past year (by 1.8%), and have declined by 4.2% over the past five spring terms.

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University of Maine System

Spring 2019 Enrollment Report

Robert Zuercher, UMS Senior Institutional Research & Planning Analyst
Justin Young, UMS Senior Institutional Research & Planning Analyst
February 21, 2019

Spring 2019 Enrollment Report – The University of Maine System

INTRODUCTION

The following report provides summary information regarding enrollment at the University of Maine System for the 2019 Spring Semester. All data reported is as of the census date, February 15, 2019.

Notes:
1. Some totals may not appear to sum correctly due to rounding (e.g., percentages).

Data Source: PeopleSoft Database; the University of Maine System; 2/15/2019.

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HIGHLIGHTS

- Compared to Spring 2018, undergraduate headcount and credit hours are up slightly (0.9% and 0.6% respectively) across the system. UMA and USM showed increases in undergraduate credit hours compared to last spring, while undergraduate credit hours declined slightly at UM and UMPI and more significantly at UMF, UMFK, and UMM.

- Credit hours among Early College students showed an increase (8.2%) compared to Spring 2018 and a substantial increase (169%) compared to Spring 2015. Compared to the previous Spring term, every campus with the exception of UMM saw an increase in Early College student headcounts and 5 of the 7 campuses saw increases in Early College credit hours. Credit hours from Early College programs accounted for 2.7% of all undergraduate credit hours in Spring 2019.

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- The number of incoming students (first-time, transfers, readmits, etc.) increased 7.7% relative to last spring and is the largest group of entering students over the past five spring semesters. The number of first-time students increased 27.1% relative to last spring and 12.4% since Spring 2015. First-time students are increasingly entering as full-time students, a population that has increased 51.2% relative to last year. Transfer-ins also saw an increase of 5.3% relative to Spring 2018 and 3.3% compared to Spring 2015. Transfer students are increasingly coming from the Maine Community College System and other non-UMS institutions.

- Compared to either a year ago or five years ago, there are now more Black/African American, Hispanic/Latino, Asian, and multi-racial/ethnic students enrolled in the UMS, which helps to explain some of the growth in overall student headcounts. The total number of white students increased 0.5% since last Spring, while the total number of Non-Resident Alien (International) students has dropped by 7.5% since last year (and by 21.2% in the last five spring terms). American Indian/Alaska Native students also saw substantial declines during the same time periods (-5.8% and -21.8% respectively).

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Spring 2019 Enrollment Report – The University of Maine System

Headcount by Campus and Student Level

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-year	% Change 5-year	Trend Line
UM	Undergraduate	8,654	8,648	8,623	8,696	8,865	81.4%	1.9%	2.4%	
	Graduate	1,678	1,676	1,851	1,846	2,023	18.6%	9.6%	20.6%	
	Total	**10,332**	**10,324**	**10,474**	**10,542**	**10,888**	**100.0%**	**3.3%**	**5.4%**	
UMA	Undergraduate	4,426	4,443	4,041	3,820	3,811	100.0%	-0.2%	-13.9%	
	Graduate	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**4,426**	**4,443**	**4,041**	**3,820**	**3,811**	**100.0%**	**-0.2%**	**-13.9%**	
UMF	Undergraduate	1,672	1,674	1,662	1,633	1,576	84.2%	-3.5%	-5.7%	
	Graduate	194	222	233	327	295	15.8%	-9.8%	52.1%	
	Total	**1,866**	**1,896**	**1,895**	**1,960**	**1,871**	**100.0%**	**-4.5%**	**0.3%**	
UMFK	Undergraduate	1,240	1,402	1,494	1,482	1,393	100.0%	-6.0%	12.3%	
	Graduate	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**1,240**	**1,402**	**1,494**	**1,482**	**1,393**	**100.0%**	**-6.0%**	**12.3%**	
UMM	Undergraduate	779	715	716	675	663	100.0%	-1.8%	-14.9%	
	Graduate	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**779**	**715**	**716**	**675**	**663**	**100.0%**	**-1.8%**	**-14.9%**	
UMPI	Undergraduate	1,049	1,078	1,148	1,282	1,254	100.0%	-2.2%	19.5%	
	Graduate	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**1,049**	**1,078**	**1,148**	**1,282**	**1,254**	**100.0%**	**-2.2%**	**19.5%**	
USM	Undergraduate	5,776	5,511	5,552	5,562	5,801	77.0%	4.3%	0.4%	
	Graduate	1,523	1,384	1,420	1,457	1,494	19.8%	2.5%	-1.9%	
	Law	240	248	234	244	243	3.2%	-0.4%	1.3%	
	Total	**7,539**	**7,143**	**7,206**	**7,263**	**7,538**	**100.0%**	**3.8%**	**0.0%**	
Total	**Undergraduate**	**23,596**	**23,471**	**23,236**	**23,150**	**23,363**	**85.2%**	**0.9%**	**-1.0%**	
	Graduate	**3,395**	**3,282**	**3,504**	**3,630**	**3,812**	**13.9%**	**5.0%**	**12.3%**	
	Law	**240**	**248**	**234**	**244**	**243**	**0.9%**	**-0.4%**	**1.3%**	
	Total	*27,231*	*27,001*	*26,974*	*27,024*	*27,418*	*100.0%*	*1.5%*	*0.7%*	
Unduplicated Total*		*26,724*	*26,487*	*26,393*	*26,513*	*26,877*	*100.0%*	*1.4%*	*0.6%*	

Note: *The "Unduplicated Total" is the number of unique students enrolled in the UMS. Students may be enrolled in one or more UMS institutions, but they are only counted once in the "Unduplicated Total."

Total Headcount

Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019
27,231	27,001	26,974	27,024	27,418

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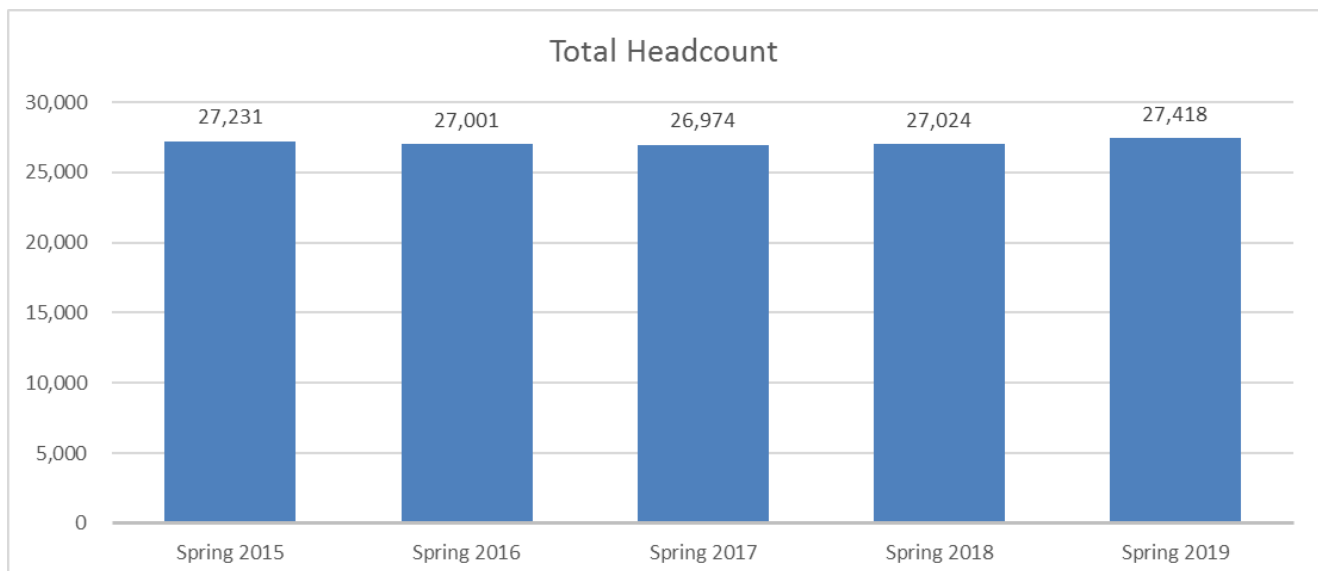
Spring 2019 Enrollment Report – The University of Maine System

FTE by Campus and Student Level

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-year	% Change 5-year	Trend Line
UM	Undergraduate	7,704	7,837	8,001	8,112	8,088	88.1%	-0.3%	5.0%	
	Graduate	994	979	1,007	1,019	1,096	11.9%	7.6%	10.2%	
	Total	**8,699**	**8,817**	**9,008**	**9,131**	**9,184**	**100.0%**	**0.6%**	**5.6%**	
UMA	Undergraduate	2,481	2,463	2,167	2,059	2,080	100.0%	1.0%	-16.2%	
	Graduate	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**2,481**	**2,463**	**2,167**	**2,059**	**2,080**	**100.0%**	**1.0%**	**-16.2%**	
UMF	Undergraduate	1,537	1,522	1,522	1,502	1,442	92.9%	-4.0%	-6.2%	
	Graduate	70	87	88	121	111	7.1%	-8.3%	58.6%	
	Total	**1,607**	**1,609**	**1,610**	**1,623**	**1,552**	**100.0%**	**-4.3%**	**-3.4%**	
UMFK	Undergraduate	748	818	830	820	769	100.0%	-6.2%	2.8%	
	Graduate	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**748**	**818**	**830**	**820**	**769**	**100.0%**	**-6.2%**	**2.8%**	
UMM	Undergraduate	497	471	456	433	411	100.0%	-5.1%	-17.1%	
	Graduate	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**497**	**471**	**456**	**433**	**411**	**100.0%**	**-5.1%**	**-17.1%**	
UMPI	Undergraduate	717	709	722	797	783	100.0%	-1.8%	9.1%	
	Graduate	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**717**	**709**	**722**	**797**	**783**	**100.0%**	**-1.8%**	**9.1%**	
USM	Undergraduate	4,215	3,986	4,062	4,166	4,432	77.0%	6.4%	5.1%	
	Graduate	1,175	1,037	1,033	1,095	1,088	18.9%	-0.6%	-7.4%	
	Law	227	222	215	228	234	4.1%	2.5%	3.1%	
	Total	**5,617**	**5,246**	**5,311**	**5,489**	**5,754**	**100.0%**	**4.8%**	**2.4%**	
Total	**Undergraduate**	**17,899**	**17,806**	**17,760**	**17,890**	**18,003**	**87.7%**	**0.6%**	**0.6%**	
	Graduate	**2,239**	**2,103**	**2,128**	**2,235**	**2,295**	**11.2%**	**2.7%**	**2.5%**	
	Law	**227**	**222**	**215**	**228**	**234**	**1.1%**	**2.5%**	**3.1%**	
	Total	***20,365***	***20,132***	***20,104***	***20,353***	***20,533***	***100.0%***	***0.9%***	***0.8%***	

Total FTE

Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019
20,365	20,132	20,104	20,353	20,533
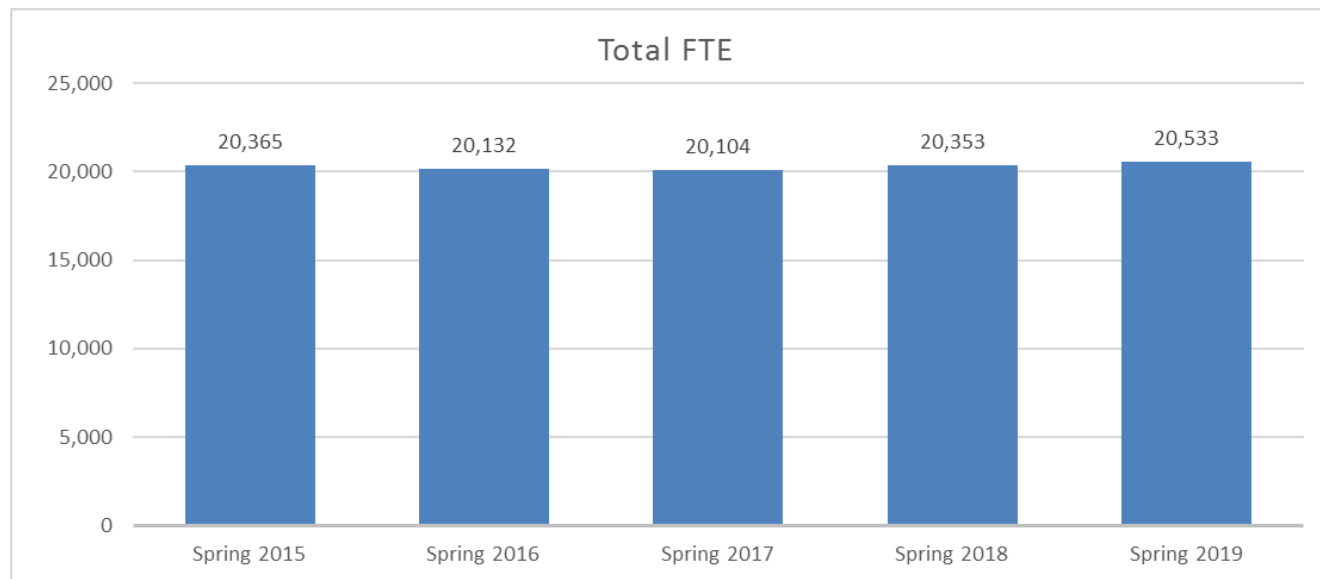
Note: The formula for calculating Fall FTE (for all campuses except UMF starting in Fall 2006) is as follows:
Fall Undergraduate Credit Hours/15 + Fall Professional (Law) Credit Hours/15 + Fall Graduate Credit Hours/9 = Fall FTE +
UMF: Fall Undergraduate Credit Hours/16 + Fall Graduate Credit Hours/9 = Fall FTE

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Spring 2019 Enrollment Report – The University of Maine System

Credit Hours by Campus and Student Level

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-year	% Change 5-year	Trend Line
UM	Undergraduate	115,562	117,561	120,010	121,684	121,314	92.5%	-0.3%	5.0%	
	Graduate	8,950	8,814	9,066	9,170	9,865	7.5%	7.6%	10.2%	
	Total	**124,511**	**126,374**	**129,076**	**130,854**	**131,179**	**100.0%**	**0.2%**	**5.4%**	
UMA	Undergraduate	37,211	36,940	32,504	30,888	31,160	100.0%	0.9%	-16.3%	
	Graduate	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**37,211**	**36,940**	**32,504**	**30,888**	**31,160**	**100.0%**	**0.9%**	**-16.3%**	
UMF	Undergraduate	24,590	24,358	24,359	24,031	23,064	95.9%	-4.0%	-6.2%	
	Graduate	628	781	793	1,086	996	4.1%	-8.3%	58.6%	
	Total	**25,218**	**25,139**	**25,152**	**25,117**	**24,060**	**100.0%**	**-4.2%**	**-4.6%**	
UMFK	Undergraduate	11,221	12,266	12,450	12,298	11,532	100.0%	-6.2%	2.8%	
	Graduate	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**11,221**	**12,266**	**12,450**	**12,298**	**11,532**	**100.0%**	**-6.2%**	**2.8%**	
UMM	Undergraduate	7,448	7,059	6,843	6,501	6,208	100.0%	-4.5%	-16.7%	
	Graduate	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**7,448**	**7,059**	**6,843**	**6,501**	**6,208**	**100.0%**	**-4.5%**	**-16.7%**	
UMPI	Undergraduate	10,761	10,641	10,826	11,957	11,739	100.0%	-1.8%	9.1%	
	Graduate	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**10,761**	**10,641**	**10,826**	**11,957**	**11,739**	**100.0%**	**-1.8%**	**9.1%**	
USM	Undergraduate	63,226	59,792	60,931	62,489	66,477	83.3%	6.4%	5.1%	
	Graduate	10,574	9,337	9,301	9,856	9,795	12.3%	-0.6%	-7.4%	
	Law	3,407	3,337	3,227	3,427	3,512	4.4%	2.5%	3.1%	
	Total	**77,207**	**72,465**	**73,458**	**75,771**	**79,784**	**100.0%**	**5.3%**	**3.3%**	
Total	**Undergraduate**	**270,019**	**268,616**	**267,923**	**269,848**	**271,493**	**91.8%**	**0.6%**	**0.5%**	
	Graduate	**20,151**	**18,931**	**19,160**	**20,111**	**20,656**	**7.0%**	**2.7%**	**2.5%**	
	Law	**3,407**	**3,337**	**3,227**	**3,427**	**3,512**	**1.2%**	**2.5%**	**3.1%**	
	Total	***293,577***	***290,884***	***290,309***	***293,386***	***295,661***	***100.0%***	***0.8%***	***0.7%***	

Total Credit Hours

Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019
293,577	290,884	290,309	293,386	295,661

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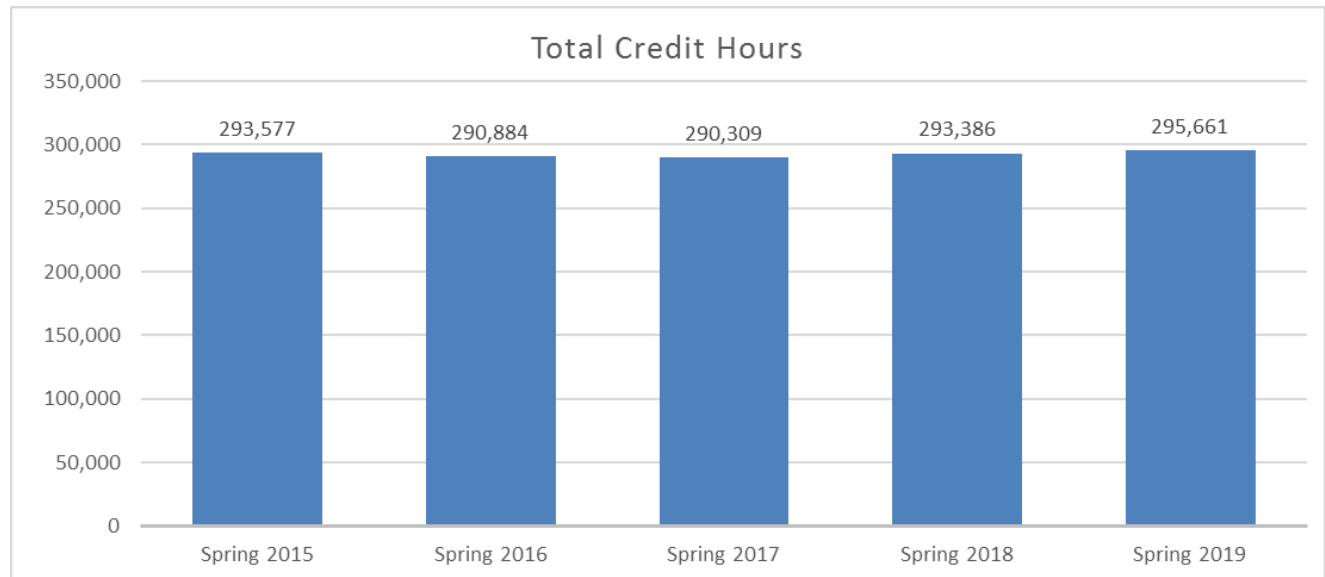
Spring 2019 Enrollment Report – The University of Maine System

Spring 2019 High School Early College Students as of February 15, 2019

Institution	Early College Type	Headcount		FTE		Credit Hours	
UM	Aspirations	241	2.7%	55	0.7%	825	0.7%
	Dual Enrollment	20	0.2%	4	0.1%	65	0.1%
	*UM Unduplicated Early College Count**	*261*	*2.9%*	*59*	*0.7%*	*890*	*0.7%*
	UM Undergraduate Total	**8,865**	**100%**	**8,088**	**100%**	**121,314**	**100%**
UMA	Aspirations	238	6.2%	62	3.0%	923	3.0%
	Bridge Year	16	0.4%	4	0.2%	57	0.2%
	Dual Enrollment	15	0.4%	4	0.2%	55	0.2%
	*UMA Unduplicated Early College Count**	*268*	*7.0%*	*69*	*3.3%*	*1,035*	*3.3%*
	UMA Undergraduate Total	**3,811**	**100%**	**2,080**	**100%**	**31,160**	**100%**
UMF	Aspirations	12	0.8%	4	0.3%	60	0.3%
	Dual Enrollment	11	0.7%	3	0.2%	44	0.2%
	*UMF Unduplicated Early College Count**	*23*	*1.5%*	*7*	*0.5%*	*104*	*0.5%*
	UMF Undergraduate Total	**1,576**	**100%**	**1,442**	**100%**	**23,064**	**100%**
UMFK	Aspirations	197	14.1%	52	6.8%	716	6%
	Dual Enrollment	257	18.4%	66	8.6%	928	8%
	*UMFK Unduplicated Early College Count**	*435*	*31.2%*	*118*	*15.3%*	*1,644*	*14.3%*
	UMFK Undergraduate Total	**1,393**	**100.0%**	**769**	**100.0%**	**11,532**	**100%**
UMM	Aspirations	96	14.5%	23	5.6%	346	5.6%
	*UMM Unduplicated Early College Count**	*96*	*14.5%*	*23*	*5.6%*	*346*	*5.6%*
	UMM Undergraduate Total	**663**	**100%**	**411**	**100%**	**6,208**	**100%**
UMPI	Aspirations	41	3.3%	12	1.6%	142	1.2%
	Dual Enrollment	347	27.7%	130	16.6%	1,903	16.2%
	*UMPI Unduplicated Early College Count**	*377*	*30.1%*	*142*	*18.1%*	*2,045*	*17.4%*
	UMPI Undergraduate Total	**1,254**	**100%**	**783**	**100%**	**11,739**	**100%**
USM	Aspirations	144	2.5%	42	1.0%	633	1.0%
	Dual Enrollment	122	2.1%	34	0.8%	510	0.8%
	*USM Unduplicated Early College Count**	*266*	*4.6%*	*76*	*1.7%*	*1,143*	*1.7%*
	USM Undergraduate Total	**5,801**	**100%**	**4,432**	**100%**	**66,477**	**100%**
	*Unduplicated UMS Early College Headcount***	*1,672*		-		-	
	System Total of Early College	**1,726**	**7.4%**	**495**	**2.7%**	**7,207**	**2.7%**
	System Total of Undergraduate	**23,363**	**100%**	**18,004**	**100%**	**271,494**	**100%**

Notes: *Unduplicated refers only to headcount, while FTE and Credit Hours are totals.

The "Distinct Early College Headcount" represents the number of students participating in Early College, with students counted only once no matter how many programs or institutions in which they enrolled. The System Totals of "Early College" and "Undergraduate," on the other hand, are simply the sum of all institution totals.

Spring 2019 Enrollment Report – The University of Maine System

Headcount of Early College and Undergraduate Students by Campus

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% Change 1-year	% Change 5-year
UM	Unduplicated Early College Headcount	146	140	118	148	261	76.4%	78.8%
	Undergraduate Total	8,654	8,648	8,623	8,696	8,865	1.9%	2.4%
	Early College as % of UG Total	1.7%	1.6%	1.4%	1.7%	2.9%	73.0%	74.5%
UMA	Unduplicated Early College Headcount	88	90	153	253	268	5.9%	204.5%
	Undergraduate Total	4,426	4,443	4,041	3,820	3,811	-0.2%	-13.9%
	Early College as % of UG Total	2.0%	2.0%	3.8%	6.6%	7.0%	6.2%	253.7%
UMF	Unduplicated Early College Headcount	3	9	2	5	23	360.0%	666.7%
	Undergraduate Total	1,672	1,674	1,662	1,633	1,576	-3.5%	-5.7%
	Early College as % of UG Total	0.2%	0.5%	0.1%	0.3%	1.5%	376.6%	713.4%
UMFK	Unduplicated Early College Headcount	197	367	444	445	435	-2.2%	120.8%
	Undergraduate Total	1,240	1,402	1,494	1,482	1,393	-6.0%	12.3%
	Early College as % of UG Total	15.9%	26.2%	29.7%	30.0%	31.2%	4.0%	96.6%
UMM	Unduplicated Early College Headcount	53	59	80	70	96	37.1%	81.1%
	Undergraduate Total	779	715	716	675	663	-1.8%	-14.9%
	Early College as % of UG Total	6.8%	8.3%	11.2%	10.4%	14.5%	39.6%	112.8%
UMPI	Unduplicated Early College Headcount	49	182	257	374	377	0.8%	669.4%
	Undergraduate Total	1,049	1,078	1,148	1,282	1,254	-2.2%	19.5%
	Early College as % of UG Total	4.7%	16.9%	22.4%	29.2%	30.1%	3.1%	543.6%
USM	Unduplicated Early College Headcount	178	191	171	236	266	12.7%	49.4%
	Undergraduate Total	5,776	5,511	5,552	5,562	5,801	4.3%	0.4%
	Early College as % of UG Total	3.1%	3.5%	3.1%	4.2%	4.6%	8.1%	48.8%
	Unduplicated Early College Headcount	-	*903*	*1,174*	*1,480*	*1,672*	*13.0%*	*N/A*
	Grand Total Early College	**714**	**1,038**	**1,225**	**1,531**	**1,726**	**12.7%**	**141.7%**
	Undergraduate Total	**23,596**	**23,471**	**23,236**	**23,150**	**23,363**	**0.9%**	**-1.0%**
	Early College as % of UG Total	**3.0%**	**4.4%**	**5.3%**	**6.6%**	**7.4%**	**11.7%**	**144.1%**

Note: * The "Unduplicated Early College Headcount" represents the number of students participating in Early College, with students counted only once no matter how many programs or institutions in which they enrolled. The System Totals of "Early College" and "Undergraduate," on the other hand, are simply the sum of all institution totals.

Headcount of Early College and Undergraduate Students

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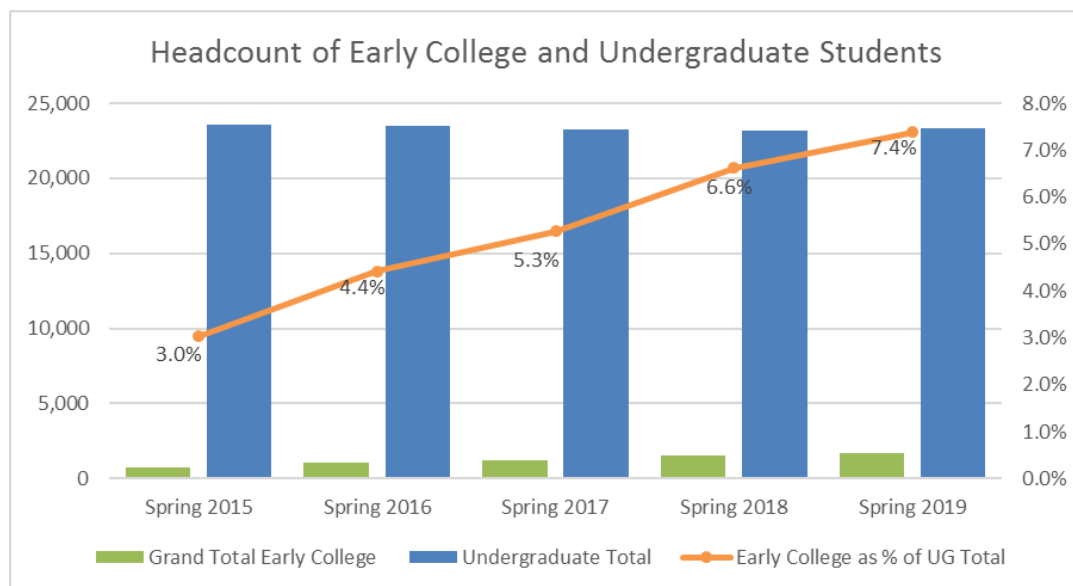
Spring 2019 Enrollment Report – The University of Maine System

Credit Hours for Early College and Undergraduate Students by Campus

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% Change	
							1-year	5-year
UM	Early College SCH	487	481	396	539	890	65.1%	82.8%
	Undergraduate SCH	115,562	117,561	120,010	121,684	121,314	-0.3%	5.0%
	Early College as % of UG SCH	**0.4%**	**0.4%**	**0.3%**	**0.4%**	**0.7%**	**65.6%**	**74.1%**
UMA	Early College SCH	336	361	569	953	1,035	8.6%	208.0%
	Undergraduate SCH	37,211	36,940	32,504	30,888	31,160	0.9%	-16.3%
	Early College as % of UG SCH	**0.9%**	**1.0%**	**1.8%**	**3.1%**	**3.3%**	**7.7%**	**267.9%**
UMF	Early College SCH	12	49	8	44	104	136.4%	766.7%
	Undergraduate SCH	24,590	24,358	24,359	24,031	23,064	-4.0%	-6.2%
	Early College as % of UG SCH	**0.0%**	**0.2%**	**0.0%**	**0.2%**	**0.5%**	**146.3%**	**824.0%**
UMFK	Early College SCH	761	1,490	1,655	1,752	1,644	-6.2%	116.0%
	Undergraduate SCH	11,221	12,266	12,450	12,298	11,532	-6.2%	2.8%
	Early College as % of UG SCH	**6.8%**	**12.1%**	**13.3%**	**14.2%**	**14.3%**	**0.1%**	**110.2%**
UMM	Early College SCH	190	200	298	240	346	44.2%	82.1%
	Undergraduate SCH	7,448	7,059	6,843	6,501	6,208	-4.5%	-16.6%
	Early College as % of UG SCH	**2.6%**	**2.8%**	**4.4%**	**3.7%**	**5.6%**	**51.0%**	**118.5%**
UMPI	Early College SCH	177	680	1,171	2,109	2,045	-3.0%	1055.4%
	Undergraduate SCH	10,761	10,641	10,826	11,957	11,739	-1.8%	9.1%
	Early College as % of UG SCH	**1.6%**	**6.4%**	**10.8%**	**17.6%**	**17.4%**	**-1.2%**	**959.1%**
USM	Early College SCH	716	759	698	1,022	1,143	11.9%	59.6%
	Undergraduate SCH	63,226	59,792	60,931	62,489	66,477	6.4%	5.1%
	Early College as % of UG SCH	**1.1%**	**1.3%**	**1.1%**	**1.6%**	**1.7%**	**5.2%**	**51.8%**
Total	**Early College SCH**	*2,679*	*4,020*	*4,795*	*6,659*	*7,207*	8.2%	169.0%
	Undergraduate SCH	*270,019*	*268,616*	*267,923*	*269,848*	*271,493*	0.6%	0.5%
	Early College as % of UG SCH	**1.0%**	**1.5%**	**1.8%**	**2.5%**	**2.7%**	**7.6%**	**167.6%**

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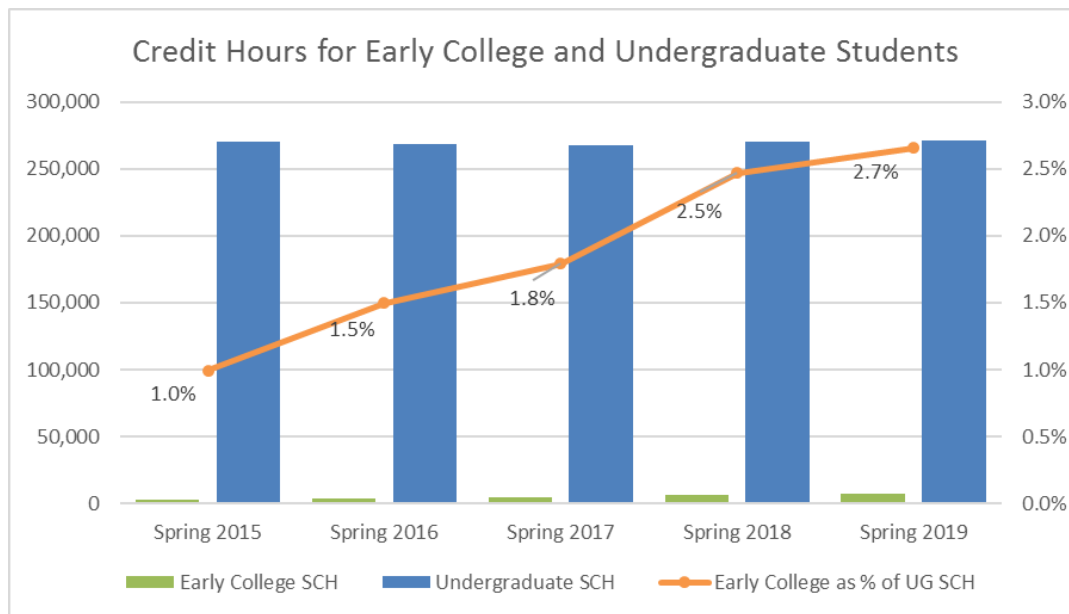
Spring 2019 Enrollment Report – The University of Maine System

Headcount by Degree Level

	Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change		Trend Line
							1-Year	5-year	
Associate	1,050	830	686	568	576	2.1%	1.4%	-45.1%	
Baccalaureate	20,313	20,126	19,749	19,595	19,549	71.3%	-0.2%	-3.8%	
Non-Degree Undergraduate	2,233	2,515	2,801	2,987	3,238	11.8%	8.4%	45.0%	
Graduate	2,777	2,662	2,767	2,913	3,034	11.1%	4.2%	9.3%	
Non-Degree Graduate	618	620	737	717	778	2.8%	8.5%	25.9%	
Law	234	241	231	237	242	0.9%	2.1%	3.4%	
Non-Degree Law	6	7	3	7	1	0.0%	-85.7%	-83.3%	
Total	*27,231*	*27,001*	*26,974*	*27,024*	*27,418*	*100.0%*	*1.5%*	*0.7%*	

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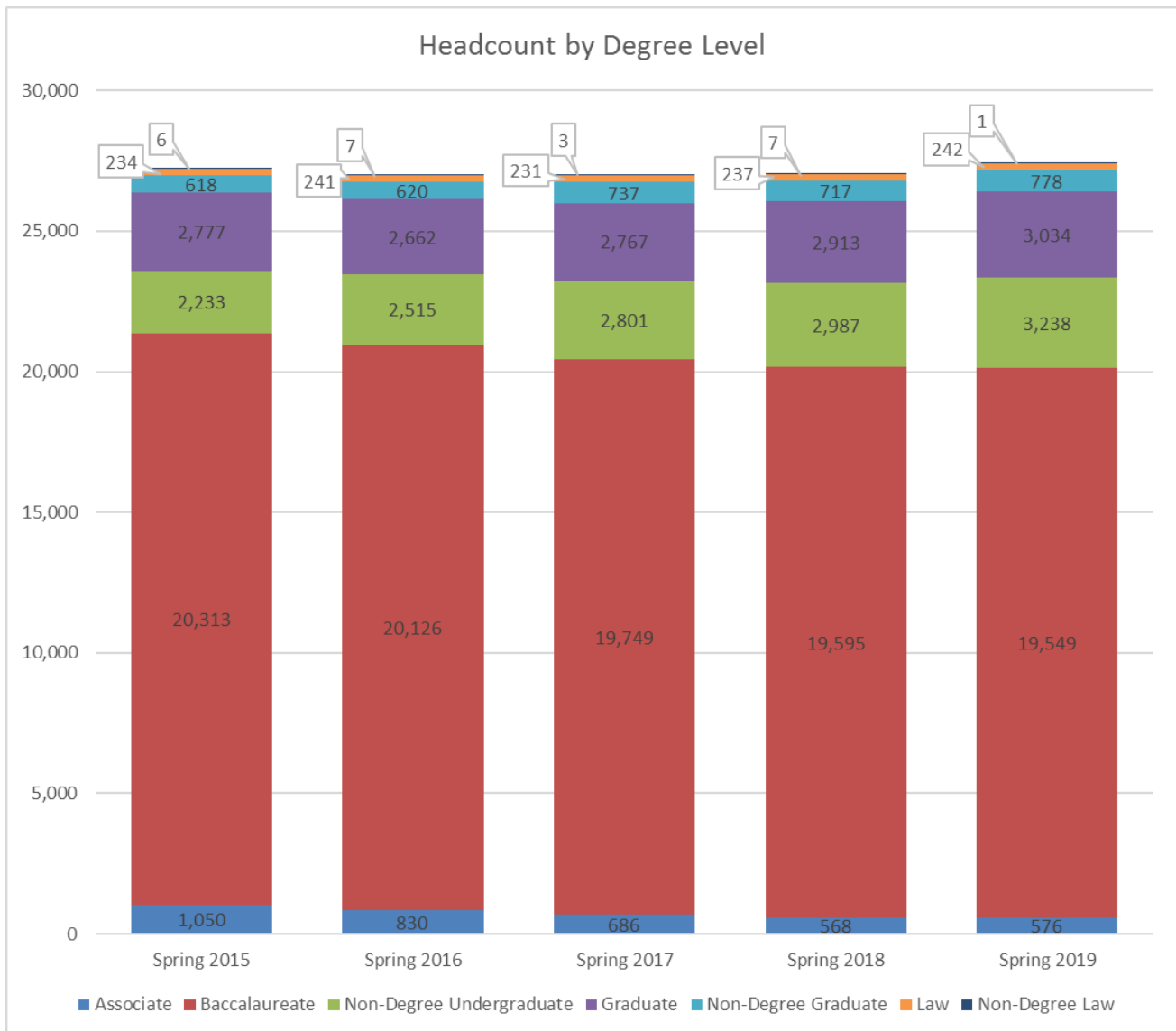
Spring 2019 Enrollment Report – The University of Maine System

FTE by Degree Level

	Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-Year	% Change 5-year	Trend Line
Associate	668	530	436	359	355	1.7%	-1.1%	-46.8%	
Baccalaureate	16,575	16,555	16,542	16,643	16,742	81.5%	0.6%	1.0%	
Non-Degree Undergraduate	656	721	783	887	907	4.4%	2.2%	38.2%	
Graduate	1,994	1,877	1,868	1,978	2,027	9.9%	2.5%	1.7%	
Non-Degree Graduate	245	227	261	256	268	1.3%	4.6%	9.4%	
Law	223	219	215	225	234	1.1%	3.9%	4.8%	
Non-Degree Law	4	3	1	3	0	0.0%	-97.9%	-98.2%	
Total	*20,365*	*20,132*	*20,106*	*20,353*	*20,533*	*100.0%*	*0.9%*	*0.8%*	

FTE by Degree Level

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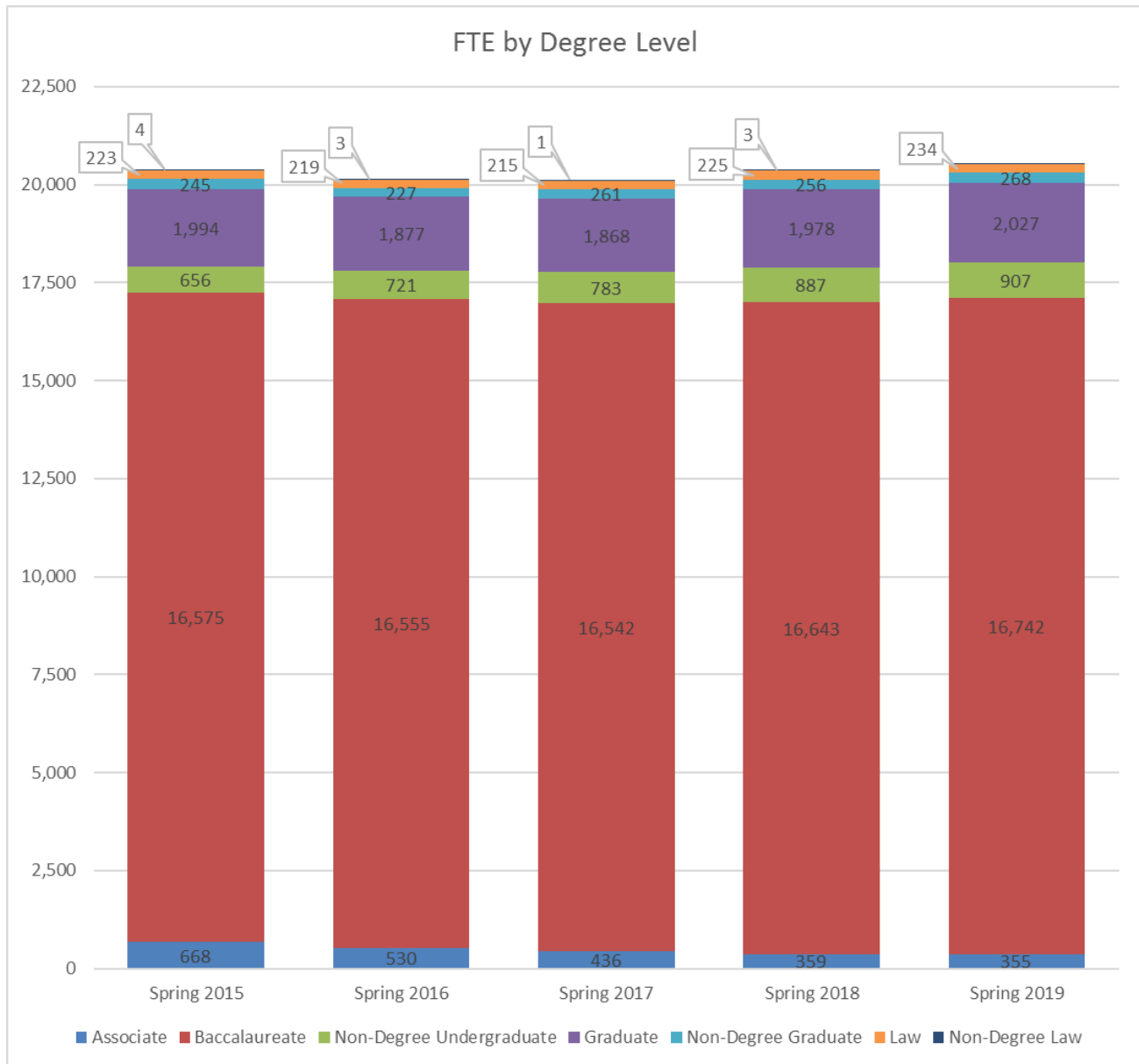
Spring 2019 Enrollment Report – The University of Maine System

Credit Hours by Degree Level

	Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change		Trend Line
							1-Year	5-year	
Associate	10,016	7,954	6,533	5,382	5,324	1.8%	-1.1%	-46.8%	
Baccalaureate	250,142	249,837	249,639	251,142	252,550	85.4%	0.6%	1.0%	
Non-Degree Undergraduate	9,861	10,825	11,751	13,324	13,619	4.6%	2.2%	38.1%	
Graduate	17,947	16,892	16,811	17,805	18,244	6.2%	2.5%	1.7%	
Non-Degree Graduate	2,204	2,040	2,349	2,307	2,412	0.8%	4.6%	9.4%	
Law	3,350	3,286	3,218	3,379	3,511	1.2%	3.9%	4.8%	
Non-Degree Law	57	51	9	48	1	0.0%	-97.9%	-98.2%	
Total	*293,577*	*290,884*	*290,310*	*293,386*	*295,661*	*100.0%*	*0.8%*	*0.7%*	
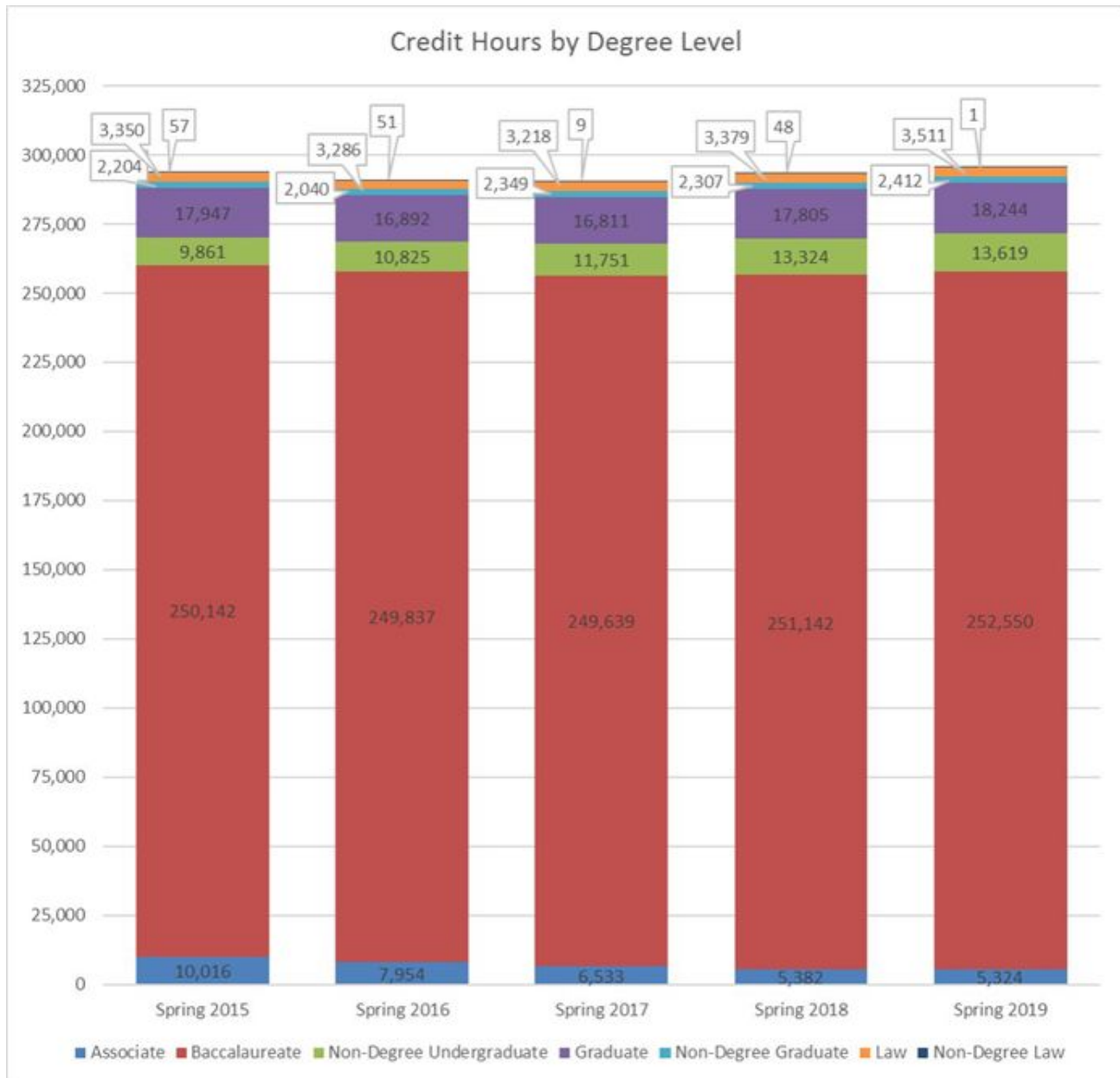
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Spring 2019 Enrollment Report – The University of Maine System

Headcount by Student Level and Tuition-Based Residency

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-year	% Change 5-year	Trend Line
Undergraduate	In-State	20,089	19,738	19,185	18,528	18,444	78.9%	-0.5%	-8.2%	
	Out-of-State	2,727	2,936	3,254	3,827	4,152	17.8%	8.5%	52.3%	
	NEBHE	780	797	797	795	767	3.3%	-3.5%	-1.7%	
	Total	**23,596**	**23,471**	**23,236**	**23,150**	**23,363**	**100.0%**	**0.9%**	**-1.0%**	
Graduate	In-State	2,776	2,672	2,857	2,960	3,095	81.2%	4.6%	11.5%	
	Out-of-State	567	568	604	631	682	17.9%	8.1%	20.3%	
	NEBHE	52	42	43	39	35	0.9%	-10.3%	-32.7%	
	Total	**3,395**	**3,282**	**3,504**	**3,630**	**3,812**	**100.0%**	**5.0%**	**12.3%**	
Law	In-State	183	192	169	178	172	70.8%	-3.4%	-6.0%	
	Out-of-State	45	50	61	64	66	27.2%	3.1%	46.7%	
	NEBHE	12	6	4	2	5	2.1%	150.0%	-58.3%	
	Total	**240**	**248**	**234**	**244**	**243**	**100.0%**	**-0.4%**	**1.3%**	
Total	**In-State**	23,048	22,602	22,211	21,666	21,711	79.2%	0.2%	-5.8%	
	Out-of-State	3,339	3,554	3,919	4,522	4,900	17.9%	8.4%	46.8%	
	NEBHE	844	845	844	836	807	2.9%	-3.5%	-4.4%	
	Total	*27,231*	*27,001*	*26,974*	*27,024*	*27,418*	*100.0%*	*1.5%*	*0.7%*	

Total Headcount by Tuition-Based Residency

Notes:
1. The following table shows student residency based on the tuition rate.
2. Students enrolled under the New England Regional Student Program (NEBHE) pay 150% of in-state tuition, which may include out-of-state students and Canadian students.
3. Students with a tuition residency of non-resident/out-of-state online are included with the out-of-state category.

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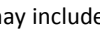
Spring 2019 Enrollment Report – The University of Maine System

Headcount by Campus and Tuition-Based Residency

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change		Trend Line
								1-year	5-year	
UM	In-state	7,598	7,430	7,317	6,962	7,060	64.8%	1.4%	-7.1%	
	Out-of-state	2,193	2,313	2,570	2,990	3,242	29.8%	8.4%	47.8%	
	NEBHE	541	581	587	590	586	5.4%	-0.7%	8.3%	
	Total	**10,332**	**10,324**	**10,474**	**10,542**	**10,888**	**100.0%**	**3.3%**	**5.4%**	
UMA	In-state	4,281	4,275	3,894	3,643	3,588	94.1%	-1.5%	-16.2%	
	Out-of-state	132	157	136	163	206	5.4%	26.4%	56.1%	
	NEBHE	13	11	11	14	17	0.4%	21.4%	30.8%	
	Total	**4,426**	**4,443**	**4,041**	**3,820**	**3,811**	**100.0%**	**-0.2%**	**-13.9%**	
UMF	In-state	1,598	1,621	1,624	1,686	1,600	85.5%	-5.1%	0.1%	
	Out-of-state	192	192	175	181	192	10.3%	6.1%	0.0%	
	NEBHE	76	83	96	93	79	4.2%	-15.1%	3.9%	
	Total	**1,866**	**1,896**	**1,895**	**1,960**	**1,871**	**100.0%**	**-4.5%**	**0.3%**	
UMFK	In-state	1,103	1,250	1,327	1,304	1,213	87.1%	-7.0%	10.0%	
	Out-of-state	109	133	156	172	179	12.8%	4.1%	64.2%	
	NEBHE	28	19	11	6	1	0.1%	-83.3%	-96.4%	
	Total	**1,240**	**1,402**	**1,494**	**1,482**	**1,393**	**100.0%**	**-6.0%**	**12.3%**	
UMM	In-state	678	621	620	598	581	87.6%	-2.8%	-14.3%	
	Out-of-state	78	71	75	56	56	8.4%	0.0%	-28.2%	
	NEBHE	23	23	21	21	26	3.9%	23.8%	13.0%	
	Total	**779**	**715**	**716**	**675**	**663**	**100.0%**	**-1.8%**	**-14.9%**	
UMPI	In-state	948	965	1,026	1,124	1,106	88.2%	-1.6%	16.7%	
	Out-of-state	48	72	90	131	131	10.4%	0.0%	172.9%	
	NEBHE	53	41	32	27	17	1.4%	-37.0%	-67.9%	
	Total	**1,049**	**1,078**	**1,148**	**1,282**	**1,254**	**100.0%**	**-2.2%**	**19.5%**	
USM	In-state	6,842	6,440	6,403	6,349	6,563	87.1%	3.4%	-4.1%	
	Out-of-state	587	616	717	829	894	11.9%	7.8%	52.3%	
	NEBHE	110	87	86	85	81	1.1%	-4.7%	-26.4%	
	Total	**7,539**	**7,143**	**7,206**	**7,263**	**7,538**	**100.0%**	**3.8%**	**0.0%**	
Total	**In-state**	**23,048**	**22,602**	**22,211**	**21,666**	**21,711**	**79.2%**	**0.2%**	**-5.8%**	
	Out-of-state	**3,339**	**3,554**	**3,919**	**4,522**	**4,900**	**17.9%**	**8.4%**	**46.8%**	
	NEBHE	**844**	**845**	**844**	**836**	**807**	**2.9%**	**-3.5%**	**-4.4%**	
	Total	*27,231*	*27,001*	*26,974*	*27,024*	*27,418*	*100.0%*	*1.5%*	*0.7%*	

Notes:
1. The following table shows student residency based on the student's tuition rate.
2. Students enrolled under the New England Regional Student Program (NEBHE) pay 150% of in-state tuition, which may include out-of-state students and Canadian students.
3. Students with a tuition residency of non-resident/out-of-state online are included with the out-of-state category.

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Spring 2019 Enrollment Report – The University of Maine System

Credit Hours by Campus and Tuition-Based Residency

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-year	% Change 5-year	Trend Line
UM	In-state	90,270	89,459	87,822	83,384	80,770	61.6%	-3.1%	-10.5%	
	Out-of-state	26,826	28,610	32,774	39,122	42,014	32.0%	7.4%	56.6%	
	NEBHE	7,415	8,306	8,479	8,348	8,395	6.4%	0.6%	13.2%	
	Total	**124,511**	**126,374**	**129,075**	**130,854**	**131,179**	**100.0%**	**0.2%**	**5.4%**	
UMA	In-state	35,983	35,523	31,326	29,385	29,207	93.7%	-0.6%	-18.8%	
	Out-of-state	1,130	1,337	1,096	1,380	1,807	5.8%	30.9%	59.9%	
	NEBHE	98	80	82	123	146	0.5%	18.7%	49.0%	
	Total	**37,211**	**36,940**	**32,504**	**30,888**	**31,160**	**100.0%**	**0.9%**	**-16.3%**	
UMF	In-state	21,125	21,006	21,008	21,007	19,945	82.9%	-5.1%	-5.6%	
	Out-of-state	2,907	2,873	2,679	2,687	2,872	11.9%	6.9%	-1.2%	
	NEBHE	1,186	1,260	1,465	1,423	1,243	5.2%	-12.6%	4.8%	
	Total	**25,218**	**25,139**	**25,152**	**25,117**	**24,060**	**100.0%**	**-4.2%**	**-4.6%**	
UMFK	In-state	9,464	10,173	10,043	9,893	9,131	79.2%	-7.7%	-3.5%	
	Out-of-state	1,384	1,846	2,304	2,352	2,386	20.7%	1.4%	72.4%	
	NEBHE	373	247	103	53	15	0.1%	-71.7%	-96.0%	
	Total	**11,221**	**12,266**	**12,450**	**12,298**	**11,532**	**100.0%**	**-6.2%**	**2.8%**	
UMM	In-state	6,104	5,744	5,542	5,594	5,356	86.3%	-4.3%	-12.3%	
	Out-of-state	991	985	1,008	695	643	10.4%	-7.5%	-35.1%	
	NEBHE	354	330	293	212	209	3.4%	-1.4%	-40.9%	
	Total	**7,448**	**7,059**	**6,843**	**6,501**	**6,208**	**100.0%**	**-4.5%**	**-16.7%**	
UMPI	In-state	9,427	9,188	9,199	9,892	9,840	83.8%	-0.5%	4.4%	
	Out-of-state	600	949	1,201	1,721	1,665	14.2%	-3.3%	177.5%	
	NEBHE	734	504	426	344	234	2.0%	-32.0%	-68.1%	
	Total	**10,761**	**10,641**	**10,826**	**11,957**	**11,739**	**100.0%**	**-1.8%**	**9.1%**	
USM	In-state	68,211	63,583	62,885	63,719	66,973	83.9%	5.1%	-1.8%	
	Out-of-state	7,531	7,787	9,457	10,923	11,644	14.6%	6.6%	54.6%	
	NEBHE	1,465	1,096	1,117	1,130	1,168	1.5%	3.4%	-20.3%	
	Total	**77,207**	**72,465**	**73,459**	**75,771**	**79,784**	**100.0%**	**5.3%**	**3.3%**	
Total	**In-state**	**240,584**	**234,675**	**227,825**	**222,873**	**221,221**	**74.8%**	**-0.7%**	**-8.0%**	
	Out-of-state	**41,369**	**44,386**	**50,519**	**58,880**	**63,030**	**21.3%**	**7.0%**	**52.4%**	
	NEBHE	**11,625**	**11,823**	**11,965**	**11,633**	**11,410**	**3.9%**	**-1.9%**	**-1.8%**	
	Total	*293,577*	*290,884*	*290,309*	*293,386*	*295,661*	*100.0%*	*0.8%*	*0.7%*	

Notes:
1. The following table shows student residency based on the student's tuition rate.
2. Students enrolled under the New England Regional Student Program (NEBHE) pay 150% of in-state tuition, which may include out-of-state students and Canadian students.
3. Students with a tuition residency of non-resident/out-of-state online are included with the out-of-state category.

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Spring 2019 Enrollment Report – The University of Maine System

Headcount by Student Level and Gender

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-year	% Change 5-year	Trend Line
Undergraduate	Men	9,782	9,774	9,734	9,771	9,945	42.6%	1.8%	1.7%	
	Women	13,814	13,697	13,502	13,379	13,418	57.4%	0.3%	-2.9%	
	Total	**23,596**	**23,471**	**23,236**	**23,150**	**23,363**	**100.0%**	**0.9%**	**-1.0%**	
Graduate	Men	1,103	1,060	1,076	1,081	1,129	29.6%	4.4%	2.4%	
	Women	2,292	2,222	2,428	2,549	2,683	70.4%	5.3%	17.1%	
	Total	**3,395**	**3,282**	**3,504**	**3,630**	**3,812**	**100.0%**	**5.0%**	**12.3%**	
Law	Men	121	120	111	117	111	45.7%	-5.1%	-8.3%	
	Women	119	128	123	127	132	54.3%	3.9%	10.9%	
	Total	**240**	**248**	**234**	**244**	**243**	**100.0%**	**-0.4%**	**1.3%**	
Total	**Men**	**11,006**	**10,954**	**10,921**	**10,969**	**11,185**	**40.8%**	**2.0%**	**1.6%**	
	Women	**16,225**	**16,047**	**16,053**	**16,055**	**16,233**	**59.2%**	**1.1%**	**0.0%**	
	Total	*27,231*	*27,001*	*26,974*	*27,024*	*27,418*	*100.0%*	*1.5%*	*0.7%*	
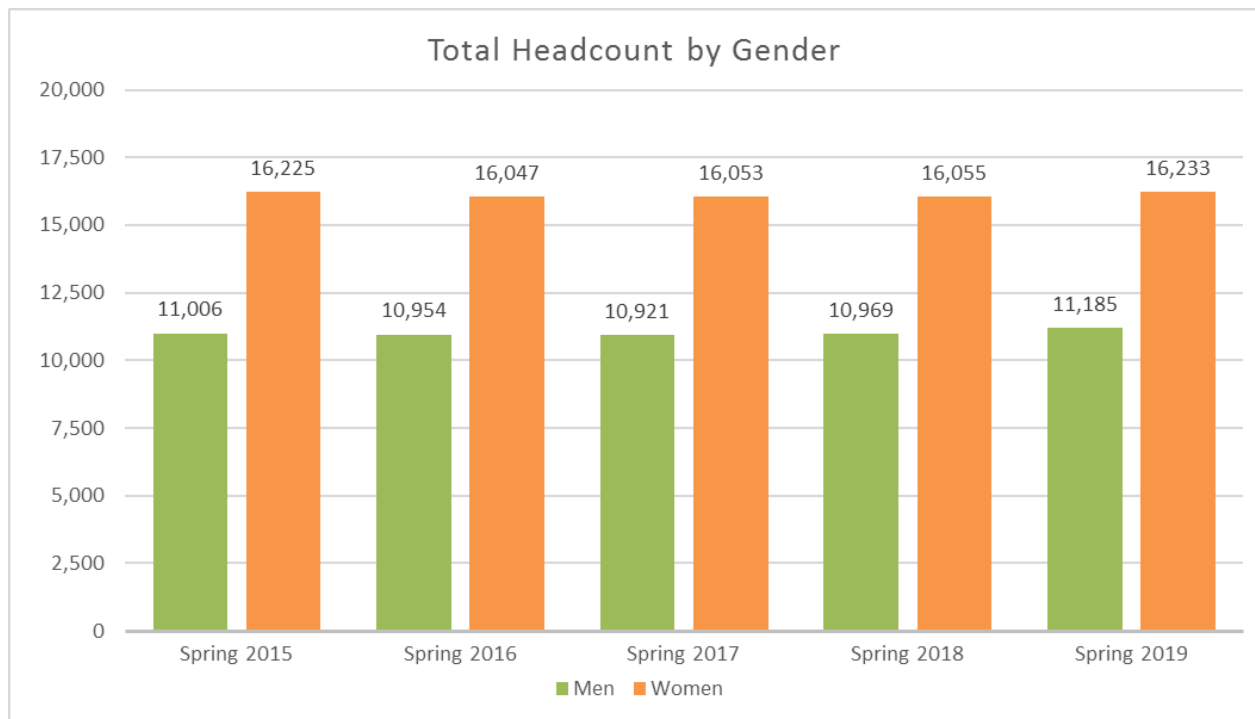
Note: Gender assigned proportionally by campus starting in Fall 2016 for any unknowns represented in the source data.

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Spring 2019 Enrollment Report – The University of Maine System

Headcount by Campus and Gender

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-year	% Change 5-year	Trend Line
UM	Men	5,166	5,206	5,244	5,259	5,416	49.7%	3.0%	4.8%	
	Women	5,166	5,118	5,230	5,283	5,472	50.3%	3.6%	5.9%	
	Total	**10,332**	**10,324**	**10,474**	**10,542**	**10,888**	**100.0%**	**3.3%**	**5.4%**	
UMA	Men	1,201	1,188	1,146	1,136	1,157	30.4%	1.8%	-3.7%	
	Women	3,225	3,255	2,895	2,684	2,654	69.6%	-1.1%	-17.7%	
	Total	**4,426**	**4,443**	**4,041**	**3,820**	**3,811**	**100.0%**	**-0.2%**	**-13.9%**	
UMF	Men	610	627	629	605	599	32.0%	-1.0%	-1.8%	
	Women	1,256	1,269	1,266	1,355	1,272	68.0%	-6.1%	1.3%	
	Total	**1,866**	**1,896**	**1,895**	**1,960**	**1,871**	**100.0%**	**-4.5%**	**0.3%**	
UMFK	Men	391	410	437	406	386	27.7%	-4.9%	-1.3%	
	Women	849	992	1,057	1,076	1,007	72.3%	-6.4%	18.6%	
	Total	**1,240**	**1,402**	**1,494**	**1,482**	**1,393**	**100.0%**	**-6.0%**	**12.3%**	
UMM	Men	247	244	208	213	215	32.4%	0.9%	-13.0%	
	Women	532	471	508	462	448	67.6%	-3.0%	-15.8%	
	Total	**779**	**715**	**716**	**675**	**663**	**100.0%**	**-1.8%**	**-14.9%**	
UMPI	Men	366	379	400	485	473	37.7%	-2.5%	29.2%	
	Women	683	699	748	797	781	62.3%	-2.0%	14.3%	
	Total	**1,049**	**1,078**	**1,148**	**1,282**	**1,254**	**100.0%**	**-2.2%**	**19.5%**	
USM	Men	3,025	2,900	2,852	2,842	2,908	38.6%	2.3%	-3.9%	
	Women	4,514	4,243	4,354	4,421	4,630	61.4%	4.7%	2.6%	
	Total	**7,539**	**7,143**	**7,206**	**7,263**	**7,538**	**100.0%**	**3.8%**	**0.0%**	
Total	**Men**	**11,006**	**10,954**	**10,916**	**10,946**	**11,154**	**40.7%**	**1.9%**	**1.3%**	
	Women	**16,225**	**16,047**	**16,058**	**16,078**	**16,264**	**59.3%**	**1.2%**	**0.2%**	
	Total	*27,231*	*27,001*	*26,974*	*27,024*	*27,418*	*100.0%*	*1.5%*	*0.7%*	

Note: Gender assigned proportionally by campus as of Fall 2016 for any unknowns represented in the source data.

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Spring 2019 Enrollment Report – The University of Maine System

Credit Hours by Campus and Gender

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-year	% Change 5-year	Trend Line
UM	Men	64,477	66,115	67,179	68,093	67,927	51.8%	-0.2%	5.4%	
	Women	60,035	60,259	61,897	62,761	63,251	48.2%	0.8%	5.4%	
	Total	**124,511**	**126,374**	**129,075**	**130,854**	**131,179**	**100.0%**	**0.2%**	**5.4%**	
UMA	Men	10,524	10,036	9,338	9,420	9,705	31.1%	3.0%	-7.8%	
	Women	26,687	26,904	23,166	21,468	21,455	68.9%	-0.1%	-19.6%	
	Total	**37,211**	**36,940**	**32,504**	**30,888**	**31,160**	**100.0%**	**0.9%**	**-16.3%**	
UMF	Men	8,419	8,580	8,640	8,136	8,117	33.7%	-0.2%	-3.6%	
	Women	16,799	16,559	16,512	16,981	15,943	66.3%	-6.1%	-5.1%	
	Total	**25,218**	**25,139**	**25,152**	**25,117**	**24,060**	**100.0%**	**-4.2%**	**-4.6%**	
UMFK	Men	3,735	3,847	3,896	3,738	3,524	30.6%	-5.7%	-5.7%	
	Women	7,486	8,419	8,554	8,560	8,008	69.4%	-6.4%	7.0%	
	Total	**11,221**	**12,266**	**12,450**	**12,298**	**11,532**	**100.0%**	**-6.2%**	**2.8%**	
UMM	Men	2,475	2,402	2,109	2,122	2,092	33.7%	-1.4%	-15.5%	
	Women	4,974	4,657	4,734	4,379	4,115	66.3%	-6.0%	-17.3%	
	Total	**7,448**	**7,059**	**6,843**	**6,501**	**6,208**	**100.0%**	**-4.5%**	**-16.7%**	
UMPI	Men	4,016	4,076	3,967	4,746	4,566	38.9%	-3.8%	13.7%	
	Women	6,745	6,565	6,859	7,211	7,173	61.1%	-0.5%	6.3%	
	Total	**10,761**	**10,641**	**10,826**	**11,957**	**11,739**	**100.0%**	**-1.8%**	**9.1%**	
USM	Men	31,748	30,329	30,083	30,321	31,451	39.4%	3.7%	-0.9%	
	Women	45,459	42,136	43,375	45,451	48,332	60.6%	6.3%	6.3%	
	Total	**77,207**	**72,465**	**73,458**	**75,771**	**79,784**	**100.0%**	**5.3%**	**3.3%**	
Total	**Men**	**125,393**	**125,385**	**125,212**	**126,576**	**127,383**	**43.1%**	**0.6%**	**1.6%**	
	Women	**168,184**	**165,499**	**165,096**	**166,810**	**168,278**	**56.9%**	**0.9%**	**0.1%**	
	Total	*293,577*	*290,884*	*290,308*	*293,386*	*295,661*	*100.0%*	*0.8%*	*0.7%*	

Note: Gender assigned proportionally by campus as of Fall 2016 for any unknowns represented in the source data.

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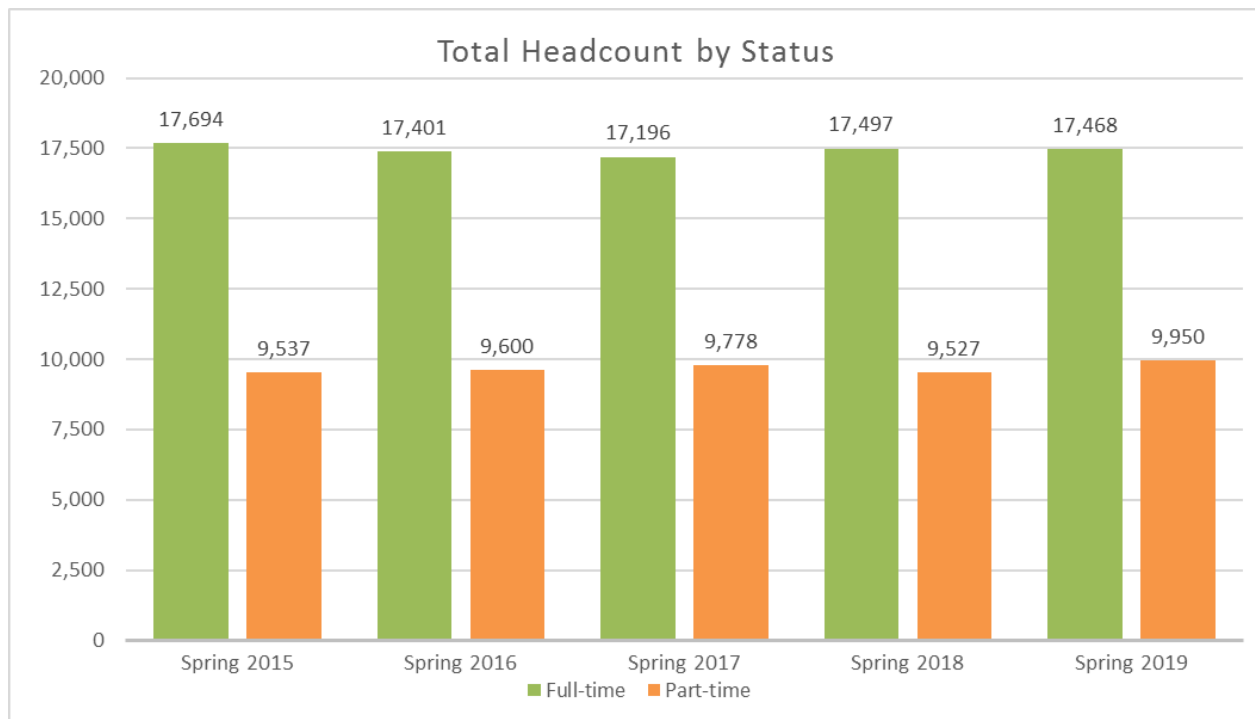# Spring 2019 Enrollment Report – The University of Maine System

Headcount by Student Level and Status

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-year	% Change 5-year	Trend Line
Undergraduate	Full-time	15,626	15,447	15,253	15,420	15,373	65.8%	-0.3%	-1.6%	
	Part-time	7,970	8,024	7,983	7,730	7,990	34.2%	3.4%	0.3%	
	Total	**23,596**	**23,471**	**23,236**	**23,150**	**23,363**	**100.0%**	**0.9%**	**-1.0%**	
Graduate	Full-time	1,848	1,738	1,734	1,861	1,878	49.3%	0.9%	1.6%	
	Part-time	1,547	1,544	1,770	1,769	1,934	50.7%	9.3%	25.0%	
	Total	**3,395**	**3,282**	**3,504**	**3,630**	**3,812**	**100.0%**	**5.0%**	**12.3%**	
Law	Full-time	220	216	209	216	217	89.3%	0.5%	-1.4%	
	Part-time	20	32	25	28	26	10.7%	-7.1%	30.0%	
	Total	**240**	**248**	**234**	**244**	**243**	**100.0%**	**-0.4%**	**1.3%**	
Total	**Full-time**	**17,694**	**17,401**	**17,196**	**17,497**	**17,468**	**63.7%**	**-0.2%**	**-1.3%**	
	Part-time	**9,537**	**9,600**	**9,778**	**9,527**	**9,950**	**36.3%**	**4.4%**	**4.3%**	
	Total	*27,231*	*27,001*	*26,974*	*27,024*	*27,418*	*100.0%*	*1.5%*	*0.7%*	

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Spring 2019 Enrollment Report – The University of Maine System

Headcount by Campus and Status

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-year	% Change 5-year	Trend Line
UM	Full-time	8,330	8,382	8,379	8,486	8,400	77.1%	-1.0%	0.8%	
	Part-time	2,002	1,942	2,095	2,056	2,488	22.9%	21.0%	24.3%	
	Total	**10,332**	**10,324**	**10,474**	**10,542**	**10,888**	**100.0%**	**3.3%**	**5.4%**	
UMA	Full-time	1,543	1,517	1,278	1,245	1,286	33.7%	3.3%	-16.7%	
	Part-time	2,883	2,926	2,763	2,575	2,525	66.3%	-1.9%	-12.4%	
	Total	**4,426**	**4,443**	**4,041**	**3,820**	**3,811**	**100.0%**	**-0.2%**	**-13.9%**	
UMF	Full-time	1,574	1,583	1,564	1,557	1,502	80.3%	-3.5%	-4.6%	
	Part-time	292	313	331	403	369	19.7%	-8.4%	26.4%	
	Total	**1,866**	**1,896**	**1,895**	**1,960**	**1,871**	**100.0%**	**-4.5%**	**0.3%**	
UMFK	Full-time	487	515	523	524	485	34.8%	-7.4%	-0.4%	
	Part-time	753	887	971	958	908	65.2%	-5.2%	20.6%	
	Total	**1,240**	**1,402**	**1,494**	**1,482**	**1,393**	**100.0%**	**-6.0%**	**12.3%**	
UMM	Full-time	390	389	360	345	319	48.1%	-7.5%	-18.2%	
	Part-time	389	326	356	330	344	51.9%	4.2%	-11.6%	
	Total	**779**	**715**	**716**	**675**	**663**	**100.0%**	**-1.8%**	**-14.9%**	
UMPI	Full-time	624	603	588	639	601	47.9%	-5.9%	-3.7%	
	Part-time	425	475	560	643	653	52.1%	1.6%	53.6%	
	Total	**1,049**	**1,078**	**1,148**	**1,282**	**1,254**	**100.0%**	**-2.2%**	**19.5%**	
USM	Full-time	4,746	4,412	4,504	4,701	4,875	64.7%	3.7%	2.7%	
	Part-time	2,793	2,731	2,702	2,562	2,663	35.3%	3.9%	-4.7%	
	Total	**7,539**	**7,143**	**7,206**	**7,263**	**7,538**	**100.0%**	**3.8%**	**0.0%**	
Total	**Full-time**	**17,694**	**17,401**	**17,196**	**17,497**	**17,468**	**63.7%**	**-0.2%**	**-1.3%**	
	Part-time	**9,537**	**9,600**	**9,778**	**9,527**	**9,950**	**36.3%**	**4.4%**	**4.3%**	
	Total	***27,231***	***27,001***	***26,974***	***27,024***	***27,418***	***100.0%***	***1.5%***	***0.7%***	

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Spring 2019 Enrollment Report – The University of Maine System

Credit Hours by Campus and Status

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-year	% Change 5-year	Trend Line
UM	Full-time	114,626	117,087	119,622	121,337	120,018	91.5%	-1.1%	4.7%	
	Part-time	9,885	9,287	9,453	9,517	11,161	8.5%	17.3%	12.9%	
	Total	**124,511**	**126,374**	**129,075**	**130,854**	**131,179**	**100.0%**	**0.2%**	**5.4%**	
UMA	Full-time	19,659	19,304	16,297	16,044	16,775	53.8%	4.6%	-14.7%	
	Part-time	17,552	17,636	16,207	14,844	14,385	46.2%	-3.1%	-18.0%	
	Total	**37,211**	**36,940**	**32,504**	**30,888**	**31,160**	**100.0%**	**0.9%**	**-16.3%**	
UMF	Full-time	23,959	23,785	23,801	23,550	22,639	94.1%	-3.9%	-5.5%	
	Part-time	1,259	1,354	1,351	1,567	1,421	5.9%	-9.3%	12.9%	
	Total	**25,218**	**25,139**	**25,152**	**25,117**	**24,060**	**100.0%**	**-4.2%**	**-4.6%**	
UMFK	Full-time	7,254	7,719	7,779	7,508	6,923	60.0%	-7.8%	-4.6%	
	Part-time	3,967	4,547	4,671	4,790	4,610	40.0%	-3.8%	16.2%	
	Total	**11,221**	**12,266**	**12,450**	**12,298**	**11,532**	**100.0%**	**-6.2%**	**2.8%**	
UMM	Full-time	5,485	5,463	5,064	4,867	4,533	73.0%	-6.9%	-17.4%	
	Part-time	1,963	1,596	1,779	1,635	1,675	27.0%	2.4%	-14.7%	
	Total	**7,448**	**7,059**	**6,843**	**6,501**	**6,208**	**100.0%**	**-4.5%**	**-16.7%**	
UMPI	Full-time	8,739	8,458	8,229	8,930	8,481	72.2%	-5.0%	-3.0%	
	Part-time	2,022	2,183	2,597	3,027	3,258	27.8%	7.6%	61.1%	
	Total	**10,761**	**10,641**	**10,826**	**11,957**	**11,739**	**100.0%**	**-1.8%**	**9.1%**	
USM	Full-time	61,214	57,133	58,687	61,974	65,964	82.7%	6.4%	7.8%	
	Part-time	15,993	15,332	14,772	13,798	13,820	17.3%	0.2%	-13.6%	
	Total	**77,207**	**72,465**	**73,459**	**75,771**	**79,784**	**100.0%**	**5.3%**	**3.3%**	
Total	**Full-time**	**240,936**	**238,949**	**239,479**	**244,209**	**245,333**	**83.0%**	**0.5%**	**1.8%**	
	Part-time	**52,641**	**51,935**	**50,830**	**49,177**	**50,328**	**17.0%**	**2.3%**	**-4.4%**	
	Total	*293,577*	*290,884*	*290,309*	*293,386*	*295,661*	*100.0%*	*0.8%*	*0.7%*	

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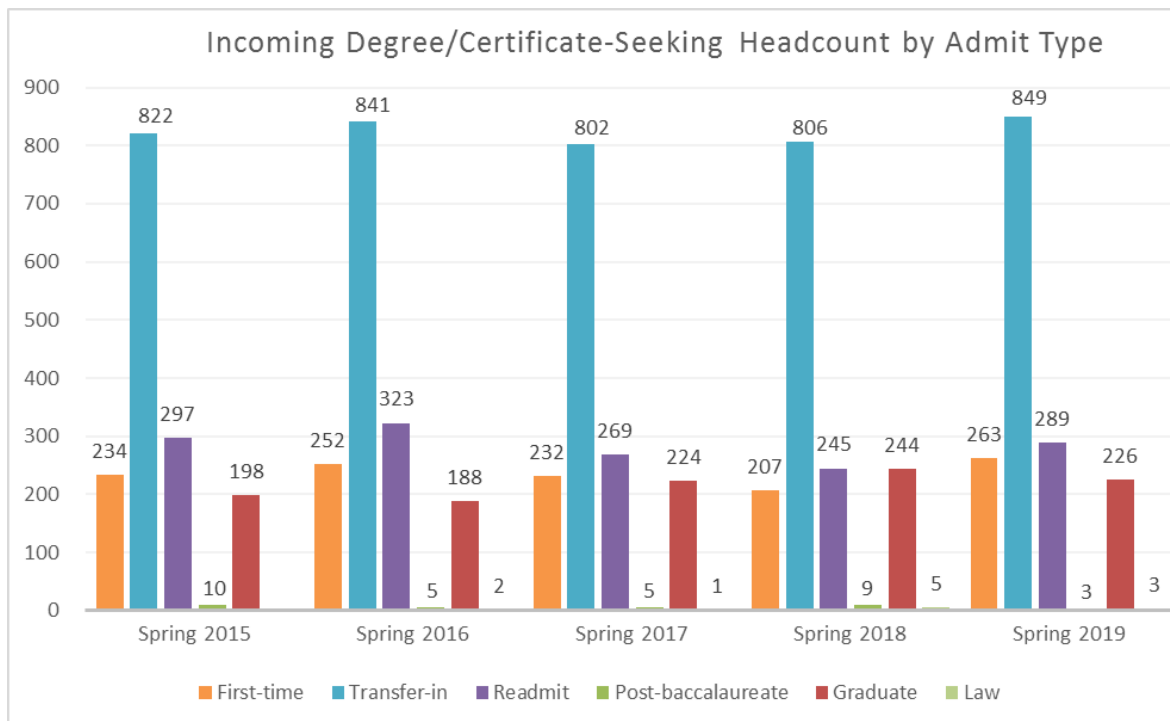# Spring 2019 Enrollment Report – The University of Maine System

Spring Semester Incoming Degree/Certificate-Seeking Headcount by Admit Type and Campus

	First-time		Transfer-in		Readmit		Post-baccalaureate		Graduate		Law		Total		1-year Change	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	#	%
UM	39	66	156	187	90	129	0	0	117	120	0	0	**402**	**502**	100	24.9%
UMA	102	114	212	211	82	90	0	0	0	0	0	0	**396**	**415**	19	4.8%
UMF	6	13	39	41	4	6	0	0	9	5	0	0	**58**	**65**	7	12.1%
UMFK	6	8	58	53	8	3	2	3	0	0	0	0	**74**	**67**	(7)	-9.5%
UMM	3	9	18	19	15	21	7	0	0	0	0	0	**43**	**49**	6	14.0%
UMPI	19	8	54	60	12	16	0	0	0	0	0	0	**85**	**84**	(1)	-1.2%
USM	32	45	269	278	34	24	0	0	118	101	5	3	**458**	**451**	(7)	-1.5%
Total	*207*	*263*	*806*	*849*	*245*	*289*	*9*	*3*	*244*	*226*	*5*	*3*	*1,516*	*1,633*	*117*	*7.7%*

Note: First-time is comprised of first-time students in their first-year and students who earned college credit before graduating high school. Graduate includes readmitted graduate students.

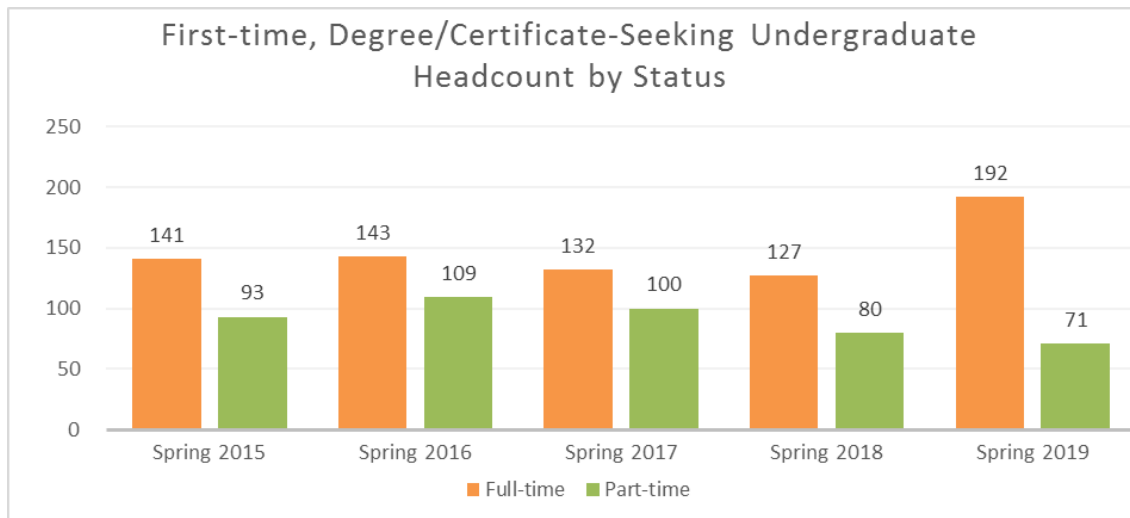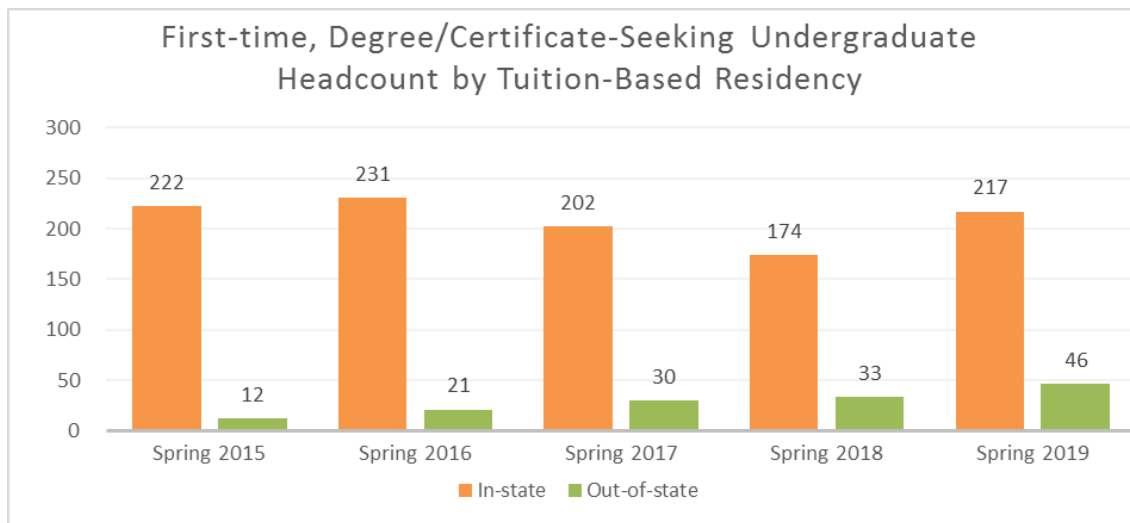## Incoming Degree/Certificate-Seeking Headcount by Admit Type

	Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change		Trend Line
							1-year	5-year	
First-time	234	252	232	207	263	16.1%	27.1%	12.4%	
Transfer-in	822	841	802	806	849	52.0%	5.3%	3.3%	
Readmit	297	323	269	245	289	17.7%	18.0%	-2.7%	
Post-baccalaureate	10	5	5	9	3	0.2%	-66.7%	-70.0%	
Graduate	198	188	224	244	226	13.8%	-7.4%	14.1%	
Law	0	2	1	5	3	0.2%	-40.0%	0.0%	
Total	*1,561*	*1,611*	*1,533*	*1,516*	*1,633*	*100.0%*	*7.7%*	*4.6%*	

Incoming Degree/Certificate-Seeking Headcount by Admit Type

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Spring 2019 Enrollment Report – The University of Maine System

First-time, Degree/Certificate-Seeking Undergraduate Headcount by Tuition-Based Residency and Status

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% Change 1-year	% Change 5-year	Trend Line
In-state	Full-time	132	124	105	99	152	53.5%	15.2%	
	Part-time	90	107	97	75	65	-13.3%	-27.8%	
	Total	**222**	**231**	**202**	**174**	**217**	**24.7%**	**-2.3%**	
Out-of-state	Full-time	9	19	27	28	40	42.9%	344.4%	
	Part-time	3	2	3	5	6	20.0%	100.0%	
	Total	**12**	**21**	**30**	**33**	**46**	**39.4%**	**283.3%**	
Total	**Full-time**	**141**	**143**	**132**	**127**	**192**	**51.2%**	**36.2%**	
	Part-time	**93**	**109**	**100**	**80**	**71**	**-11.3%**	**-23.7%**	
	Total	*234*	*252*	*232*	*207*	*263*	*27.1%*	*12.4%*	

First-time, Degree/Certificate-Seeking Undergraduate Headcount by Tuition-Based Residency

First-time, Degree/Certificate-Seeking Undergraduate Headcount by Status

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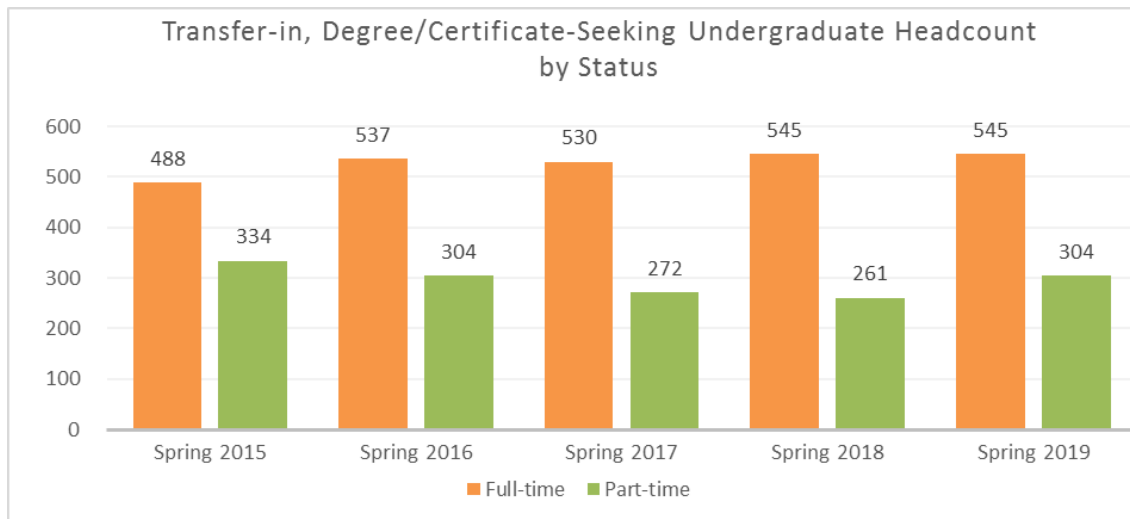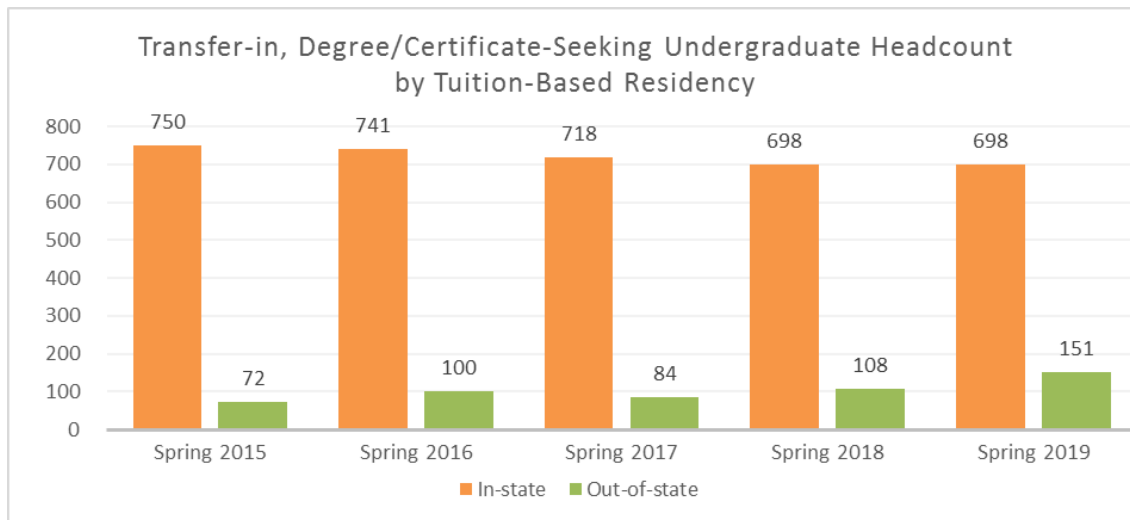## Spring 2019 Enrollment Report – The University of Maine System

First-time Headcount by Campus and Tuition-Based Residency

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change 1-year	% Change 5-year	Trend Line
UM	In-state	32	31	21	25	41	62.1%	64.0%	28.1%	
	Out-of-state	5	6	5	11	23	34.8%	109.1%	360.0%	
	NEBHE	1	0	3	3	2	3.0%	-33.3%	100.0%	
	Total	**38**	**37**	**29**	**39**	**66**	**100.0%**	**69.2%**	**73.7%**	
UMA	In-state	126	142	115	97	106	93.0%	9.3%	-15.9%	
	Out-of-state	3	1	4	5	8	7.0%	60.0%	166.7%	
	NEBHE	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**129**	**143**	**119**	**102**	**114**	**100.0%**	**11.8%**	**-11.6%**	
UMF	In-state	9	9	12	6	13	100.0%	116.7%	44.4%	
	Out-of-state	0	0	1	0	0	0.0%	N/A	N/A	
	NEBHE	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**9**	**9**	**13**	**6**	**13**	**100.0%**	**116.7%**	**44.4%**	
UMFK	In-state	7	3	5	3	5	62.5%	66.7%	-28.6%	
	Out-of-state	1	3	2	3	3	37.5%	0.0%	200.0%	
	NEBHE	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**8**	**6**	**7**	**6**	**8**	**100.0%**	**33.3%**	**0.0%**	
UMM	In-state	9	8	7	3	7	77.8%	133.3%	-22.2%	
	Out-of-state	0	0	0	0	2	22.2%	N/A	N/A	
	NEBHE	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**9**	**8**	**7**	**3**	**9**	**100.0%**	**200.0%**	**0.0%**	
UMPI	In-state	16	6	5	13	7	87.5%	-46.2%	-56.3%	
	Out-of-state	0	4	3	6	1	12.5%	-83.3%	N/A	
	NEBHE	0	0	0	0	0	0.0%	N/A	N/A	
	Total	**16**	**10**	**8**	**19**	**8**	**100.0%**	**-57.9%**	**-50.0%**	
USM	In-state	23	32	37	27	38	84.4%	40.7%	65.2%	
	Out-of-state	1	7	12	4	6	13.3%	50.0%	500.0%	
	NEBHE	1	0	0	1	1	2.2%	0.0%	0.0%	
	Total	**25**	**39**	**49**	**32**	**45**	**100.0%**	**40.6%**	**80.0%**	
Total	**In-state**	**222**	**231**	**202**	**174**	**217**	**82.5%**	**24.7%**	**-2.3%**	
	Out-of-state	**10**	**21**	**27**	**29**	**43**	**16.3%**	**48.3%**	**330.0%**	
	NEBHE	**2**	**0**	**3**	**4**	**3**	**1.1%**	**-25.0%**	**50.0%**	
	Total	***234***	***252***	***232***	***207***	***263***	***100.0%***	***27.1%***	***12.4%***	

Note: NEBHE includes Canadian students. Students with a tuition residency of non-resident/out-of-state online are included with the out-of-state category.

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Spring 2019 Enrollment Report – The University of Maine System

Transfer-in, Degree/Certificate-Seeking Undergraduate Headcount
by Tuition-Based Residency and Status

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% Change 1-year	% Change 5-year	Trend Line
In-state	Full-time	440	460	460	457	444	-2.8%	0.9%	
	Part-time	310	281	258	241	254	5.4%	-18.1%	
	Total	**750**	**741**	**718**	**698**	**698**	**0.0%**	**-6.9%**	
Out-of-state	Full-time	48	77	70	88	101	14.8%	110.4%	
	Part-time	24	23	14	20	50	150.0%	108.3%	
	Total	**72**	**100**	**84**	**108**	**151**	**39.8%**	**109.7%**	
Total	**Full-time**	**488**	**537**	**530**	**545**	**545**	**0.0%**	**11.7%**	
	Part-time	**334**	**304**	**272**	**261**	**304**	**16.5%**	**-9.0%**	
	Total	*822*	*841*	*802*	*806*	*849*	*5.3%*	*3.3%*	

Transfer-in, Degree/Certificate-Seeking Undergraduate Headcount by Tuition-Based Residency

Transfer-in, Degree/Certificate-Seeking Undergraduate Headcount by Status
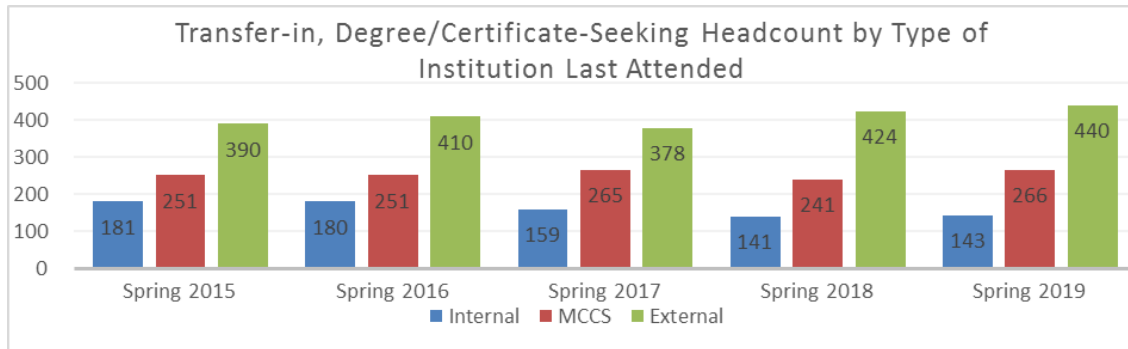
Note: Students with a tuition residency of non-resident/out-of-state online are included with the out-of-state category.

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Spring 2019 Enrollment Report – The University of Maine System

Transfer-in, Degree/Certificate-Seeking Undergraduate Headcount
by Type of Institution Last Attended and Tuition-Based Residency

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	1-year Change #	1-year Change %	Trend Line
Internal (UMS)	In-State	178	179	153	134	138	4	3.0%	
	Out-of-State	3	1	6	7	5	-2	-28.6%	
	Total	**181**	**180**	**159**	**141**	**143**	**2**	**1.4%**	
Maine Community College System	In-State	249	246	260	239	261	22	9.2%	
	Out-of-State	2	5	5	2	5	3	150.0%	
	Total	**251**	**251**	**265**	**241**	**266**	**25**	**10.4%**	
External (excluding MCCS)	In-State	323	316	305	325	299	-26	-8.0%	
	Out-of-State	67	94	73	99	141	42	42.4%	
	Total	**390**	**410**	**378**	**424**	**440**	**16**	**3.8%**	
Total	**In-State**	**750**	**741**	**718**	**698**	**698**	**0**	**0.0%**	
	Out-of-State	**72**	**100**	**84**	**108**	**151**	**43**	**39.8%**	
	Total	*822*	*841*	*802*	*806*	*849*	*43*	*5.3%*	

Transfer-in, Degree/Certificate-Seeking Headcount by Type of Institution Last Attended

Spring 2019 Transfer-in, Degree/Certificate-Seeking Undergraduate Headcount
by Type of Institution Last Attended, Tuition-Based Residency, and Institution

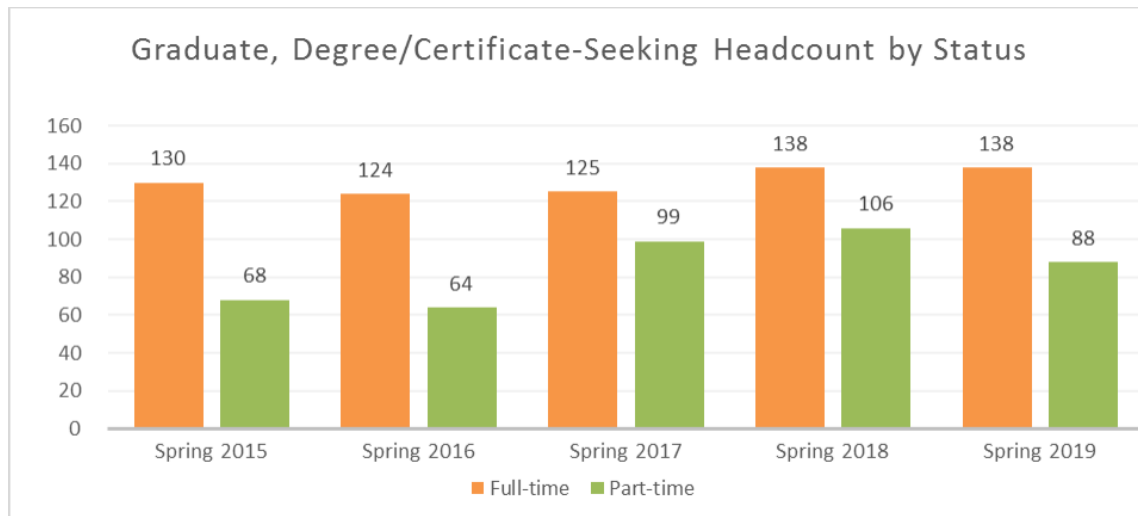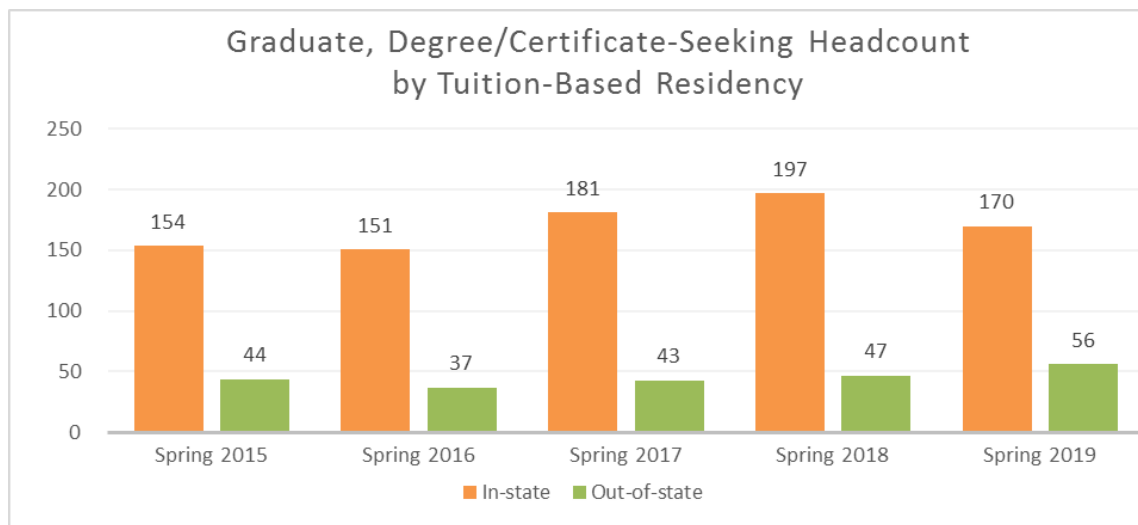|		UM	UMA	UMF	UMFK	UMM	UMPI	USM	Total
Internal (UMS)	In-State	20	40	7	10	3	16	42	138
	Out-of-State	2	2	0	0	0	0	1	5
	Total	**22**	**42**	**7**	**10**	**3**	**16**	**43**	**143**
Maine Community College System	In-State	23	71	15	21	8	22	101	261
	Out-of-State	0	1	1	1	0	0	2	5
	Total	**23**	**72**	**16**	**22**	**8**	**22**	**103**	**266**
External (excluding MCCS)	In-State	79	67	15	9	6	11	112	299
	Out-of-State	63	30	3	12	2	11	20	141
	Total	**142**	**97**	**18**	**21**	**8**	**22**	**132**	**440**
Total	**In-State**	**122**	**178**	**37**	**40**	**17**	**49**	**255**	**698**
	Out-of-State	**65**	**33**	**4**	**13**	**2**	**11**	**23**	**151**
	Total	*187*	*211*	*41*	*53*	*19*	*60*	*278*	*849*

Note: Students with a tuition residency of non-resident/out-of-state online are included with the out-of-state category.

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Spring 2019 Enrollment Report – The University of Maine System

Readmit, Degree/Certificate-Seeking Undergraduate Headcount
by Tuition-Based Residency and Status

		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% Change 1-year	% Change 5-year	Trend Line
In-state	Full-time	103	100	95	71	83	16.9%	-19.4%	
	Part-time	166	191	150	138	169	22.5%	1.8%	
	Total	**269**	**291**	**245**	**209**	**252**	**20.6%**	**-6.3%**	
Out-of-state	Full-time	15	21	15	25	13	-48.0%	-13.3%	
	Part-time	13	11	9	11	24	118.2%	84.6%	
	Total	**28**	**32**	**24**	**36**	**37**	**2.8%**	**32.1%**	
Total	**Full-time**	**118**	**121**	**110**	**96**	**96**	**0.0%**	**-18.6%**	
	Part-time	**179**	**202**	**159**	**149**	**193**	**29.5%**	**7.8%**	
	Total	*297*	*323*	*269*	*245*	*289*	*18.0%*	*-2.7%*	
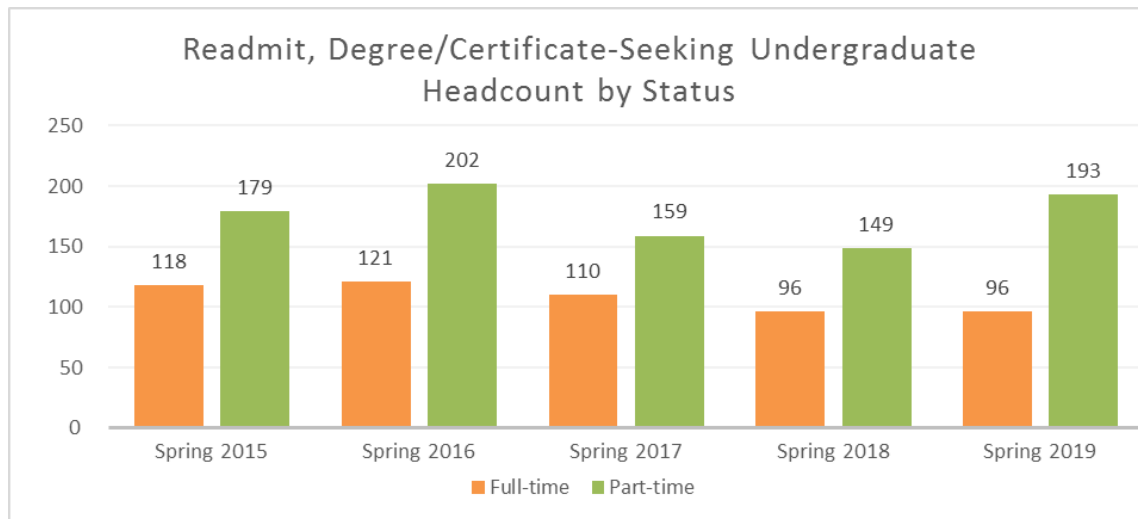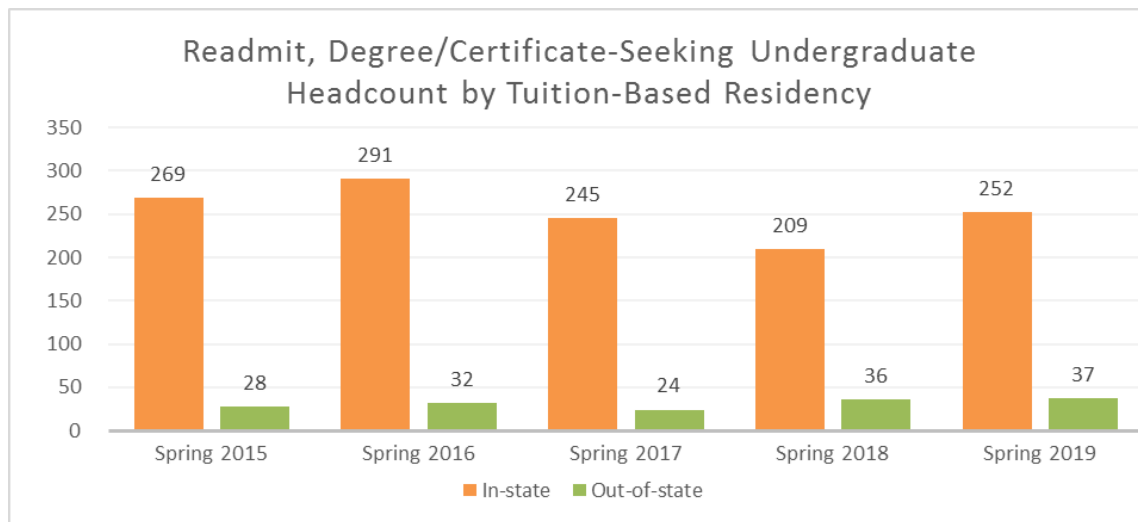
Readmit, Degree/Certificate-Seeking Undergraduate Headcount by Tuition-Based Residency

	Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019
In-state	269	291	245	209	252
Out-of-state	28	32	24	36	37

Readmit, Degree/Certificate-Seeking Undergraduate Headcount by Status

	Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019
Full-time	118	121	110	96	96
Part-time	179	202	159	149	193

Note: Students with a tuition residency of non-resident/out-of-state online are included with the out-of-state category.

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Spring 2019 Enrollment Report – The University of Maine System

Graduate, Degree/Certificate-Seeking Headcount by Tuition-Based Residency and Status
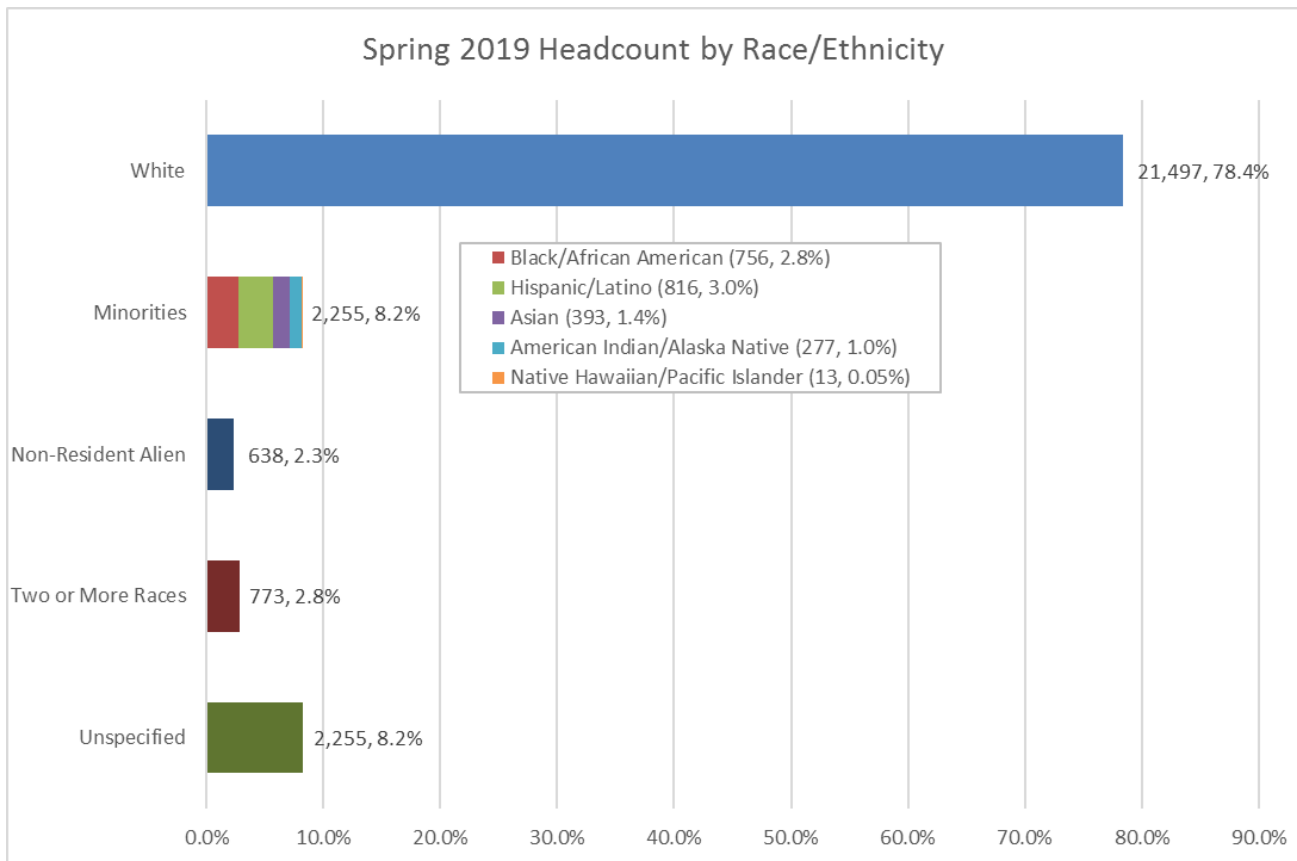
		Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% Change 1-year	% Change 5-year	Trend Line
In-state	Full-time	88	94	86	98	89	-9.2%	1.1%	
	Part-time	66	57	95	99	81	-18.2%	22.7%	
	Total	**154**	**151**	**181**	**197**	**170**	**-13.7%**	**10.4%**	
Out-of-state	Full-time	42	30	39	40	49	22.5%	16.7%	
	Part-time	2	7	4	7	7	0.0%	250.0%	
	Total	**44**	**37**	**43**	**47**	**56**	**19.1%**	**27.3%**	
Total	**Full-time**	**130**	**124**	**125**	**138**	**138**	**0.0%**	**6.2%**	
	Part-time	**68**	**64**	**99**	**106**	**88**	**-17.0%**	**29.4%**	
	Total	***198***	***188***	***224***	***244***	***226***	***-7.4%***	***14.1%***	

Graduate, Degree/Certificate-Seeking Headcount by Tuition-Based Residency

Graduate, Degree/Certificate-Seeking Headcount by Status

Notes: Graduate includes readmitted graduate students. Students with a tuition residency of non-resident/out-of-state online are included with the out-of-state category.

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Spring 2019 Enrollment Report – The University of Maine System

Headcount by Race/Ethnicity

	Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	1-year Change #	1-year Change %	5-year Change #	5-year Change %	Trend Line
White	21,538	21,411	21,514	21,391	21,497	78.4%	106	0.5%	-41	-0.2%	
Black/African American	530	578	612	684	756	2.8%	72	10.5%	226	42.6%	
Hispanic / Latino	511	575	640	742	816	3.0%	74	10.0%	305	59.7%	
Asian	344	345	376	383	393	1.4%	10	2.6%	49	14.2%	
American Indian / Alaskan	354	326	300	294	277	1.0%	-17	-5.8%	-77	-21.8%	
Hawaii / Pacific Islands	16	11	11	8	13	0.0%	5	62.5%	-3	-18.8%	
Non-resident alien	810	785	698	690	638	2.3%	-52	-7.5%	-172	-21.2%	
Two or more races	604	611	660	728	773	2.8%	45	6.2%	169	28.0%	
Unspecified	2,524	2,359	2,163	2,104	2,255	8.2%	151	7.2%	-269	-10.7%	
Total	*27,231*	*27,001*	*26,974*	*27,024*	*27,418*	*100.0%*	*394*	*1.5%*	*187*	*0.7%*	

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Spring 2019 Enrollment Report – The University of Maine System

Headcount by Age Range

Age Range	Spring 2015		Spring 2016		Spring 2017		Spring 2018		Spring 2019		% Change		Trend Line
	#	% of Total	#	% of Total	#	% of Total	#	% of Total	#	% of Total	1-year	5-year	
Under 18	504	1.9%	733	2.7%	959	3.6%	1,231	4.6%	1,366	5.0%	11.0%	171.0%	
18-19	5,527	20.3%	5,460	20.2%	5,676	21.0%	6,034	22.3%	6,119	22.3%	1.4%	10.7%	
20-21	6,357	23.3%	6,360	23.6%	6,265	23.2%	6,261	23.2%	6,386	23.3%	2.0%	0.5%	
22-24	4,609	16.9%	4,597	17.0%	4,460	16.5%	4,221	15.6%	4,261	15.5%	0.9%	-7.6%	
25-29	3,329	12.2%	3,169	11.7%	3,290	12.2%	3,091	11.4%	3,072	11.2%	-0.6%	-7.7%	
30-34	2,095	7.7%	1,931	7.2%	1,928	7.1%	1,856	6.9%	1,894	6.9%	2.0%	-9.6%	
35-39	1,329	4.9%	1,402	5.2%	1,344	5.0%	1,323	4.9%	1,277	4.7%	-3.5%	-3.9%	
40-49	2,043	7.5%	2,001	7.4%	1,786	6.6%	1,767	6.5%	1,776	6.5%	0.5%	-13.1%	
50-64	1,266	4.6%	1,199	4.4%	1,129	4.2%	1,090	4.0%	1,081	3.9%	-0.8%	-14.6%	
65+	155	0.6%	144	0.5%	128	0.5%	148	0.5%	182	0.7%	23.0%	17.4%	
Unknown	17	0.1%	5	0.0%	9	0.0%	2	0.0%	4	0.0%	100.0%	-76.5%	
Total	**27,231**	**100%**	**27,001**	**100%**	**26,974**	**100%**	**27,024**	**100%**	**27,418**	**100%**	**1.5%**	**0.7%**	

Spring 2019 Headcount by Age Range
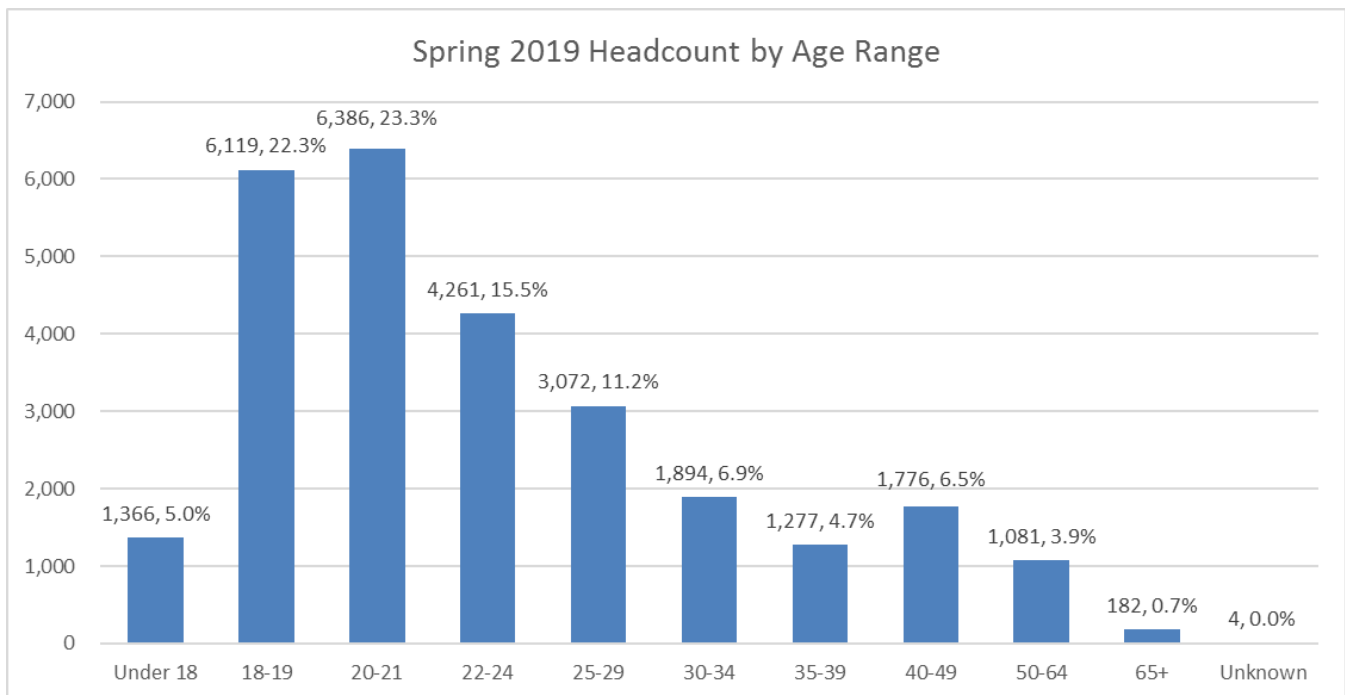
Five-Year Enrollment Change by Summarized Age Ranges

|		Under 18	18 - 24	25 - 39	40 - 64	65 and over	Unknown	Total
Spring 2015		504	16,493	6,753	3,309	155	17	**27,231**
Spring 2018		1,231	16,516	6,270	2,857	148	2	**27,024**
Spring 2019		1,366	16,766	6,243	2,857	182	4	**27,418**
1-Year Change	#	135	250	-27	0	34	2	394
	%	11.0%	1.5%	-0.4%	0.0%	23.0%	100.0%	1.5%
5-Year Change	#	862	273	-510	-452	27	-13	187
	%	171.0%	1.7%	-7.6%	-13.7%	17.4%	-76.5%	0.7%

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Spring 2019 Enrollment Report – The University of Maine System

Spring 2019 Headcount Residency (Based on Original Home Address)

Headcount of In-State Students by County

County	Headcount	% of Total In-State
Cumberland	4,624	22.0%
Penobscot	2,953	14.0%
York	2,319	11.0%
Kennebec	2,131	10.1%
Aroostook	1,754	8.3%
Androscoggin	1,399	6.6%
Oxford	775	3.7%
Knox	730	3.5%
Hancock	715	3.4%
Washington	685	3.3%
Somerset	683	3.2%
Waldo	587	2.8%
Sagadahoc	519	2.5%
Franklin	461	2.2%
Lincoln	450	2.1%
Piscataquis	231	1.1%
Unknown	29	0.1%
Total In-State	*21,045*	*100.0%*

Percentage of In-State Students by County
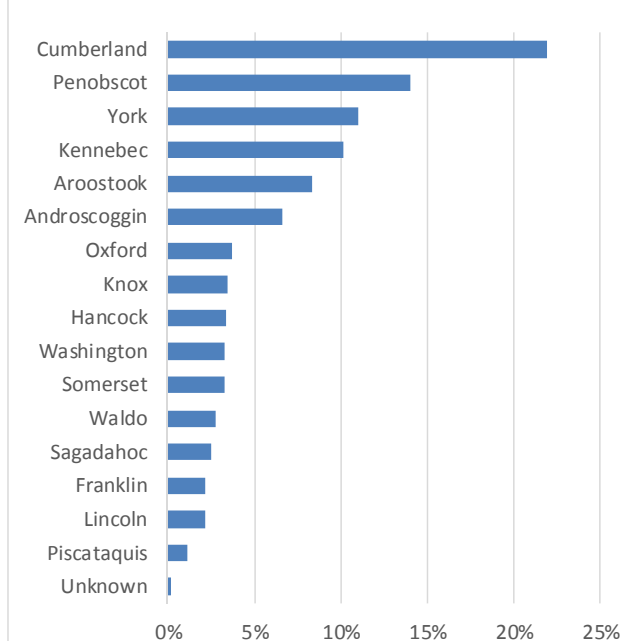
Headcount of Out-of-State Students by State

State	Headcount	% of Total Out-of-State
Massachusetts	1,882	32.1%
Connecticut	650	11.1%
New Hampshire	630	10.7%
New York	363	6.2%
New Jersey	333	5.7%
Vermont	268	4.6%
Pennsylvania	193	3.3%
California	184	3.1%
Rhode Island	161	2.7%
Florida	132	2.3%
Other States	1,068	18.2%
Total Out-of-State	*5,864*	*100.0%*

Headcount of International Students

Country	Headcount	% of Total International
Canada	102	22.2%
China	54	11.7%
Nepal	29	6.3%
India	27	5.9%
Saudi Arabia	21	4.6%
Jamaica	16	3.5%
Iran	14	3.0%
United Kingdom	14	3.0%
France	11	2.4%
Germany	10	2.2%
Other Countries	162	35.2%
Total International	*460*	*100.0%*

Headcount Residency Totals

	Headcount	% of Total
Total In-State	21,045	76.8%
Total Out-of-State	5,864	21.4%
Total International	460	1.7%
Total Unknown	49	0.2%
Total	*27,418*	*100.0%*

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Spring 2019 Enrollment Report – The University of Maine System

Spring 2019 Distance Education Credit Hours by Mode and Institution

	UM	UMA	UMF	UMFK	UMM	UMPI	USM	Total	% of Total
Distance ITV	0.0	1,849.0	0.0	0.0	237.0	0.0	0.0	*2,086.0*	**0.7%**
Distance Online	18,802.0	18,588.0	867.0	5,655.0	2,529.0	3,829.0	20,065.0	*70,335.0*	**23.8%**
Distance Onsite	377.0	1,904.0	75.0	0.0	0.0	204.0	0.0	*2,560.0*	**0.9%**
Distance Video Conference	59.0	815.0	0.0	0.0	45.0	127.0	0.0	*1,046.0*	**0.4%**
Total Distance Education	**19,238.0**	**23,156.0**	**942.0**	**5,655.0**	**2,811.0**	**4,160.0**	**20,065.0**	**76,027.0**	**25.7%**
Traditional Campus Course	111,940.8	8,040.0	23,118.0	5,877.0	3,360.5	7,579.0	59,718.5	*219,633.8*	**74.3%**
Total Credit Hours	*131,178.8*	*31,196.0*	*24,060.0*	*11,532.0*	*6,171.5*	*11,739.0*	*79,783.5*	*295,660.8*	*100.0%*
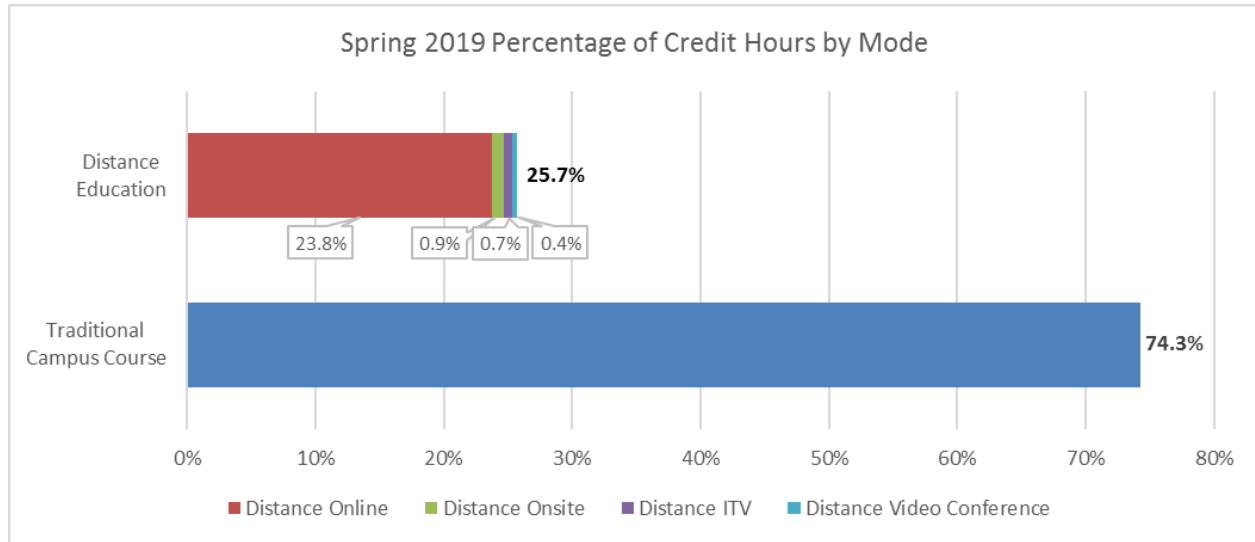
Total Semester Credit Hours by Mode

	Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	% of Total	% Change		Trend Line
							1-year	5-year	
Distance ITV	4,664.0	3,916.0	2,949.0	1,858.0	2,086.0	**0.7%**	12.3%	-55.3%	
Distance Online	54,396.5	56,877.0	58,966.5	63,666.0	70,335.0	**23.8%**	10.5%	29.3%	
Distance Onsite	3,141.0	3,467.0	2,523.0	2,867.0	2,560.0	**0.9%**	-10.7%	-18.5%	
Distance Video Conference	2,101.0	2,424.5	1,408.0	1,294.0	1,046.0	**0.4%**	-19.2%	-50.2%	
Total Distance Education	**64,302.5**	**66,684.5**	**65,846.5**	**69,685.0**	**76,027.0**	**25.7%**	**9.1%**	**18.2%**	
Traditional Campus Course	229,274.3	224,199.3	224,461.5	223,700.5	219,633.8	**74.3%**	-1.8%	-4.2%	
Total Credit Hours	*293,576.8*	*290,883.8*	*290,308.0*	*293,385.5*	*295,660.8*	*100.0%*	0.8%	0.7%	

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Spring 2019 Enrollment Report – The University of Maine System

Spring 2019 Distance Education Credit Hours by Mode and Degree Level

		Credit Hours	% of Subtotal	% of Total
Distance ITV	**Associate**	400	19.2%	0.5%
	Baccalaureate	1,543	74.0%	2.0%
	Non-Degree Undergraduate	143	6.9%	0.2%
	Subtotal	**2,086**	**100.0%**	**2.7%**
Distance Online	**Associate**	2,488	3.5%	3.3%
	Baccalaureate	56,454	80.3%	74.3%
	Non-Degree Undergraduate	5,354	7.6%	7.0%
	Graduate	4,929	7.0%	6.5%
	Non-Degree Graduate	1,105	1.6%	1.5%
	Law	6	0.0%	0.0%
	Subtotal	**70,335**	**100.0%**	**92.5%**
Distance Onsite	**Associate**	559	21.8%	0.7%
	Baccalaureate	947	37.0%	1.2%
	Non-Degree Undergraduate	863	33.7%	1.1%
	Graduate	188	7.3%	0.2%
	Non-Degree Graduate	3	0.1%	0.0%
	Subtotal	**2,560**	**100.0%**	**3.4%**
Distance Video Conference	**Associate**	100	9.6%	0.1%
	Baccalaureate	774	74.0%	1.0%
	Non-Degree Undergraduate	113	10.8%	0.1%
	Graduate	53	5.1%	0.1%
	Non-Degree Graduate	6	0.6%	0.0%
	Subtotal	**1,046**	**100.0%**	**1.4%**
Total Distance Education	**Associate**	**3,547**	**4.7%**	
	Baccalaureate	**59,718**	**78.5%**	
	Non-Degree Undergraduate	**6,473**	**8.5%**	
	Graduate	**5,170**	**6.8%**	
	Non-Degree Graduate	**1,114**	**1.5%**	
	Law	**6**	**0.0%**	
	Total	***76,027***	***100.0%***	***100.0%***

Spring 2019 Percentage of Distance Education Credit Hours by Mode

- Distance Online — 92.5%
- Distance Onsite — 3.4%
- Distance ITV — 2.7%
- Distance Video Conference — 1.4%

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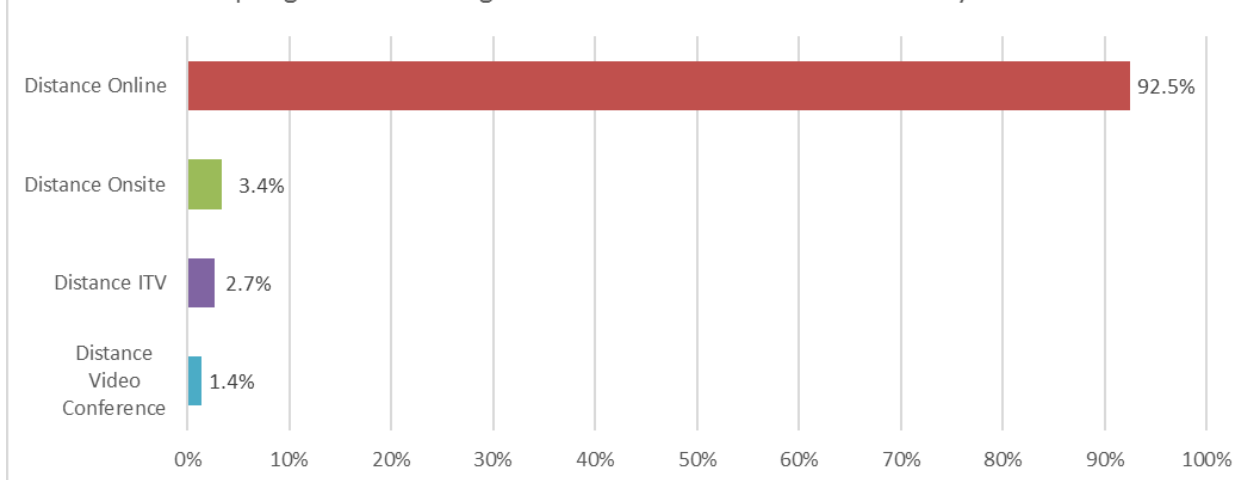
UNIVERSITY OF MAINE SYSTEM
Board of Trustees Meeting Calendar

2019 – 2020

July 15, 2019 – Board of Trustees Meeting **hosted by UMS @ UM**

September 15 & 16, 2019 – Board of Trustees Meeting @ **UMFK ***
Agenda Focus: Appropriations Request & Bond Proposals

October 20-21, 2019 – BOT Retreat @ **TBA**

November 4, 2019- BOT/BOV Summit @ **TBA**

November 17 & 18, 2019 – Board of Trustee Meeting @ **UMF**
Agenda Focus: Fiscal Matters

January 26 & 27, 2020 – Board of Trustees Meeting @ **UM (tentative)**
Agenda Focus: Honorary Degree Nominations

March 15 & 16, 2020 – Board of Trustees Meeting @ **USM ***
Agenda Focus: Tenure

May 17 & 18, 2020 – Board of Trustees Meeting @ **UMPI**
Agenda Focus: Annual Meeting & Operating Budgets

June 1, 2020 – BOT/BOV Summit **@ TBA**

2020 – 2021

July 20, 2020 – Board of Trustees Meeting **hosted by UMS @ UM**

September 27 & 28, 2020 – Board of Trustees Meeting @ **UMFK ***
Agenda Focus: Appropriations Request & Bond Proposals

October 18 & 19, 2020 – BOT Retreat @ **TBA**

November 2, 2020- BOT/BOV Summit @ **TBA**

November 15 & 16, 2020 – Board of Trustee Meeting @ **UMA ***
Agenda Focus: Fiscal Matters

January 24 & 25, 2021 – Board of Trustees Meeting @ **UM ***
Agenda Focus: Honorary Degree Nominations

March 21 & 22, 2021 – Board of Trustees Meeting @ **USM ***
Agenda Focus: Tenure

May 23 & 24, 2021– Board of Trustees Meeting @ **UMM ***
Agenda Focus: Annual Meeting & Operating Budgets

June 7, 2021 – BOT/BOV Summit **@ TBA**

The Board of Trustees Office in consultation with the Chancellor and the Board Chair can modify the Board calendar as necessary to accommodate the needs of the Board.

* Meeting location has not been confirmed.

These dates are proposed for approval by the Board of Trustees on March 25, 2019   2/7/19

UMS BOARD OF TRUSTEES COMMITTEE MEETING SCHEDULE - FY 2020

July 15, 2019 - BOT MTG

Committee	Day	Date	Time	Materials Due	Book Release
ASA	Monday	June 24, 2019	9 am - 12 pm	6/13/2019	6/14/2019
HR	Monday	June 24, 2019	1 pm - 3 pm	6/13/2019	6/14/2019
FFT	Wednesday	June 26, 2019	9 am - 12 pm	6/14/2019	6/17/2019

September 15-16, 2019 - BOT MTG

Committee	Day	Date	Time	Materials Due	Book Release
ASA	Monday	August 26, 2019	9 am - 12 pm	8/14/2019	8/15/2019
HR	Monday	August 26, 2019	1 pm - 3 pm	8/14/2019	8/15/2019
FFT	Wednesday	August 28, 2019	9 am - 12 pm	8/15/2019	8/16/2019
Investment	Thursday	August 29, 2019	9 am - 12 pm	8/16/2019	8/19/2019

November 17-18, 2019 - BOT MTG

Committee	Day	Date	Time	Materials Due	Book Release
ASA	Monday	October 28, 2019	9 am - 12 pm	10/16/2019	10/17/2019
HR	Monday	October 28, 2019	1 pm - 3 pm	10/16/2019	10/17/2019
FFT	Wednesday	October 30, 2019	9 am - 11:30 pm	10/17/2019	10/18/2019
Audit & FFT	Wednesday	October 30, 2019	12 pm - 3 pm	10/17/2019	10/18/2019
Special BOT	Wednesday	October 30, 2019	3:15 pm - 4:00 pm	10/17/2019	10/18/2019
Investment	Monday	December 2, 2019	9 am - 12 pm	11/21/2019	11/22/2019

January 26-27, 2020 - BOT MTG

Committee	Day	Date	Time	Materials Due	Book Release
ASA	Monday	January 6, 2020	9 am - 12 pm	12/18/2019	12/19/2019
HR	Monday	January 6, 2020	1 pm - 3 pm	12/18/2019	12/19/2019
FFT	Wednesday	January 8, 2020	9 am - 12 pm	12/19/2019	12/20/2019

March 15-16, 2020 - BOT MTG

Committee	Day	Date	Time	Materials Due	Book Release
ASA	Monday	February 24, 2020	9 am - 12 pm	2/13/2020	2/14/2020
ASA/HR	Monday	February 24, 2020	12:15 pm - 1:45 pm	2/13/2020	2/14/2020
HR	Monday	February 24, 2020	2 pm - 3:30 pm	2/13/2020	2/14/2020
FFT	Wednesday	February 26, 2020	9 am - 12 pm	2/14/2020	2/18/2020
Investment	Thursday	February 27, 2020	9 am - 12 pm	2/18/2020	2/19/2020

May 17-18, 2020 BOT MTG

Committee	Day	Date	Time	Materials Due	Book Release
ASA	Monday	April 27, 2020	9 am - 12 pm	4/16/2020	4/17/2020
HR	Monday	April 27, 2020	1 pm - 3 pm	4/16/2020	4/17/2020
FFT	Wednesday	April 29, 2020	9 am - 11:30 pm	4/17/2020	4/20/2020
Investment	Thursday	May 14, 2020	9 am - 12 pm	5/1/2020	5/4/2020
Audit	Thursday	May 14, 2020	12:30 pm - 3:30 pm	5/1/2020	5/4/2020

Board Retreat on October 20-21, 2019
BOT/ BOV Summits: June 3, 2019 and November 4, 2019

UMS BOARD OF TRUSTEES COMMITTEE MEETING SCHEDULE - FY 2021

July 20, 2020 - BOT MTG

Committee	Day	Date	Time	Materials Due	Book Release
ASA	Monday	June 22, 2020	9 am - 12 pm	6/11/2020	6/12/2020
HR	Monday	June 22, 2020	1 pm - 3 pm	6/11/2020	6/12/2020
FFT	Wednesday	June 24, 2020	9 am - 12 pm	6/12/2020	6/15/2020

September 27-28, 2020 - BOT MTG

Committee	Day	Date	Time	Materials Due	Book Release
FFT	Wednesday	September 2, 2020	9 am - 12 pm	8/20/2020	8/21/2020
Investment	Thursday	September 3, 2020	9 am - 12 pm	8/20/2020	8/21/2020
ASA	Monday	September 14, 2020	9 am - 12 pm	9/3/2020	9/4/2020
HR	Monday	September 14, 2020	1 pm - 3 pm	9/3/2020	9/4/2020

November 15-16, 2020 - BOT MTG

Committee	Day	Date	Time	Materials Due	Book Release
ASA	Monday	October 26, 2020	9 am - 12 pm	10/14/2020	10/15/2020
HR	Monday	October 26, 2020	1 pm - 3 pm	10/14/2020	10/15/2020
FFT	Wednesday	October 28, 2020	9 am - 11:30 pm	10/15/2020	10/16/2020
Audit & FFT	Wednesday	October 28, 2020	12 pm - 3 pm	10/15/2020	10/16/2020
Special BOT	Wednesday	October 28, 2020	3:15 pm - 4:00 pm	10/15/2020	10/16/2020
Investment	Tuesday	December 1, 2020	9 am - 12 pm	11/19/2020	11/20/2020

January 24-25, 2021 - BOT MTG

Committee	Day	Date	Time	Materials Due	Book Release
ASA	Monday	January 4, 2021	9 am - 12 pm	12/21/2020	12/22/2020
HR	Monday	January 4, 2021	1 pm - 3 pm	12/21/2020	12/22/2020
FFT	Wednesday	January 6, 2021	9 am - 12 pm	12/22/2020	12/23/2020

March 21-22, 2021 - BOT MTG

Committee	Day	Date	Time	Materials Due	Book Release
ASA	Monday	March 1, 2021	9 am - 12 pm	2/18/2021	2/19/2021
ASA/HR	Monday	March 1, 2021	12:15 pm - 1:45 pm	2/18/2021	2/19/2021
HR	Monday	March 1, 2021	2:00 pm - 3:30 pm	2/18/2021	2/19/2021
FFT	Wednesday	March 3, 2021	9 am - 12 pm	2/19/2021	2/22/2021
Investment	Thursday	March 4, 2021	9 am - 12 pm	2/22/2021	2/23/2021

May 23-24, 2021 BOT MTG

Committee	Day	Date	Time	Materials Due	Book Release
ASA	Monday	May 3, 2021	9 am - 12 pm	4/22/2021	4/23/2021
HR	Monday	May 3, 2021	1 pm - 3 pm	4/22/2021	4/23/2021
FFT	Wednesday	May 5, 2021	9 am - 11:30 pm	4/23/2021	4/26/2021
Investment	Monday	May 17, 2021	9 am - 12 pm	5/6/2021	5/7/2021
Audit	Monday	May 17, 2021	12:30 pm - 3:30 pm	5/6/2021	5/7/2021

Board Retreat on October 18-19, 2020
BOT/BOV Summits: June 1, 2020 and November 2, 2020

UNIVERSITY OF MAINE SYSTEM
Policy Manual

ACADEMIC AFFAIRS
Section 310   Tenure

Effective: 6/7/70
Last Revised: 7/9/90
Responsible Office: Academic Affairs

Policy Statement:

Tenure . . . an arrangement under which faculty appointments are continued until retirement or disability, subject to dismissal for cause, termination due to financial reasons, and/or termination due to change in the University program offerings.

The decision to grant or not to grant tenure rests solely with the Board of Trustees. Nothing in the administrative procedures, or in the criteria developed under those procedures, or in the approval of the criteria, shall limit or restrict that discretionary authority of the Board.

Related Documents:

Administrative Procedures for Awarding Tenure

Administrative Procedures for Awarding Tenure

Guidelines:

1. Each new appointee should receive a letter of appointment which includes, as a minimum, such data as:
   a. academic rank and/or title of position;
   b. general duties to be performed;
   c. beginning and ending dates of appointment;
   d. type of appointment - probationary, temporary;
   e. indication of amount, if any, of prior service
   f. to be counted toward probationary period;
   g. salary.

2. The specific assignment of prior credit will be part of the letter received at the time of initial appointment. The time credited as probationary years with regard to service at other institutions of higher education, whether units of the University of Maine System or not, shall not exceed three years.

3. A probationary appointment shall not exceed six consecutive academic years in a full-time position on a single campus. A leave of absence, sabbatical, or a teacher improvement assignment shall not constitute a break in continuous service, nor shall it be included in the six-year period without prior written agreement between the faculty member and the President at the time of the request.

4. Individuals on probationary appointments shall normally complete the full term, i.e., the sixth year, before the Board awards tenure.

5. At the time of initial appointment, exceptionally qualified individuals may be awarded tenure at the rank of full professor, with the approval of the appointment by the Trustees. In other cases, as the campuses deem appropriate, full professors may receive an initial appointment without tenure but, with Trustee approval at the time of their appointment, may be given the opportunity to apply for tenure during the second year of their appointment.

6. Tenure shall not be awarded ordinarily below the associate professor level or its equivalent.

7. Each campus shall develop its criteria for promotion and tenure, and, once developed, a statement of such criteria shall be forwarded to the Chancellor and the Trustees for review and approval and thereafter be made available by the campus administration to all faculty members in the institution. These criteria shall include reference to teaching, public service, research, and scholarship activities as are appropriate to the University System and campus missions. Criteria may vary among units or departments, but shall be in accord with the over-all campus criteria.

8. Student input is a desirable and meaningful part of faculty evaluation, and the contribution students make to the evaluative process is essential to the improvement of instruction. Student evaluations are to be secured on a regular, systematic, and equitable basis and made part of the official record.

9. Evidence should be obtained from outside the institution and from outside the University of Maine System, as appropriate, regarding the scholarship and research of candidates for tenure.

10. Tenured faculty, as well as nontenured faculty, shall be reviewed on an annual basis. Each campus shall develop its criteria for faculty evaluation, and, once developed, a statement of such criteria shall be forwarded to the Chancellor and the Trustees for review and approval and thereafter be made available by the campus administration to all faculty members in the institution.

11. The tenure guidelines provide the policy framework for the process to be followed on each campus. Where exceptions are sought, it is necessary that the campus present its request in detail, including the rationale for the exception, to the Chancellor and the Board of Trustees.

12. Tenure may be transferable among the institutions of the University of Maine System at the discretion of the Board of Trustees, consistent with the tenure policies of the institution to which transfer is sought.

13. Senior administrators shall not be awarded tenure as part of their administrative contracts. However, the Trustees will consider, on an exceptional basis, a nomination to tenure for an academic dean, when presented under these conditions:

    a. the nominee will have been accepted by an appropriate academic department and accorded faculty rank, at the time of appointment as academic dean;

    b. the nomination will have been duly evaluated through the campus's tenure processes.

TABLE I

Numbers of Exceptions, Numbers of Women Candidates, and Total Numbers of Candidates for Tenure, 2019

Campus	Number	Exception to Board Policy	Women	Percentage of candidates who are women
UM	21	1	9	42%
UMA	2	0	1	50%
UMF	1	0	1	100%
UMFK	0	0	0	N/A
UMM	0	0	0	N/A
UMPI	1	0	0	0%
USM	3	0	3	100%
Total	**28**	**1**	**14**	**50%**

53.4% of faculty are men; 46.6% of faculty are women
62.3% of the male faculty are tenured; 43.8% of the women faculty are tenured

Table II. Numbers of Candidates Considered at Campus Level
and Numbers Forwarded for Board Approval, 2013-2019

	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	Total
UMaine							
Considered	15	3	7	11	13	21	70
Recommended	15	3	7	11	13	21	70
UM - Augusta							
Considered	0	2	4	3	0	2	11
Recommended	0	2	4	3	0	2	11
UM - Farmington							
Considered	1	5	1	3	4	1	15
Recommended	1	5	1	3	4	1	15
UM - Fort Kent							
Considered	0	3	1	1	0	0	5
Recommended	0	3	1	1	0	0	5
UM - Machias							
Considered	2	0	1	4	1	0	8
Recommended	2	0	1	4	1	0	8
UM - Presque Isle							
Considered	1	1	1	2	3	1	9
Recommended	1	1	1	2	3	1	9
USM							
Considered	7	2	4	3	2	3	21
Recommended	7	2	4	3	2	3	21
System Total							
Considered	**26**	**16**	**19**	**27**	**23**	**28**	**139**
Recommended	**26**	**16**	**19**	**27**	**23**	**28**	**139**

Faculty and Tenure Statistics

UNIVERSITY OF MAINE SYSTEM

**University
of
Maine System
Office of Human
Resources**

March 2019

2018 - 2019

University Of Maine System
Faculty and Tenure Statistics

This report provides a statistical summary of the tenure status and demographic characteristics of full-time faculty* at the University of Maine System. Current information and trends since 1987 are provided.

The information was extracted from the University's Human Resources Information file in February 2019, reflecting the 2018-2019 academic year. For the purpose of this report, a faculty member is defined as any full-time regular professional employee with a rank of professor, associate professor, assistant professor, instructor, or lecturer. Included are teaching faculty and administrators with rank who may or may not be teaching.

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Faculty and Tenure Statistics: Highlights

<u>Number of Faculty</u>

- 1,226 faculty are included in this report. The number of faculty grew steadily throughout the 1980's; decreased throughout the 1990's, rose from 1997 to 2007, then declined steadily until 2015. There has been a steady increase from 2015 to 2018. The change in the number of faculty continues to follow enrollment trends

- There are 46 more faculty than last year. Tenured faculty decreased to 658 from 669 last year, and the number of faculty without tenure increased over last year's number by 57 to reach 568.

- This report includes all regular faculty, both AFUM and Non-Represented. Part-time "adjunct" faculty are not included in this report.

- Faculty participating in the partial retirement program or with shared appointments or similar arrangements are counted as full-time for this report. These faculty are included in the full-time faculty bargaining unit, may be eligible for tenure or be tenured, and receive full-time benefits. 41 faculty members are in the partial retirement program.

- There are 28 faculty members who will be considered for tenure in the coming academic year.

<u>Tenured and Non-tenured Faculty</u>

- 53.7% (658) of the faculty have tenure. The percentage of tenured faculty varies from a high of 70.0% at UMM due to turnover in non-tenured faculty, to a low of 50.9% at UM.

- The percent of tenured faculty at UMS decreased this year to 53.7% from last year's 56.7%.

- 46.3% (568) of UMS faculty do not have tenure. Of this number, 47.4% are eligible for tenure, and 52.6% are not eligible for tenure.

On average, a faculty member serves 5.7 years in the University of Maine System before being awarded tenure. The average years of service from date of appointment to tenure has slowly climbed since 2009 from 5.4 years.

- There are 55 pre-tenured faculty who have 5 or more years of service that are eligible for tenure in the next academic year.

- There were 117 new faculty hired in 2018, of this number 52 (44.4%) are eligible for tenure.

University Of Maine System
Faculty and Tenure Statistics: Highlights

Women and Minority Faculty

- Of the total faculty 46.6% (571) are women and 53.4% (655) are men. The proportion of women faculty ranges from a high of 59.8% at UMF to a low of 39.7% at UM.

- The percentage of faculty who are women has increased from 38.6% in 2003 to 46.6% in 2018. This is the highest percentage of women faculty ever reported at the University of Maine System.

- 62.3% of men faculty have tenure, and 43.8% of women faculty have tenure. At the two graduate centers, the proportion of women with tenure is 39.7% at UM and 39.8% at USM.

- The percentage of women faculty with tenure had grown over the years, from 31.9% in 2003 to 58.2% in 2014/15. However, there has been a decrease over the last few years in the percentage of women faculty with tenure (52.5% in 2015/16; 52.3% in 2016/17; 49.0% in 2017/18; 43.8% in 2018/19). The percentage of women with tenure continues to be substantially lower than the percentage of men with tenure (62.3%).

- Women are under-represented at the rank of full professor; 21.7% of women are professors while 38.9% of men are professors. The percentage of women professors has steadily decreased since the peak in 2014/15 at 25.4%. In 2003, 22.5% of women were professors.

- Women faculty have an average of 6.1 years of service when awarded tenure; men faculty serve 5.5 years on average before being awarded tenure. Over time the data have shown a consistent difference between men and women in the number of years of employment prior to the granting of tenure.

- Minority faculty members have decreased from last year at 109 to 100, or 8.2% of total faculty. In 2003, 4.0% of faculty were minority. The current figure should be put in the context of the current demographic profile for the State of Maine, which shows a 5.3% minority population as reported by the U.S. Census Bureau.

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University Of Maine System
Faculty and Tenure Statistics: Highlights

Age Distribution

▪ The average age of all faculty has continued to decrease over the last few years. The average age this year decreased slightly from last year at 52.7 down to 51.9.

▪ Tenured faculty average 57.7 years of age and non-tenured faculty average 45.2 years of age.

▪ The average age varies from 50.6 years at UM to 56.6 years at UMA.

▪ The average age of faculty by rank is: professors, 60.3; associate professors, 54.1; assistant professors, 41.7; instructors, 54.4; and lecturers, 47.9.

▪ 96.7% of tenured faculty are age 40 or older while 55.5% of non-tenured faculty are age 40 or older. The percentage of tenured faculty who are age 40 or older has stayed fairly steady over the last 15 years with a 2003 metric of 95.8%.

▪ 280 tenured faculty (364 total faculty) are age 60 or over and 135 tenured faculty (161 total faculty) are age 65 or older.

▪ Projections based on the current workforce indicate a large number of faculty are reaching normal retirement age. From fiscal year 2019 to fiscal year 2023, 211 faculty members will attain age 65.

Disciplines

• Education is the discipline area with the largest number of faculty (141), followed by Biological and Life Sciences (98), Physical Sciences (95), Social Sciences (93), and Health Sciences (90). The top 10 disciplines have remained constant for the past five years.

Sabbaticals

• The AFUM collective bargaining agreement provides 51 sabbaticals per year across all Universities. Additional sabbaticals may be granted at the discretion of the departments if there are no additional costs to the University and the Chief Administrative Officer recommends additional awards.

• The total number of sabbaticals fluctuate over a 3 - 5 year period. There were a higher number of sabbaticals from the academic years 05/06 through 08/09 with a peak in 08/09 at 95. There have been fewer sabbaticals between the academic years 09/10 through 18/19. There were 58 faculty on sabbatical this year, which is down 8 from the prior year.

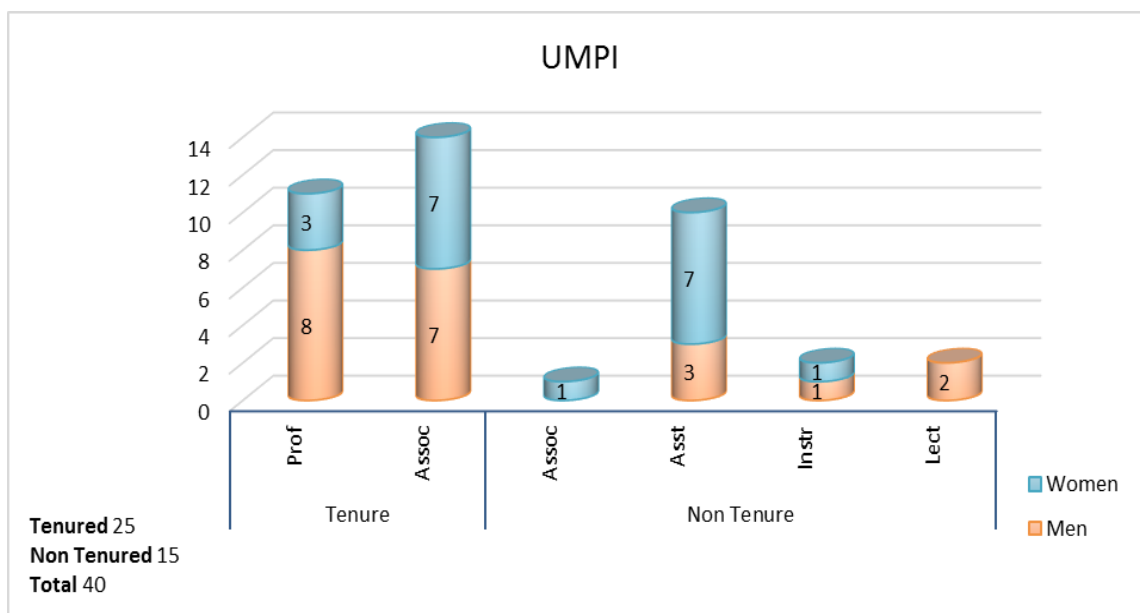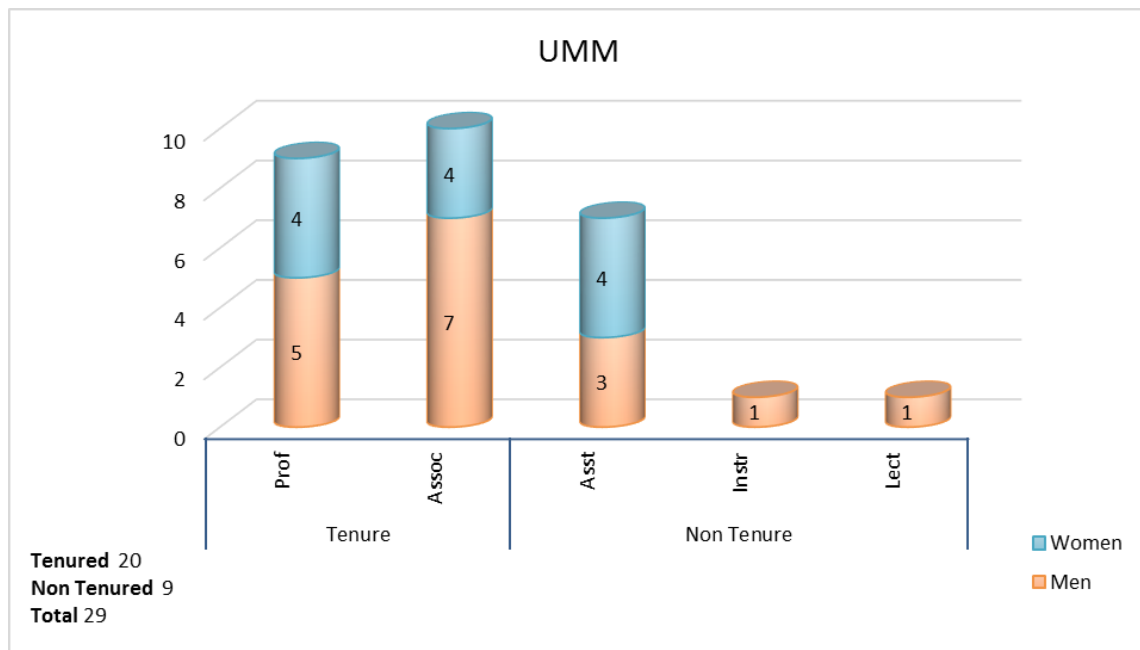Note: In all Tables a "-" indicates zero.
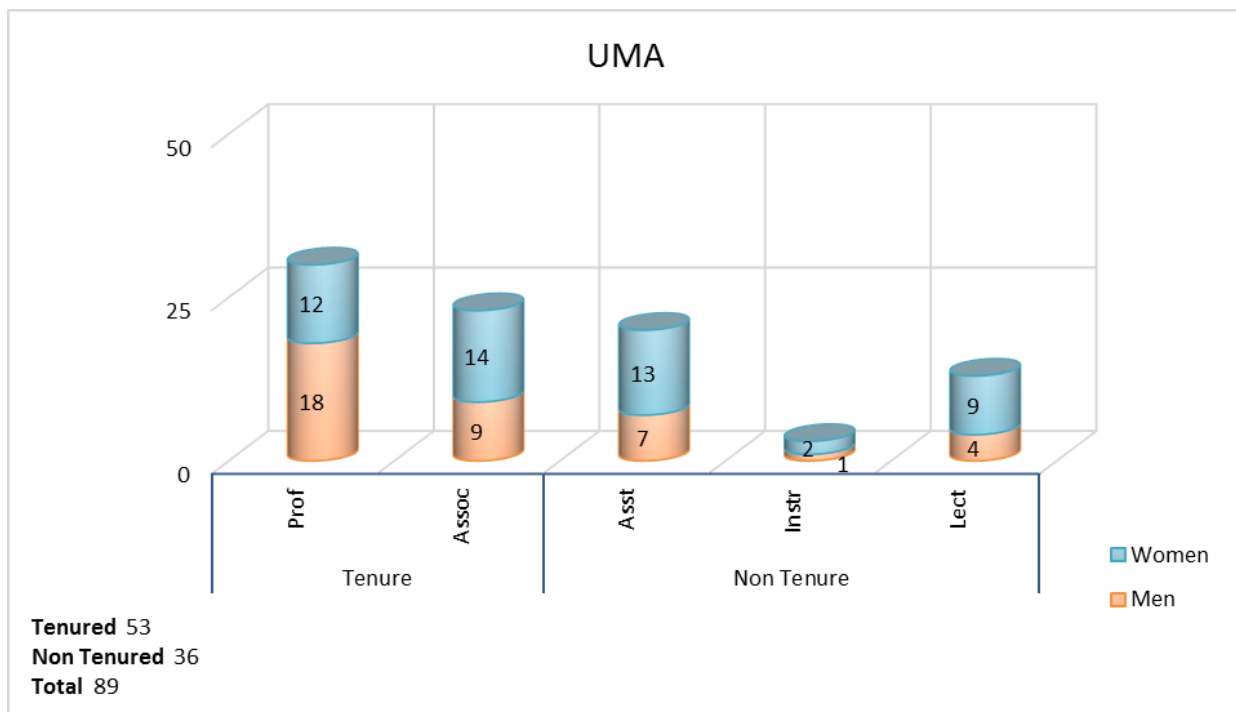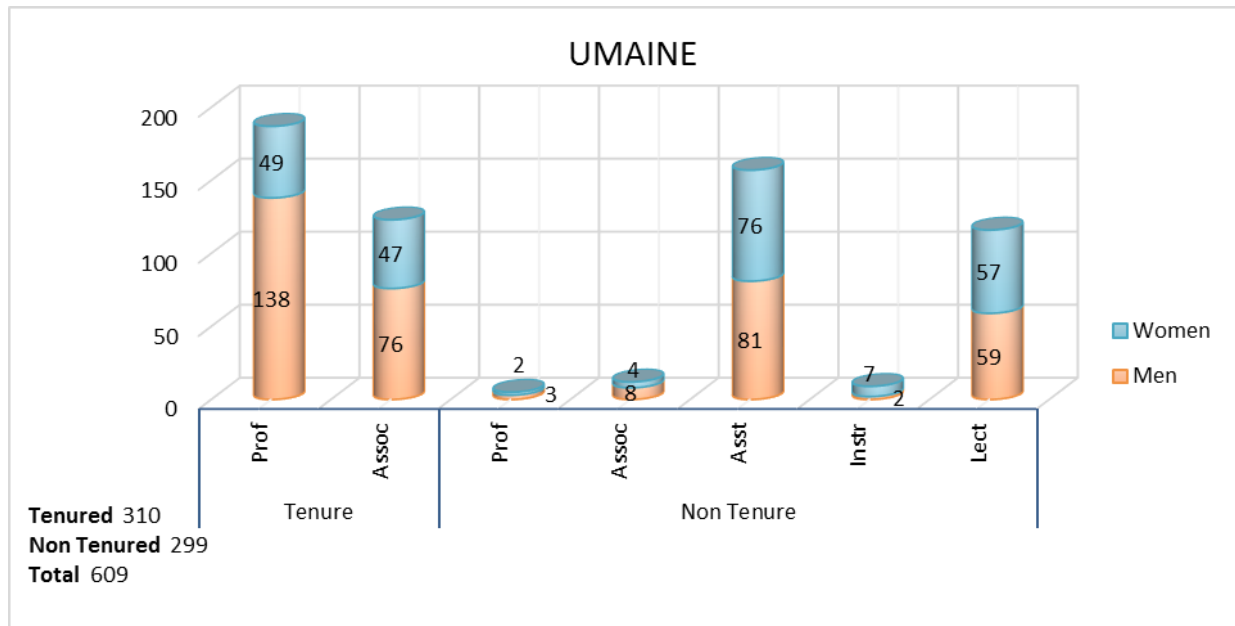
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Tenure Status by Rank and University

UMAINE

Tenured 310
Non Tenured 299
Total 609

UMA

Tenured 53
Non Tenured 36
Total 89

Tenure Status by Rank and University

UMF

Tenured 76
Non Tenured 46
Total 122

UMFK

Tenured 19
Non Tenured 14
Total 33

Tenure Status by Rank and University

UMM

Tenured 20
Non Tenured 9
Total 29

UMPI

Tenured 25
Non Tenured 15
Total 40

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Tenure Status by Rank and University

USM

Tenured 155
Non Tenured 149
Total 304

TOTAL

Tenured 658
Non Tenured 568
Total 1,226

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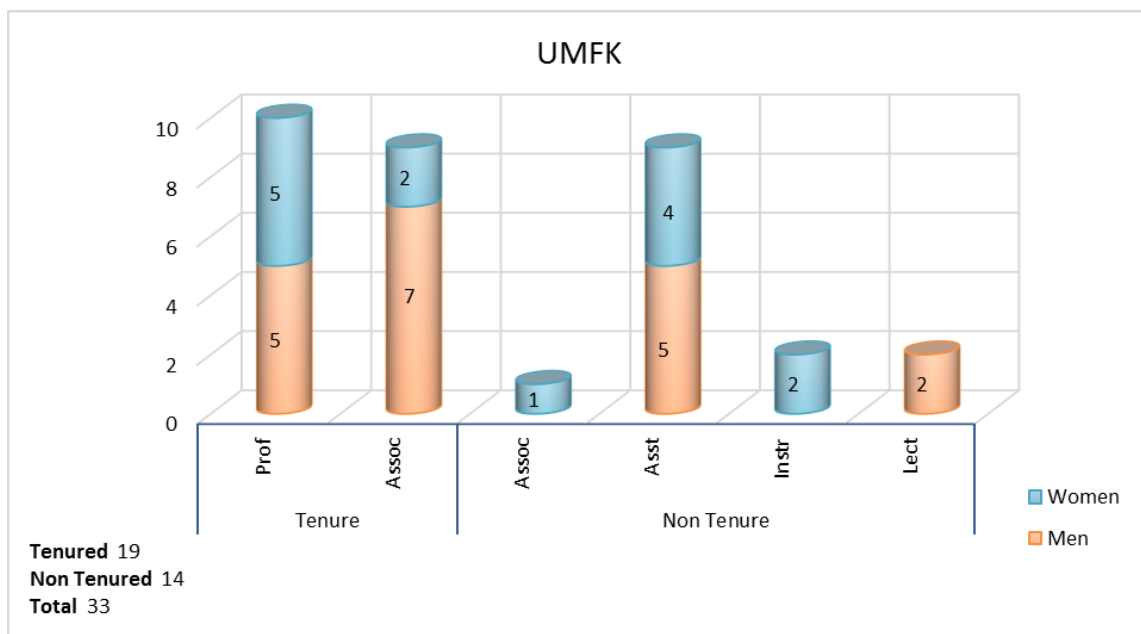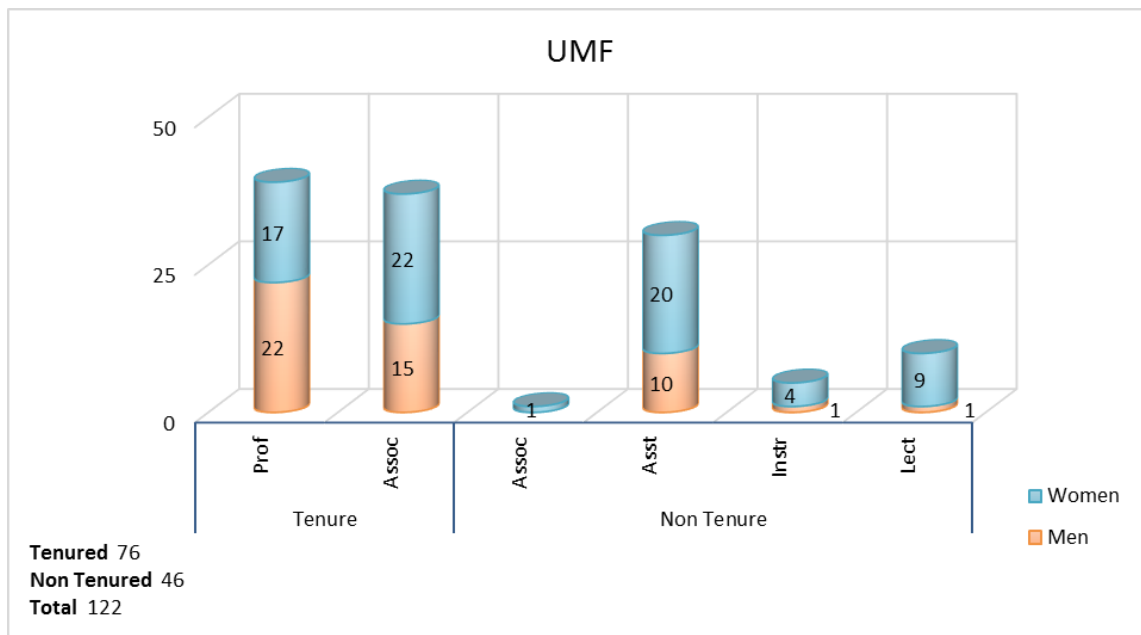
Percent of Professors by Gender and University

PERCENT OF PROFESSORS BY GENDER AND UNIVERSITY

% Women Who Are Professors **% Men Who Are Professors**
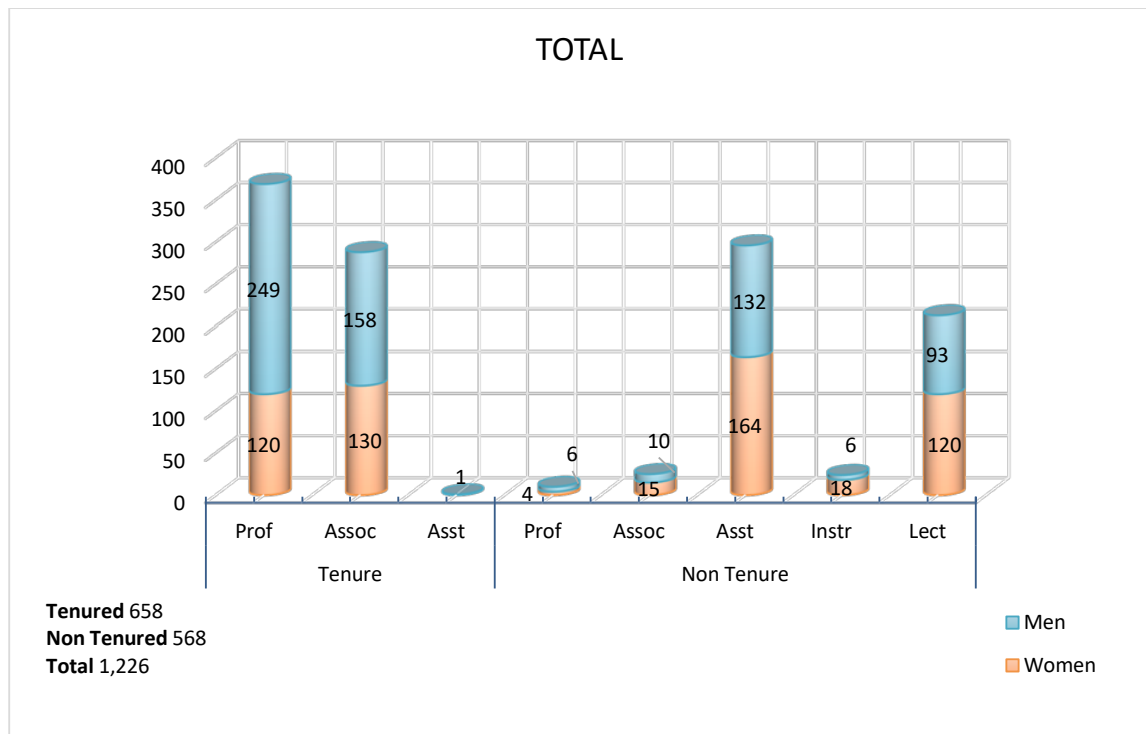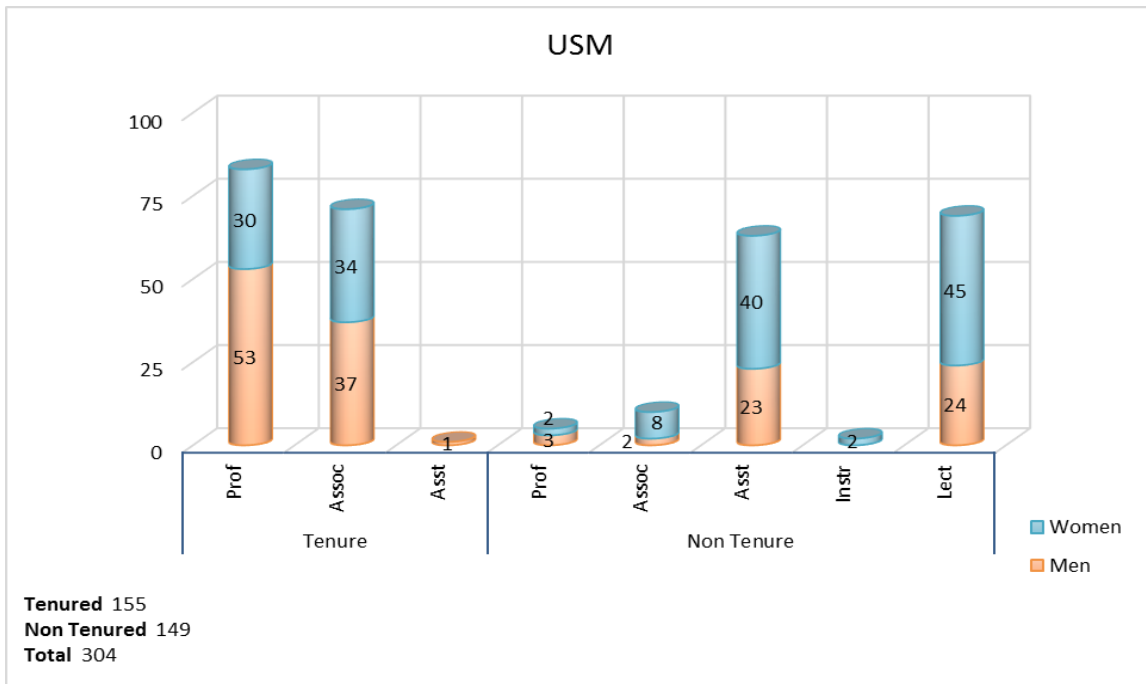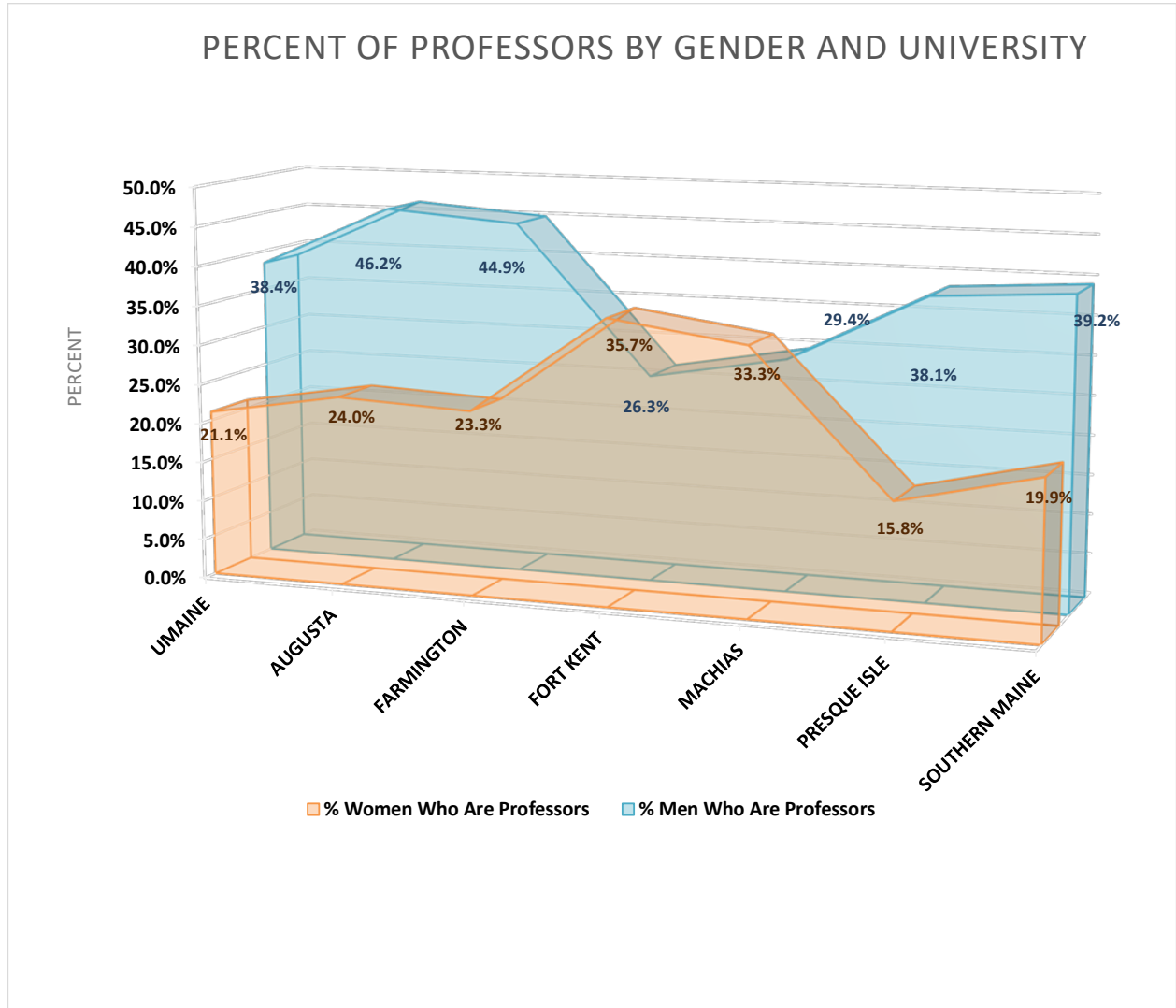
Tenure Status by Gender and University

UNIVERSITY	TENURED WOMEN			TENURED MEN			TENURED FACULTY	
	NO.	% OF TOTAL WOMEN FACULTY		NO.	% OF TOTAL MEN FACULTY		NO.	% OF TOTAL FACULTY
UMAINE	96	39.7%		214	58.3%		310	50.9%
AUGUSTA	26	52.0%		27	69.2%		53	59.6%
FARMINGTON	39	53.4%		37	75.5%		76	62.3%
FORT KENT	7	50.0%		12	63.2%		19	57.6%
MACHIAS	8	66.7%		12	70.6%		20	69.0%
PRESQUE ISLE	10	52.6%		15	71.4%		25	62.5%
SOUTHERN MAINE	64	39.8%		91	63.6%		155	51.0%
TOTAL	250	43.8%		408	62.3%		658	53.6%

Tenure Status by University

TENURED (%)   ELIGIBLE (%)   NOT ELIGIBLE(%)
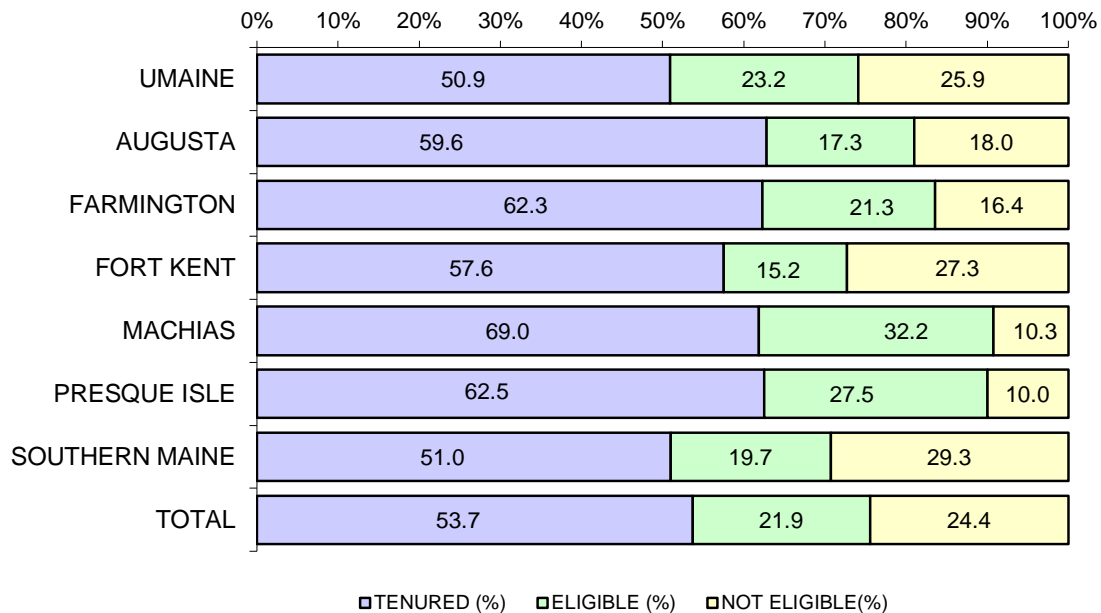
Tenure Status by University
Number of Non-Tenured Faculty

UNIVERSITY	TOTAL NUMBER OF TENURED FACULTY	ELIGIBLE FOR TENURE	NOT ELIGIBLE FOR TENURE	TOTAL NOT TENURED	TENURED OR ELIGIBLE FOR TENURE	TOTAL FACULTY
UMAINE	310	141	158	299	451	609
AUGUSTA	53	20	16	36	73	89
FARMINGTON	76	26	20	46	102	122
FORT KENT	19	5	9	14	24	33
MACHIAS	20	6	3	9	26	29
PRESQUE ISLE	25	11	4	15	36	40
SOUTHERN MAINE	155	60	89	149	215	304
TOTAL	**658**	**269**	**299**	**568**	**927**	**1226**

UNIVERSITY	TENURED FACULTY AS % OF FACULTY WHO ARE TENURED OR ARE ELIGIBLE FOR TENURE	% OF TOTAL FACULTY WHO ARE TENURED	% OF TOTAL FACULTY WHO ARE TENURED OR ARE ELIGIBLE FOR TENURE	% OF TOTAL FACULTY WHO ARE NOT ELIGIBLE FOR TENURE	% OF NON-TENURED FACULTY WHO ARE ELIGIBLE FOR TENURE
UMAINE	68.7	50.9	74.1	25.9	47.2
AUGUSTA	72.6	59.6	82.0	18.0	55.6
FARMINGTON	74.5	62.3	83.6	16.4	56.5
FORT KENT	79.2	57.6	72.7	27.3	35.7
MACHIAS	76.9	69.0	89.7	10.3	66.7
PRESQUE ISLE	69.4	62.5	90.0	10.0	73.3
SOUTHERN MAINE	72.1	51.0	70.7	29.3	40.3
TOTAL	**71.0**	**53.7**	**75.6**	**24.4**	**47.4**

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Ethnicity by Tenure Status

ETHNICITY	TENURE		ELIGIBLE FOR TENURE		NOT ELIGIBLE FOR TENURE		TOTAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
WHITE	606	92.1%	241	89.5%	279	93.4%	1126	91.9%
MINORITY	52	7.9%	28	10.5%	20	6.6%	100	8.1%
TOTAL	658	100.0%	269	100.0%	299	100.0%	1226	100.0%

Ethnicity by University

UNIVERSITY	MINORITY NUMBER	MINORITY PERCENT
UMAINE	58	9.5
AUGUSTA	0	0.0
FARMINGTON	6	4.9
FORT KENT	4	12.1
MACHIAS	0	0.0
PRESQUE ISLE	4	10.0
SOUTHERN MAINE	28	9.2
TOTAL	100	8.2

Average Years of Service from Date of Appointment To Date of Tenure

UNIVERSITY	WOMEN	MEN	TOTAL
UMAINE	6.1	5.3	5.5
AUGUSTA	8.3	6.3	7.3
FARMINGTON	4.8	5.1	4.9
FORT KENT	6.7	6.2	6.4
MACHIAS	7.0	8.3	7.8
PRESQUE ISLE	6.3	5.5	5.8
SOUTHERN MAINE	5.8	5.5	5.6
TOTAL	6.1	5.5	5.7

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Average Age by Gender and University

	Tenured			Non Tenured			
	Women	Men	Total	Women	Men	Total	Grand Total
UMAINE	56.8	58.4	57.9	42.4	43.5	43.0	50.6
AUGUSTA	60.1	62.1	61.1	48.1	53.4	49.9	56.6
FARMINGTON	54.1	55.8	54.9	47.9	45.3	47.2	52.0
FORT KENT	53.4	57.7	56.1	46.3	42.0	44.1	51.0
MACHIAS	54.5	56.3	55.6	49.3	46.4	47.7	53.1
PRESQUE ISLE	58.3	52.7	54.9	47.9	54.8	50.7	53.3
SOUTHERN MAINE	56.5	59.8	58.5	47.8	47.0	47.5	53.1
Grand Total	**56.5**	**58.4**	**57.7**	**45.4**	**45.1**	**45.2**	**51.9**
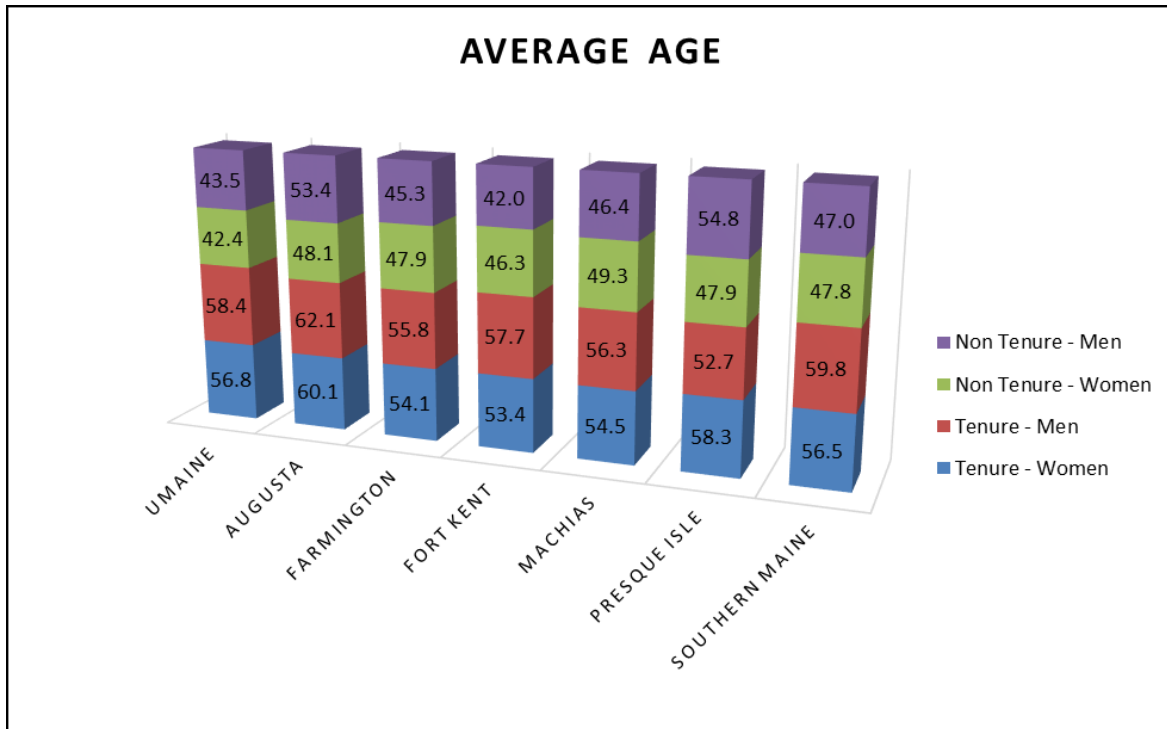
Average Age by Gender and Rank

University	Rank	Tenure			Non Tenure			
		Women	Men	Total	Women	Men	Total	Total
UMAINE	Professor	60.2	61.0	60.8	68.0	68.0	68.0	60.9
	Associate Professor	53.2	53.7	53.5	53.3	56.9	55.7	53.7
	Assistant Professor				38.8	38.8	38.8	38.8
	Instructor				55.0	63.0	56.8	56.8
	Lecturer				43.9	46.3	45.1	45.1
UMAINE Total		**56.8**	**58.4**	**57.9**	**42.4**	**43.5**	**43.0**	**50.6**
AUGUSTA	Professor	63.4	65.6	64.7				64.7
	Associate Professor	57.3	55.0	56.4				56.4
	Assistant Professor				43.8	47.0	44.9	44.9
	Instructor				65.0	67.0	65.7	65.7
	Lecturer				50.7	61.3	53.9	53.9
AUGUSTA Total		**60.1**	**62.1**	**61.1**	**48.1**	**53.4**	**49.9**	**56.6**
FARMINGTON	Professor	58.4	58.5	58.4				58.4
	Associate Professor	50.8	51.9	51.2	60.0		60.0	51.5
	Assistant Professor				42.3	46.1	43.5	43.5
	Instructor				51.0	34.0	47.6	47.6
	Lecturer				57.7	49.0	56.8	56.8
FARMINGTON Total		**54.1**	**55.8**	**54.9**	**47.9**	**45.3**	**47.2**	**52.0**
FORT KENT	Professor	58.0	56.2	57.1				57.1
	Associate Professor	42.0	58.7	55.0	37.0		37.0	53.2
	Assistant Professor				43.5	39.2	41.1	41.1
	Instructor				56.5		56.5	56.5
	Lecturer					49.0	49.0	49.0
FORT KENT Total		**53.4**	**57.7**	**56.1**	**46.3**	**42.0**	**44.1**	**51.0**
MACHIAS	Professor	61.3	58.4	59.7				59.7
	Associate Professor	47.8	54.9	52.3				52.3
	Assistant Professor				49.3	52.3	50.6	50.6
	Instructor					35.0	35.0	35.0
	Lecturer					40.0	40.0	40.0
MACHIAS Total		**54.5**	**56.3**	**55.6**	**49.3**	**46.4**	**47.7**	**53.1**
PRESQUE ISLE	Professor	52.7	56.9	55.7				55.7
	Associate Professor	60.7	47.9	54.3	64.0		64.0	54.9
	Assistant Professor				46.4	58.7	50.1	50.1
	Instructor				42.0	43.0	42.5	42.5
	Lecturer					55.0	55.0	55.0
PRESQUE ISLE Total		**58.4**	**58.3**	**52.7**	**54.9**	**47.9**	**54.8**	**50.7**
SOUTHERN MAINE	Professor	55.5	62.2	59.7	49.5	53.0	51.6	59.3
	Associate Professor	57.4	56.2	56.8	46.6	40.0	45.3	55.4
	Assistant Professor		70.0	70.0	46.4	40.9	44.3	44.8
	Instructor				63.0		63.0	63.0
	Lecturer				48.5	52.8	50.0	50.0
SOUTHERN MAINE Total		**55.4**	**56.5**	**59.8**	**58.5**	**47.8**	**47.0**	**47.5**
Grand Total		**56.5**	**58.4**	**57.7**	**45.4**	**45.1**	**45.2**	**51.9**
ALL CAMPUSES	Professor	58.8	61.1	60.3	58.8	60.5	59.8	60.3
	Associate Professor	54.4	54.2	54.3	49.8	53.5	51.3	54.1
	Assistant Professor		70.0	70.0	42.2	40.9	41.6	41.7
	Instructor				55.6	50.8	54.4	54.4
	Lecturer				47.2	48.8	47.9	47.9
ALL CAMPUSES	**Total**	**56.5**	**58.4**	**57.7**	**45.4**	**45.1**	**45.2**	**51.9**

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Faculty by Discipline by University
Tenured and Non-Tenured

DISCIPLINE	UM	UMA	UMF	UMFK	UMM	UMPI	USM	Total
Agriculture Business & Production	49	1		7	1		5	63
Architecture & Related Programs	1	3						4
Area Ethnic & Cultural Studies		1	1				1	3
Biological Sciences/Life Sciences	63	6	8		5	4	12	98
Business Management & Administrative Services	29	6	4	4	2	5	24	74
Communications	10			1			7	18
Computer & Information Sciences	7	5	1	1			6	20
Criminal Justice And Corrections		1		1				2
Education	69	1	34	1	3	5	28	141
Engineering	73						5	78
Engineering Or Related Technologies	20							20
English Language & Literature	25	10	14	2	2	5	15	73
Foreign Languages & Literature	7	1	5	1			6	20
Health Sciences	23	16	2	8		3	38	90
History	14	2	4	1	1	3	6	31
Home Economics – Family And Consumer Life	10							10
Law And Legal Studies		2					20	22
Library Science		2						2
Mathematics	30	5	9	1	2	2	12	61
Multi/Interdisciplinary Studies	5	2						7
Parks, Recreation, Leisure & Fitness Studies	7				3	2	14	26
Philosophy & Religion	9	1	3				6	19
Physical Sciences	65	1	9	1	2	4	13	95
Psychology	17	8	9	1	4	2	9	50
Public Administration & Social Services	10			1		2	23	36
Social Sciences	35	8	10	1	2	2	35	93
Visual & Performing Arts	27	7	8	1	2	1	18	64
Liberal Arts & Sciences	4		1				1	6
TOTAL	**609**	**89**	**122**	**33**	**29**	**40**	**304**	**1226**

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DISCIPLINES WITH GREATEST NUMBERS OF FACULTY
Tenured and Non-Tenured

Discipline	Faculty
AGRICULTURE BUSINESS & PRODUCTION	63
VISUAL & PERFORMING ARTS	64
ENGLISH LANGUAGE & LITERATURE	73
BUS MGT & ADMINISTRATIVE SERVICES	74
ENGINEERING	78
HEALTH SCIENCES	90
SOCIAL SCIENCES	93
PHYSICAL SCIENCES	95
BIOLOGICAL SCIENCES/LIFE SCIENCES	98
EDUCATION	141

Top 10 Disciplines 2014 – 2018

From 1987 Through 2018			
Total Number of All Faculty			
YEAR	**FACULTY**	**MEN %**	**WOMEN %**
2018	1,226	53.4	46.6
2017	1,180	54.7	45.3
2016	1,156	53.3	43.7
2015	1,144	57.1	42.9
2014	1,198	57.7	42.3
2011	1,335	57.9	42.1
2008	1,400	59.4	40.6
2005	1,380	60.5	39.5
2002	1,388	61.1	38.9
1999	1,310	64.9	35.1
1996	1,288	68.0	32.0
1993	1,325	69.7	30.3
1990	1,394	72.0	28.0
1987	1,353	74.1	25.9

Percent Tenured Faculty by Gender				
YEAR	**NUMBER**	**TENURED FACULTY %**	**MEN %**	**WOMEN %**
2018	658	53.7	62.3	43.8
2017	669	56.7	63.1	49.0
2016	685	59.3	64.7	52.3
2015	694	60.7	66.8	52.5
2014	795	66.4	72.4	58.2
2011	876	65.6	71.9	56.9
2008	906	64.7	70.0	57.0
2005	870	63.0	69.0	53.9
2002	848	61.1	69.7	47.6
1999	832	63.5	70.5	50.7
1996	897	69.6	76.7	54.6
1993	907	68.5	75.8	51.6
1990	856	61.4	68.6	42.8
1987	796	58.8	65.8	38.9

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Gender Composition Faculty
1987 - 2003 - 2017

1987

Tenured Women 10.0%

Untenured Men 25.4%

78.1% Men

Untenured Women 15.8%

21.9% Women

Tenured Men 48.8%

■ Tenured Women ■ Tenured Men ■ Untenured Women ■ Untenured Men

2003

Untenured Men 19.1%

Tenured Women 19.8%

61.4% Men

Untenured Women 18.8%

38.6% Women

Tenured Men 42.3%

■ Tenured Women ■ Tenured Men ■ Untenured Women ■ Untenured Men

2019

Untenured Men 20.1%

Tenured Women 20.4%

53.4% Men

Untenured Women 26.2%

46.6% Women

Tenured Men 33.3%

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Student Head Count/Number of Faculty 2011-2018
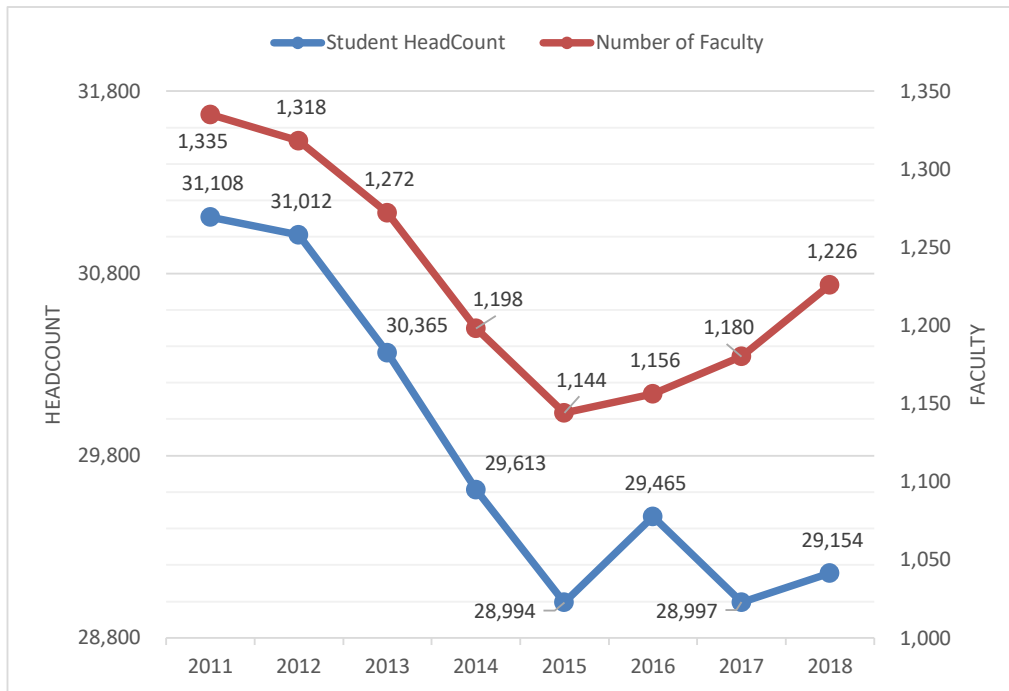
Student Credit Hours/Number of Faculty 2011-2018
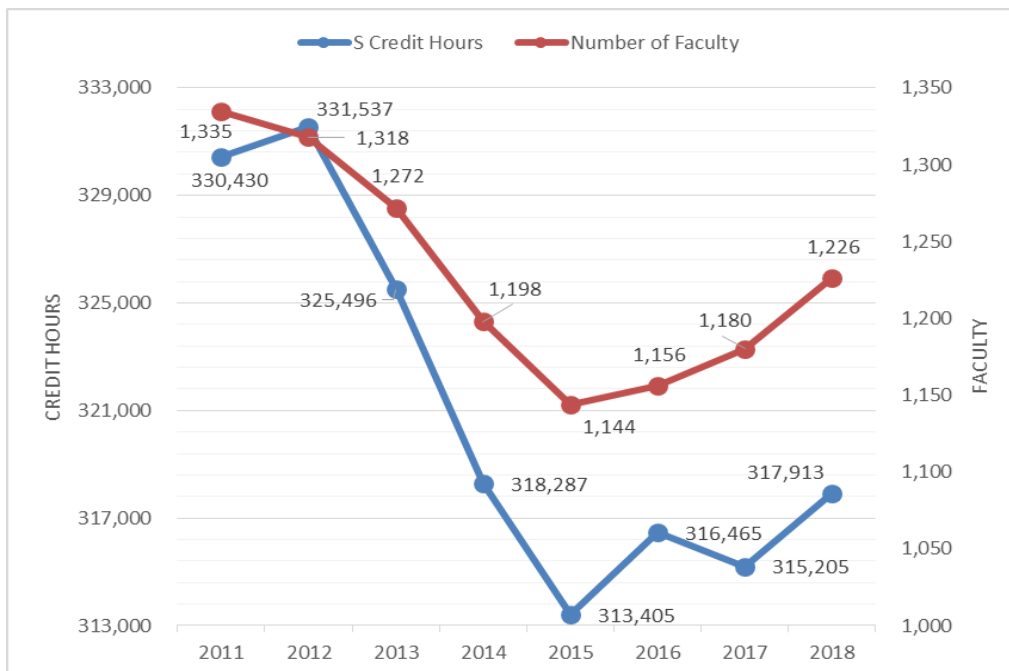
*The information for the student head count and credit hours was from the University of Maine System Fall 2018 Enrollment Report

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Tenure Status
1987 - 1997 - 2008 - 2018

Year	Total Faculty	New Hires	Tenure Track
2018	1,226	117	52
2017	1,180	85	44
2016	1,156	63	38
2015	1,144	95	40
2014	1,198	59	29
2013	1,272	68	24
2012	1,318	61	27
2011	1,335	78	47
2008	1,400	62	37
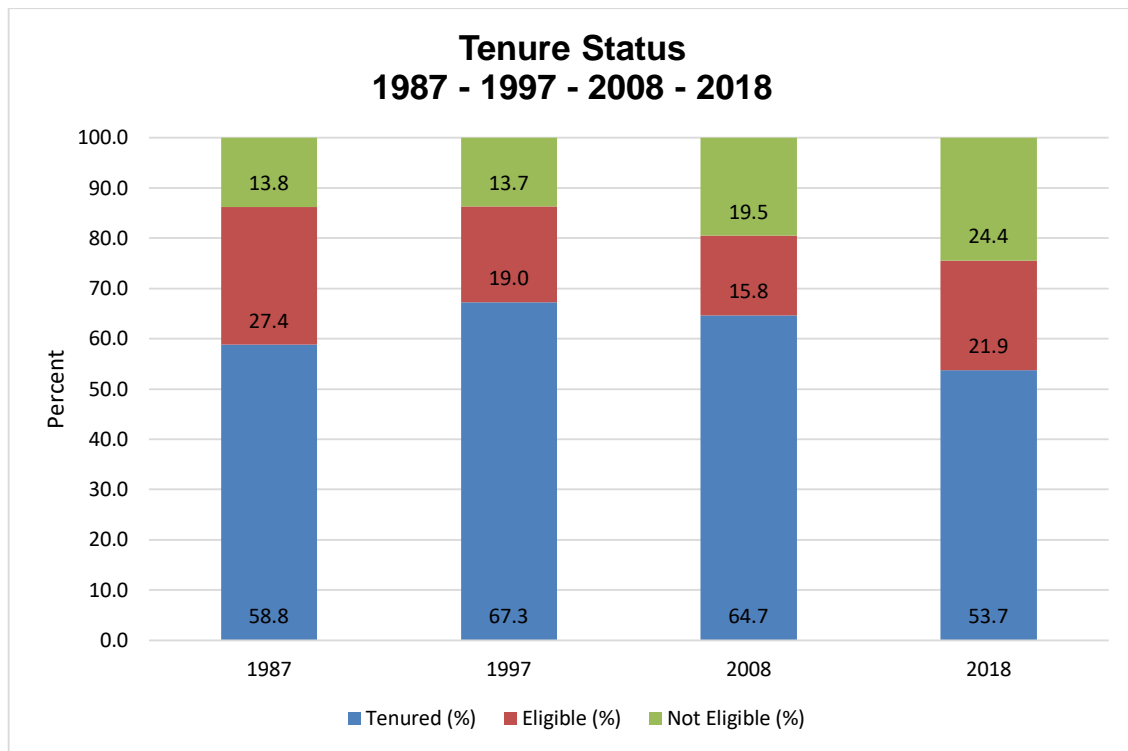
New Hire* Faculty on Tenure Track

* New hire as of 3/1/2018

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Faculty and Tenure Profile Trends
From 1990 Through 2018
Years to Tenure by Gender

YEAR	AVG	MEN	WOMEN
2018	5.7	5.5	6.1
2017	5.7	5.5	6.1
2016	5.7	5.5	6.0
2015	5.6	5.4	5.9
2014	5.6	5.4	6.1
2011	5.6	5.3	6.0
2008	5.4	5.2	5.8
2005	5.5	5.2	5.9
2002	5.3	5.1	5.8
1999	5.4	5.2	6.1
1996	5.3	5.0	5.9
1993	5.1	4.9	5.8
1990	5.1	5.0	5.9

Minority Faculty

YEAR	NUMBER	PERCENT
2018	100	8.2
2017	109	9.2
2016	94	8.1
2015	89	7.8
2014	81	6.8
2011	80	6.0
2008	73	5.2
2005	63	4.6
2002	57	4.1
1999	55	4.2
1996	39	3.0
1993	34	2.6
1990	40	2.9

Average Age

YEAR	AVG AGE	TENURED	NON-TENURED	TENURED OVER 40 %
2018	52.0	57.7	45.3	96.7
2017	52.2	57.4	45.4	97.2
2016	52.7	57.5	45.8	97.7
2015	52.7	57.1	45.9	96.4
2014	53.8	57.4	46.8	96.1
2011*	53.3	56.8	46.8	96.5
2008	53.5	56.9	47.1	97.1
2005	51.5	55.0	45.7	96.0
2002*	49.9	54.0	43.5	95.4
1999	49.7	53.4	43.1	95.8
1996	49.6	52.5	42.9	94.1
1993	48.5	51.2	42.7	89.7
1990	47.5	51.0	41.9	88.7

*There was a revision to the method for determining age in 2002 that resulted in rounding differences. Average age information has been revised to correct errors in the March 2011 report

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Faculty and Tenure Profile Trends					
From 1990 Through 2018					
Academic Rank					
YEAR	PROFESSOR	ASSOC PROF	ASST PROF	INSTRUCTOR	LECTURER
2018	30.9%	25.5%	24.3%	2.0%	17.4%
2017	32.1%	26.9%	22.8%	2.1%	16.1%
2016	33.9%	28.3%	19.7%	1.7%	16.4%
2015	34.1%	29.4%	18.0%	2.2%	16.3%
2014	36.0%	33.2%	15.7%	2.1%	13.0%
2011	34.7%	34.5%	15.8%	2.4%	12.6%
2008	33.6%	34.8%	18.0%	3.6%	9.9%
2005	31.5%	34.5%	22.0%	3.8%	8.4%
2002	31.2%	32.7%	25.2%	3.2%	7.6%
1999	30.8%	35.0%	24.7%	3.0%	6.5%
1996	32.4%	39.8%	19.3%	3.3%	5.2%
1993	31.9%	37.6%	22.1%	4.2%	4.2%
1990	29.3%	33.1%	29.5%	4.0%	4.2%

YEAR	PROFESSOR	ASSOC PROF	ASST PROF	INSTRUCTOR	LECTURER
2018	379	313	297	24	213
2017	379	317	269	25	190
2016	392	327	228	19	190
2015	390	336	206	25	187
2014	431	398	188	25	156
2011	463	461	211	32	168
2008	471	487	252	51	139
2005	435	474	303	52	116
2002	433	454	350	45	106
1999	404	459	323	39	85
1996	417	513	249	42	67
1993	428	505	297	56	59
1990	414	469	417	56	59

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University of Maine System
Number of Current
Faculty Reaching Normal Retirement Age(65)

NUMBER OF FACULTY REACHING RETIREMENT AGE (65) - INCREMENTAL

FISCAL YEAR OF 65th BIRTHDAY

In FY19, 161 faculty are currently age 65 or older.

Note: Analysis includes regular, full and part-time faculty using January 2019 employee snapshot and assumes NO new faculty are hired.

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FACULTY SABBATICALS
Academic years 05/06 through 18/19

	05/06	08/09	11/12	14/15	17/18	18/19
AY	27	23	14	28	14	14
SPRING	40	43	35	26	31	21
FALL	24	28	26	25	21	23
	(91)	(94)	(75)	(79)	(66)	(58)

FALL AND SPRING SABBATICALS ARE A FULL RELEASE FOR ONLY ONE SEMESTER. AN ACADEMIC YEAR (AY) SABBATICAL IS A 1/2 TIME RELEASE FOR THE FACULTY MEMBER OVER AN ACADEMIC YEAR.

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University of Maine System Board of Trustees
Preliminary Workforce Engagement Report

EXECUTIVE SUMMARY and RECOMMENDATIONS

March 25, 2019

Authored by
Kay Kimball, Robert Placido, Bob Neely, Rosa Redonnett, and Jim Thelen

(This abridged version of the Preliminary Workforce Engagement Report includes only the full report's Executive Summary and Recommendations.)

EXECUTIVE SUMMARY

A detailed quantitative analysis of workforce needs in Maine relative to the ability of higher education to meet those needs yielded significant insight into the complexity of linking skills, programs, jobs, etc. As described throughout the report, answers relative to programming needs coupled with workforce need can vary depending on the granularity of analysis, criteria used, and the specific questions asked. Nonetheless, the following general observations emerged from the aggregate effort to understand workforce linkages to UMS programs:

- Broad analyses of either general job families or general academic disciplines often obscure employment and/or programming opportunities in more narrowly defined occupations or programs. For example, broadly considered as a "field," demand for social services is not great in Maine -- yet need does exist for specific occupations, such as social workers. Similarly, as a broad field, the demand for business graduates is high. However, there is little demand for economics as a specialty within the broader business field. Similar observations between specific jobs and broader job families also existed for the health care and computer science fields.

- Significant gaps exist between employer and workforce needs and higher education's current satisfaction of those needs in a variety of disciplines. Relative to current degree production in these fields, the greatest need is in nursing, while significant need also exists for physical therapists, cybersecurity analysts, social workers, computer engineers, electrical/electronics engineers, civil engineers, business administrators and managers, and special educators.

- Geography must be considered as well. In Maine, demand for specific occupations varies significantly by locale. Thus, programming, marketing and recruiting, and the role and even mission of any UMS campus must be considered in regional (county) contexts.

- Analytical tools and data sets regarding occupation and program availability are widely available now, almost to a ubiquitous point, and have advanced in ease of use and power to the extent that UMS academic and career service policies and processes must be updated to take advantage of the new capabilities and analyses. For example, UMS processes related to program development and review, marketing, career services, advising, early college, etc. would greatly benefit from the insights that may be gleaned from proper use of these tools, which should contribute to streamlining and increasing the pace of decision-making.

- First-hand understanding of employer and workforce needs remains a challenge for UMS, and requires systemic processes for interaction with such employers, as well as partnerships with all state and non-governmental agencies, to ensure ongoing and meaningful alignment between academic programming and workforce needs. Our work with the Credential Engine project and our own project related to micro credentialing demonstrates that this is an issue nationally, and one which will require extensive work within and across industries and regions to best determine the skills and competencies employers need.

- Basic skill sets remain essential to success in today's job market; communication skills, for example, invariably topped the list for most occupations investigated. General education and academic programs should already be articulating those skills and tracking student competencies in acquiring them; they could also more directly link those essential skills to labor market demand. Additionally, detailed information exists for both basic and technological skills outlined in job postings, and could be highly informative for all existing and future programs in determining learning objectives. Knowledge of specific skills and competencies also will provide the foundation both for micro-credentialing in the UMS, and opportunities for experiential learning tailored to the differentiators affecting employment success and wages.

If fully realized and resourced, current UMS strategic initiatives are well-positioned to meet the emerging needs of Maine's employers. Ongoing work to develop a micro-credentialing framework aligned to specific skills and competencies is critical across all occupations, and likely all disciplines. Adult Degree Completion efforts will also improve workforce readiness, and will better align skills with needs for both employers and employees.

With respect to programs, it seems clear that the UMS must continue to invest in health care (particularly nursing), data and computer sciences (particularly cybersecurity), and special education, as well as selected engineering programs, and business administration and management. The UMS can also rapidly realign policies (e.g., program development) and processes (e.g., advising and career planning/services) to take advantage of powerful, analytical tools to better serve students and employers. Additionally, program development and review must consider market realities in proposal and assessment plans, and career services, advising, and academics must be more fully integrated to optimize student completion and job

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placements. Finally, a closer alignment between programming and employer needs requires a better understanding of regional campus-community relationships, continued focus on "measuring and documenting" basic skills achievement in both the liberal arts and professional disciplines, qualitative and quantitative understanding of program outcomes, and a long-term plan of action to address Maine's economic needs that involves ongoing collaboration between universities, state agencies, employers, and community and regional organizations.

Finally, although not undertaken in response to the Board's December 2018 Declaration, all System campuses report a variety of workforce engagement efforts already underway across the state. These reports, included as an Appendix at the end of this report, describe an impressive array of workforce engagement activity with local, regional, and statewide impact.

RECOMMENDATIONS

As a general matter, an implementation plan developed based on the recommendations that follow cannot be solely an academic initiative, but will require fully integrated and collaborative efforts involving student affairs, enrollment management, career services, financial aid, advising, and related student support services.

1.   Revise procedures, and reconsider policies, to ensure the use of market data (e.g., Burning Glass) in program development and review, projections and planning, career services, advising, programs for examination, and likely other areas (e.g., BOT Policies/APLs 305.1 - 305.5 dealing with new program development, and program review, suspension and elimination, etc.). These revisions will be essential to ensure that workforce needs become a critical consideration in programming and service to students.

2. Ground program expectations and plans in market realities, e.g., guide deans, chairs, and faculty in the use of employment projections and demands – perhaps include them in enrollment projections and planning; connect curriculum to employer insights and job posting requirements. In order for these goals to be realized, provide professional development for use of new tools to cultivate new ways of thinking and culture development across the system.

3. More fully integrate career services within academics and advising across the campuses. Additionally, more fully integrate career planning into the student life cycle, from entry into a major through and beyond graduation to identify skills and competencies beyond their program that will "add value" to a given degree. This could also extend to working with guidance counselors as a part of our Early College initiative. Collectively, these and related changes would yield more informed major selection, more intentional connections of major to career opportunities, and greater retention, particularly among our first-generation and underprepared students.

4. Formalize expectations and processes that ensure academic programs work with key industry sectors and state employers to better understand the core competencies and essential

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skills that they and their employees might need. Specific options to accomplish this goal include:

    a. Establish program advisory boards drawn from regional and state employers where logical to do so. These qualitative interactions should be used to validate the quantitative data gleaned from platforms like Burning Glass, and would provide insight into specific regional, local needs.

    b. Consider creating a structure similar to Maine Center Ventures (MCV) for undergraduate programming, or perhaps extend the mission of MCV. Alternatively, apply results of MCV efforts around employer needs to all academic programs.

5. Integrate all UMS initiatives and planning efforts to attain efficiency, reduce costs, promote a common vision, and build momentum to achieve results. Current initiatives targeting adult degree completion, workforce engagement, Early College, Micro-credentialing framework are examples of these efforts.

6. Build on the examples provided in this report to engage the campuses in a program-by-program analysis in collaboration with System leadership to better understand the relationship between program priorities and workforce needs, and to prevent pockets of misalignment with BOT priorities. Such analyses must include consideration of both: (a) opportunities for new program development when justified from a need:demand perspective; and, (b) alignment of program delivery modalities with targeted learners (e.g. AP, micro-credentials, multi-campus programs, etc.).

7. Develop an full Implementation plan for the realization of these recommendations, including timeline, next steps, resources, structural considerations, responsible parties, etc.

8. Develop a full assessment plan and process for the above recommendations to improve our understanding of how programs support employer needs. Assessment will also support communication efforts in maintaining ongoing outreach to employers.

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University of Maine System Board of Trustees
Preliminary Workforce Engagement Report
March 25, 2019

Authored by
Kay Kimball, Robert Placido, Bob Neely, Rosa Redonnett, and Jim Thelen

In December 2018, the University of Maine System Board of Trustees adopted the *Declaration of Strategic Priorities to Address Critical State Needs* ("Declaration"). The Declaration called on UMS senior and campus leadership to undertake a series of coordinated strategic actions to achieve the Board's 2016 Primary and Secondary Outcomes by:

- Advancing Workforce Readiness and Economic Development
- Increasing Maine Educational Attainment
- Aligning Academic Programs and Innovation to Drive Student Success and Employer Responsiveness
- Maintaining Competitiveness and Sustainability to Meet Critical State Needs

As one of the ways to meet the goal of Advancing Workforce Readiness and Economic Development, the Declaration called on UMS to create effective partnerships and feedback loops with each major industry and employment sector that align priority program instruction, including experiential learning opportunities, with UMS capacity and workforce needs in order to maximize student employment readiness and executive and professional development and advancement. The Declaration stated the expectation that every UMS program should have the means to acquire continuous feedback from relevant market segments and provide meaningful work or professional development-related experiences for its students.

The Declaration charged the Chancellor, working with senior leadership and using the most relevant current market data, to deliver a Workforce Engagement report to the Board that prioritizes programs and associated industries that maximize workforce impact and business and economic development, and that includes a gap analysis of UMS capacity with recommended steps for achieving full engagement, program alignment mechanisms, pathways for experiential learning opportunities, etc.

UMS's Vice Chancellor for Academic Affairs and Chief of Staff and General Counsel chartered a working group consisting of the above-named authors to prepare and present this preliminary report. An implementation plan should follow to consider and realize the recommendations provided in Section V below.

TABLE OF CONTENTS

I. EXECUTIVE SUMMARY

A detailed quantitative analysis of workforce needs in Maine relative to the ability of higher education to meet those needs yielded significant insight into the complexity of linking skills, programs, jobs, etc. As described throughout the report, answers relative to programming needs coupled with workforce need can vary depending on the granularity of analysis, criteria used, and the specific questions asked. Nonetheless, the following general observations emerged from the aggregate effort to understand workforce linkages to UMS programs:

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With respect to programs, it seems clear that the UMS must continue to invest in health care (particularly nursing), data and computer sciences (particularly cybersecurity), and special education, as well as selected engineering programs, and business administration and management. The UMS can also rapidly realign policies (e.g., program development) and processes (e.g., advising and career planning/services) to take advantage of powerful, analytical tools to better serve students and employers. Additionally, program development and review must consider market realities in proposal and assessment plans, and career services, advising, and academics must be more fully integrated to optimize student completion and job placements. Finally, a closer alignment between programming and employer needs requires a better understanding of regional campus-community relationships, continued focus on "measuring and documenting" basic skills achievement in both the liberal arts and professional disciplines, qualitative and quantitative understanding of program outcomes, and a long-term plan of action to address Maine's economic needs that involves ongoing collaboration between universities, state agencies, employers, and community and regional organizations.

Finally, although not undertaken in response to the Board's December 2018 Declaration, all System campuses report a variety of workforce engagement efforts already underway across the state. These reports, included as an Appendix at the end of this report, describe an impressive array of workforce engagement activity with local, regional, and statewide impact.

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II. INTRODUCTION

The Declaration's charge was to use "the most relevant current market data" to deliver a "Workforce Engagement report that prioritizes programs and associated industries that maximize workforce impact and business and economic development, and that includes a gap analysis of UMS capacity with recommended steps for achieving full engagement, program alignment mechanisms, pathways for experiential learning opportunities, etc." Although this assignment targets gaps between employer needs and UMS programs, both the work in preparing this report, as well as the recent completion of the Lumina-funded rural credentialing project, entitled *Dig Where you Stand*, has provided new insights to the broader challenges, needs, and methods for more strategic alignment between UMS academic programming and State of Maine economic/workforce development needs.

In a recent analysis of workforce needs, the Hanover Research organization (2015) emphasized that partnerships with industry and professional organizations are essential to ensuring the legitimacy of training content and design to both employers and future job candidates. At the highest level of consideration, such advice is well-founded, if not intuitive, and it finds recognition, too, in the State of Maine's higher education statement of public policy, which calls for "cooperative undertakings among the higher educational institutions … and the business, industrial and labor interests to further the development of quality and quantity in educational programs …" Similarly, in the *Chronicle of Higher Education*'s report on serving adult students (2018), partnerships are emphasized among institutions of higher education, state agencies, non-profit groups and the business sector; in fact, the Chronicle emphasizes that universities cannot serve adults -- and by extension meet state economic/workforce needs -- by themselves. Our own Adult Credential and Degree Completion report and recommendations, both in 2013 and 2018, make similar recommendations and our work with MaineSpark and Maine Adult Promise further reinforce this necessity.

Only when one begins to take a more granular approach to the alignment of workforce needs and academic training, however, do further challenges emerge. Hanover (2015) notes, for example, that "workforce needs and practices vary significantly by industry," indicating that an "industry-specific" approach is advised for workforce development. For large employment sectors, even considered down to the level of specific occupations, this kind of "industry-specific" alignment is becoming easier with data-mining tools such as are available from Burning Glass Technologies,[1] which allow for targeted analyses of the skills and competencies most often requested for specific posted job openings. Whether this approach works well for rural communities and small businesses is less clear.

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1 Board members will recall a presentation from Burning Glass's CEO, Matt Sigelman, in Farmington in September 2017, during which Sigelman reviewed New England and Maine job openings data sets and the data mining capabilities available to determine current labor market skill and educational needs and model future needs.

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For small businesses in New England, the preliminary findings in the draft report *Dig Where You Stand* (*DWYS*, 2019), derived from interactions with employers and professional organizations, reported several challenges unique to rural settings. First, many small business owners either are uncertain of specific skill sets needed in potential employees, or they simply need reliable employees without regard to specific comparisons of educational credentials between applicants (e.g., "Taking time to actually analyze and identify process improvements or even just put some thought into what future business needs might be is a level of strategy that few businesses, particularly the small businesses that dominate rural northern New England, have the capacity to address."). Burning Glass tools are less useful for rural communities and small businesses because jobs are not typically posted online; the *DWYS* report indicates that as many as 85% of jobs are found through personal networking in these communities, a factor heavily influenced by the wide-scale lack of reliable broadband availability in these communities.

The overarching recommendation of the rural credentialing report for northern New England was not necessarily to determine the educational gaps associated with employer needs, but rather to understand the strengths and skills of individuals in rural communities, and to tailor educational needs to address missing skills once identified. Clearly, a two-pronged approach focused on the educational needs of businesses and workers is needed. Both approaches, however, require attention to the cost of education because the shortage of high-paying jobs and overall economic opportunity jeopardizes the ability to meet the obligation of student loans. "The more education young people get, the fewer opportunities exist for them in their home communities" (DWYS, 2019).

Maine lags behind New England in the proportion of the adult workforce with two- and four-year college degrees and advanced credentials (43% vs. 47.6%), putting the state at a competitive disadvantage not only from the perspective of economic and workforce development but also for community and family prosperity. Five counties in Maine have attainment rates below 30% (Aroostook, Oxford, Piscataquis, Somerset and Washington, with the percentage of adults with no college at all ranging from 35% to as high as 46%).[2] Education attainment also varies by race in Maine, with Native American and African American attainment between 25-27%.[3]

Further challenging employers are a wave of retirements, as the "baby boom" generation begins to exit the workforce. Employers are concerned not only with their ability to fill both new and existing positions, but also that those employees entering or newly in the workforce will not have the skills to meet their needs. Several projections suggest that, both nationally and in Maine, there will be significant skills gaps between future job needs and the credential/degree attainment levels of the workforce available to fill them.

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[2] US Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

[3] Lumina Foundation, "A Stronger Nation" Report, Maine's Report 2017

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Following the lead of the Lumina Foundation in its work across the nation, a statewide Workforce and Education Coalition, made up of a diverse set of leaders from education, business, philanthropic, nonprofit and government organizations came together to set a credential/degree attainment goal for Maine and to realize that goal by 2025. This statewide Coalition and work, now called MaineSpark, provides the framework for organizing and aligning work across the state to meet this goal; the UMS adult degree completion work fits as one of the strategic components of that work. In late 2016, the Coalition set a goal for Maine of 60% by 2025. In real terms, and based on a projected approximately 1% growth per year over the time period, this translates into a need for 158,000 more workers in Maine who have a credential of value beyond what they have today. This number does not include the additional workforce lost through retirement, which by some estimates brings the number to over 200,000.

Reaching the MaineSpark's goal will undoubtedly be daunting, but the challenge also comes with a clear opportunity that will benefit the university system as well as the state, with greater enrollments for the former and a better educated workforce and engaged citizenry for the latter. Furthermore, a recent report by the U.S. House of Representatives' Committee on Education and Labor emphasizes the continued relevance and value of post-secondary credentials both to individuals and to employers in need of a skilled workforce (CELR, 2019).

Given the context and challenges discussed in the previous paragraphs in addressing the charge to this group, we took a three-pronged approach to analyzing the gap between UMS academic programs and workforce needs. In doing so, we became aware not only of the "gaps" to be addressed within this report, but also in the UMS's overall capacity to even address the gaps in programming. Thus, to facilitate this work, access to Burning Glass software modules was acquired to complement the workforce analysis recently provided Ruffalo Noel Levitz (Fall, 2018) and recent surveys of UMS workforce engagement by each System campus. Generally, our approach was to:

a. Examine the priority of workforce needs on the basis of volume of job postings;
b. Examine various gaps between number of graduates produced and job postings;
c. Provide examples of ways in which skills sets can be identified for particular job postings;
d. Summarize UMS workforce engagement practices;
e. Offer recommendations for aligning tools and information to UMS policy, program development and evaluation, advising practices, career services, targeted marketing campaigns, etc.

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III. METHODOLOGY

Two sources of information were used in the analyses within this report. First, data provided by the University of Maine System (UMS) and Ruffalo Noel Levitz (RNL) proprietary data were used in conjunction with occupations categories identified by the Lumina-funded Credential Engine project. Second, two proprietary Burning Glass (BG) modules, Labor Insight and Program Insight, were used to create a more detailed and nuanced profile of selected programs in the context of market demand within the state.

A. Abbreviations/Definitions

SOC: Standard Occupational Classification. The SOC classification system is a United States government system of classifying occupations. It is used by U.S. federal government agencies collecting occupational data, enabling comparison of occupations across data sets.

CIP: Classification of Instructional Programs. The CIP classification system is a taxonomy of academic disciplines at institutions of higher education in the United States and Canada, originally developed by the United States Department of Education's National Center for Education Statistics (NCES).

B. Ruffalo Noel Levitz Analyses

Data: RNL data contained total applications and enrollments in academic year 2017 from all seven UMS institutions. These applications and enrollments where broken down by academic program. RNL proprietary data consisted of occupational employment data on the average number of job openings annually in in Maine and in New England for occupations that typically hire graduates with the listed program (major) and the number of degrees awarded by any institution in the State of Maine and New England.

Linking**:** The UMS and RNL data were linked by Classification of Instructional Programs (CIP) codes. CIP codes are established and maintained by the Department of Education to provide a standard definition of academic fields of study. CIP codes are a six digit number that are organized into categories of fields. These categories are designated by the first two number of the CIP code. For example, the number 40 represents Physical Sciences. The CIP categories range from 01 Agriculture to 60 Residency Programs.

Categories*:* The CIP categories were too broad for the purpose of this analysis, so the CIP categories were aligned with categories used by the Credential Engine project, ultimately, these categories were subdivided a bit further on the basis of preliminary findings, and grouped into the following summary categories: Business, Computer and Information Systems, Education, Engineering, Professional and Social Services, Health, Mental Health, Life and

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Biology, and Essential Skills. These summarized categories were chosen because they represent the industry sectors that are common topics of the national narrative around workforce. An attempt was made to align the summarized categories with other strategic priority work, such as, the micro-credential strategy.

C. Burning Glass Analyses

Burning Glass (BG) is a company that uses artificial intelligence to automatically gather data on job postings across the country. BG analyzes over a millions job postings and parses out certain information. Some of the data they isolate includes: the essential duties and salary of the job and the skills, experience, and educational requirements. All this information is then combined with other public and private data sources. For example, BG links the job postings to degrees required and then degrees to Integrated Postsecondary Education Data System (IPEDS) data to find degree conferrals at every higher education institution. These linkages provide insight into the workforce demand for jobs as well as the outlook of what degrees and skills are being sought, how many degrees are being created, and who is conferring these degrees, as just one example.

BG provides platforms that present their data to different constituents. The two platforms purchased by the UMS are *Program Insight* and *Labor Insight*. The *Program Insight* platform provides flexible searching in a large variety of academic programs, fields, and disciplines, as well as by degree (including required or additional micro-credentials and certifications). The platform also provides the ability to search by state, metropolitan areas, counties, or some combination of those categories. *Program Insight* provides data relevant to academic programs (e.g., nursing, engineering). UMS academic leaders can now easily research what students can expect to earn, what companies hire and for which jobs, what other institutions offer similar programs, and what is the overall national and regional demand for their program, all in one place.

BG's *Labor Insight* Platform complements the *Program Insight* Platform by adding more detail about industry demand in jobs, skills, and education. One distinguishing feature of the *Labor Insight* Platform is the "related jobs" feature, which identifys areas of employment related to the occupation being researched and provided another level of exploration and analysis. The *Labor Insight* platform identifies specific skills sets that add value to an academic degree or provide a job candidate with an advantage in various positions. Both platforms include workforce projections, and provided multiple ways to combine and align searches to address increasingly refined queries.

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D. Analytical Limitations

1.   The Ruffalo Noel Levitz (RNL) data for job openings are an overestimate of the total openings, because the same occupation can be mapped to multiple academic degree-granting programs AND the same degree-granting program can be mapped to multiple occupations.

2.   The mapping between RNL data and UMS data only includes academic programs that exist in the UMS inventory. In other words, the analysis does not include data on job openings without a matching UMS academic program.

3.   Burning Glass employment data only includes job listings that were posted online, but missed in-print postings and informal job searching networks, thereby reducing applicability in more rural areas of the state where Internet-based job postings and recruiting are far less prevalent.

4.   UMS institutions use CIP codes for all academic programs. These are matched to SOC codes, which are maintained by the Department of Labor. The crosswalk between the two is not always precise, however, and some critical misalignment can occur that may impact an analysis of the resulting data.

IV. FINDINGS

A. Maximizing Workforce Impact: A Regional Analysis

Burning Glass data and tools were utilized in a regional job analysis for the State of Maine to better understand and prioritize programs and associated industries to maximize workforce and economic impacts. Such analyses could easily be replicated for any geographic region. In this analysis, the single criterion of frequency of job postings was used for understanding priority needs. Selection of different criteria for prioritization would likely yield different results, e.g., criteria such as frequency of specific skills or competencies, criteria determined from gaps between graduates and job postings (see following sections), criteria determined on the basis of difficulty in filling a position, such as days between posting and filling a position, etc.

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Figure 1: Frequency of job postings in Maine for between March 1, 2018 and Feb. 28, 2019.

The jobs are categorized into the following occupations

Occupation	Postings
Registered Nurses	8,263
Retail Salespersons	2,778
Heavy and Tractor-Trailer Truck Drivers	2,498
Nursing Assistants	2,060
First-Line Supervisors of Retail Sales Workers	1,767
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	1,681
Critical Care Nurses	1,590
Physical Therapists	1,557
Customer Service Representatives	1,449
Nurse Practitioners	1,429
Managers, All Other	1,214
Medical and Health Services Managers	1,171
Software Developers, Applications	1,130
Licensed Practical and Licensed Vocational Nurses	1,092
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	1,028
Personal Care Aides	971
Occupational Therapists	964
Bus and Truck Mechanics and Diesel Engine Specialists	862
Physicians and Surgeons, All Other	809
Combined Food Preparation and Serving Workers, Including Fast Food	792
Laborers and Freight, Stock, and Material Movers, Hand	778
Childcare Workers	699
Nannies	681
Internists, General	677
Stock Clerks, Sales Floor	677

Between March 1, 2018 and Feb. 28, 2019, 87,361 jobs were posted in Maine. As depicted in Figure 1, the clear front-runner for meeting workforce need was in the area of nursing (8,273 postings). The number of online job postings for Registered Nurses is almost three-fold greater than the next closest occupations in retail sales. The demand for nursing expertise is not limited to RNs, with need for nursing assistants, critical care nurses, and nurse practitioners all occurring in the top 10 occupational postings in Maine. Perhaps more generally, Figure 1 demonstrates a broader need in specific health fields of nursing, physical and occupational therapy, personal care and physicians. And, in those occupations requiring post-secondary education, there is a need for managers, including medical and health service managers, sales, and software developers.

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Our analysis of job postings by industry category parallels the frequency of occupational postings, with Health Care and Societal Assistance and Retail Trade dominating the number of job openings (Figure 2). Interestingly, areas of software development, computer science, analytics, etc. do not emerge necessarily as a separate industry category in this particular analysis (Figure 2); however, a separate Burning Glass analysis of "job families" (Table 1) demonstrated that 4,764 jobs were posted in Maine in 2017 in the computer and mathematical family of jobs, which by example includes software developers, computer system analysts and support specialists, IT project managers, web developers, computer science engineers, etc. The rank order of the top 10 job families most in demand in Table 1 generally parallels the job posting analysis in Figure 2 for specific industries.

Figure 2: Frequency of job posting in specific industry categories in Maine in between March 1, 2018 and Feb. 28, 2019.
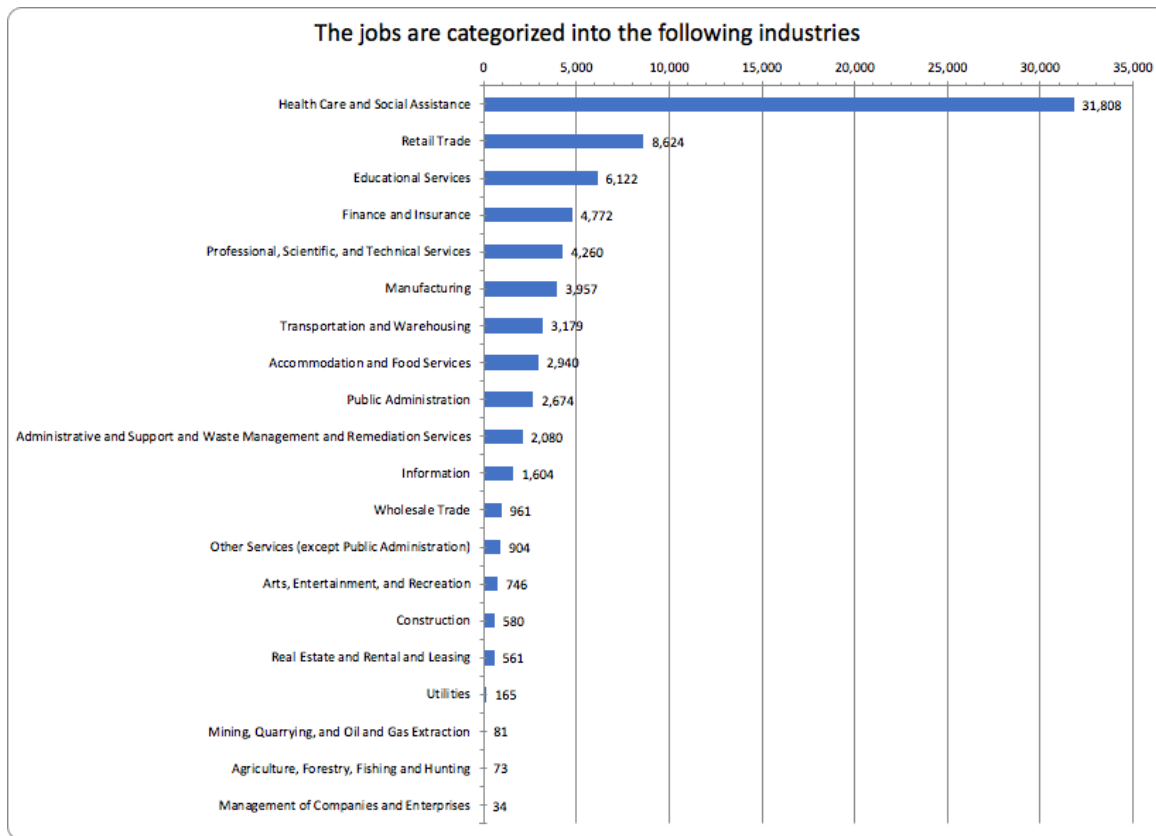
Table 1: Top 10 job families (O-NEt) ranked by frequency of job postings in Maine between March 1, 2018 and Feb. 28, 2019.

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Occupation Family	# of Postings
Healthcare Practitioners and Technical	23,039
Sales and Related	8,314
Office and Administrative Support	7,052
Management	6,991
Transportation and Material Moving	4,734
Computer and Mathematical	4,764
Business and Financial Operations	3,416
Education, Training and Library	3,334
Personal Care and Service	3,217
Healthcare Support	3,193

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With respect to education (when an education level was specified), 29,940 jobs in Maine required post-secondary education of an associate's degree or higher. Of these, 13,339 required at least a bachelor's degree, and 4,688 required a master's or doctoral degree. Regarding specific skill requests, basic skills of communication, teamwork, problem-solving, organization, planning, etc. emerged as preferences (Table 2). These findings align with multiple other studies regarding an education in the liberal arts and employer needs. With respect to more technical skills in software and programming, competence with Microsoft products is clearly a preference in job postings; however, the difference between # of job postings requesting expertise with Microsoft Word versus word processing is a curiosity. More technical skills involving JAVA, Oracle, and SQL are an important need, but not to the degree of more generic desktop computer applications. Our analysis of "skill clusters" was tightly aligned with the earlier analyses of job postings, industry and job families (Figure 3), aligning with customer service and support, sales, healthcare, administration, productivity tools, etc.

Table 2: Most-often requested basic and technical skills within job postings in Maine between March 1, 2018 and Feb. 28, 2019.

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Basic Skills	# of Postings	Software/Programming Skills	# of Postings
Communication	21,626	Microsoft Excel	5,781
Teamwork	10,239	Microsoft Office	4,920
Problem-solving	8,727	Microsoft Word	2,444
Organizational Skills	8,292	Microsoft PowerPoint	2,101
Physical Abilities	8,029	SQL	1,645
Planning	7,997	Word Processing	1,418
Computer Literacy	7,033	Software Development	845

Detail-oriented	6,544	JAVA	765
Microsoft Excel	5,781	Microsoft Access	739
Writing	5,662	Oracle	722
Research	5,490	Microsoft Outlooks	642

Figure 3. Most-often requested specialized job skills within job postings in Maine between March 1, 2018 and Feb. 28, 2019.

The following skill clusters are most requested

Skill Cluster	Value
Customer and Client Support: Basic Customer Service	15,231
Sales: General Sales	9,912
Administration: Scheduling	8,972
Health Care: Basic Patient Care	8,695
Information Technology: Microsoft Office and Productivity Tools	8,515
Health Care: Medical Support	8,469
Health Care: Emergency and Intensive Care	8,230
Health Care: General Medicine	5,977
Administration: General Administrative and Clerical Tasks	5,735
Education and Training: Teaching	5,342

In summary, general priorities for the University of Maine System that emerge from this regional analysis include:

- Preparing health care providers, particularly nurses, but with opportunities in other disciplines such as occupational therapy, physical therapy, health care management, and personal care.

- Ensuring that students can document possession of basic skills involving such things as teamwork, collaboration, communication, problem-solving, etc. Such documentation aligns well with Board of Trustee expectations for a micro-credentialing framework to be developed across the UMS.

- Ensuring that students have ample experience with basic Microsoft products.

- Ensuring that students gain competencies within coding and database skills. Although the data are mixed in these analyses, the job family and technical skill analysis demonstrate a demand for graduates in the information sciences, with an array of coding and database skills.

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B. Using Credential Engine Job Categories to Evaluate Specific Workforce Needs

1.   Computer Science

On the basis of the Ruffalo Noel Levitz information, with the possible exception of management and administration, and general mathematics, employment opportunities in both Maine and New England are relatively strong (Table 3). On the basis of CIP code matches, the most obvious opportunities are in the general fields of computer science and information technology in which job posting exceed degrees awarded by 19.6-fold and 6.2-fold, respectively. Information security and information assurance also suggest strong demand (98-fold); however, the number of jobs posted were few in comparison to both computer science and information technology (i.e., 98 openings in security/assurance versus 4,269 in computer science and 843 in information technology).

Example Burning Glass Job Analysis: In contrast to our SOC:CIP groupings and use of RNL data for 2017, an even more optimistic interpretation emerges when exploring specific occupations. For example, the UMS is investing in, and developing programs for, careers in cybersecurity. Thus, the question arises: *Is this a sound strategy for UMS?* On the basis of Burning Glass models, the answer is an unequivocal "*yes*" -- The Burning Glass data indicate 6,983 job listings within the New England states over the past year, 85.5% of which only required a bachelor's degree. Furthermore, job growth in cybersecurity was projected to grow 25.2% over the next 10 years. Within Maine, 220 jobs were posted for such careers in the same time period; however, such postings were exceptionally localized, primarily occurring in the counties of Cumberland (69), Kennebec (78), and Penobscot (12).

Table 3: CIP Code Category: Computer/mathematics. Undergraduate degrees awarded versus job openings in Maine (ME) and New England (NE) for 2017.

Program	2017 Apps	2017 Enrl	ME Jobs	ME Awards	NE Jobs	NE Awards	ME Δ	NE Δ
Computer Science and Mathematics Category	**1263**	**288**	**506**	**235**	**7927**	**4398**	**271**	**3529**
Computer and Information Systems Security/Information Assurance.	188	65	2	1	178	80	1	98
Computer Programming, Specific Applications.	19	2	0	0	9	4	0	5
Computer Science.	756	128	301	83	6263	1994	218	4269
Computer/Information Technology Services Administration and Management, Other.	35	12	0	4	0	23	-4	-23

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Information Technology.	95	36	169	34	1100	257	135	843
Mathematics, General.	170	45	33	113	377	2040	-80	-1663

2. Life and Biological Science

In general, the Ruffalo Noel Levitz data suggest an overproduction of undergraduate degrees in the life and biological sciences when aggregated in both Maine and the greater New England region (Table 4). This observation is particularly true for the general category of biological sciences, as well as other general categories, e.g., biochemistry, chemistry, environmental studies and science, exercise physiology, geology, physics, etc. To some degree, even though these are important scientific disciplines, the results are not surprising given that such disciplines more often than not require advanced graduate degrees for employment. In some cases, however, in those disciplines tied to health and medical sciences, the number of undergraduate degrees lags behind the potential openings, e.g., microbiology and health fitness.

Example Burning Glass Job Analysis: Although the general outlook for occupations in the life & biological science disciplines does not seem optimistic according to the generalized crosswalk between CIP and SOC codes of undergraduate degrees conferred and job postings, a deeper programmatic analysis via Burning Glass in specific occupational areas results in a somewhat more positive outlook. For example, a programmatic area with special relevance to Maine is "Marine Biology and Biological Oceanography" (CIP Code: 26:1302). According the the RNL analysis, this category suggests an overproduction of graduates relative to postings (-8). On the other hand, the BG data indicate that for job postings in Maine for Marine Biology/Biological Oceanography, 508 openings for bachelor degree holders alone were posted over the past 12 months (191 of which were in Cumberland county), and 62 openings for applicants with a master's degree were posted. Furthermore, the Burning Glass models predicts "high" job growth for this CIP code projected through 2027. Either approach (i.e, BG or RNL) is limited by the linkage between a degree earned and career entered. Many degrees, such as Accounting, have a clear map between degree earned and potential career. However, students earning degrees like Marine Biology/Biological Oceanography often go into fields that aren't directly related. For example, among these Marine Biology/Biological Oceanography 508 openings, the greatest speciality was for Clinical Laboratory Technologists and Technicians. To complicate matters, Clinical Laboratory Technologists and Technicians come from other programs (e.g., Biology). This means the openings represent many degrees and vice versa (degrees can present many openings). In other words, the programs in one discipline may provide other professional opportunities in other disciplines (e.g., 208 postings in Maine for medical technologists over the last year).

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Table 4: CIP Code Category - Life/Biological Sciences. Undergraduate degrees awarded versus job openings in Maine (ME) and New England (NE) for 2017.

Program	2017 Apps	2017 Enrl	ME Jobs	ME Awards	NE Jobs	NE Awards	ME Δ	NE Δ
Life and Biological Science Category	**4082**	**700**	**215**	**892**	**2818**	**9466**	**-676**	**-6647**
Biochemistry.	312	47	2	66	17	520	-64	-503
Biology/Biological Sciences, General.	1949	299	71	267	1032	3962	-197	-2930
Botany/Plant Biology.	50	6	0	4	1	16	-4	-15
Chemistry, General.	167	27	27	48	511	946	-21	-435
Environmental Science.	453	70	12	81	141	632	-69	-491
Environmental Studies.	82	18	22	102	177	654	-80	-477
Exercise Physiology.	83	24	0	0	8	240	0	-232
Forestry, General.	129	34	7	14	11	25	-7	-14
Geological and Earth Sciences/Geosciences, Other.	77	9	0	0	7	37	0	-30
Geology/Earth Science, General.	69	15	13	86	70	331	-73	-261
Health and Physical Education/Fitness, General.	2	2	12	0	398	229	12	169
Marine Biology and Biological Oceanography.	7	2	1	9	6	79	-8	-73
Microbiology, General.	42	8	8	4	133	83	4	50
Molecular Biology.	57	11	0	5	10	139	-5	-129
Parks, Recreation and Leisure Facilities Management, General.	35	6	0	11	0	340	-11	-340
Parks, Recreation and Leisure Studies.	18	4	11	56	105	402	-45	-297
Physical Sciences.	29	8	2	6	10	42	-4	-32
Physics, General.	124	27	16	48	126	616	-32	-490
Wildlife, Fish and Wildlands Science and Management.	198	46	12	70	39	120	-58	-81

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Wood Science and Wood Products/Pulp and Paper Technology.	0	0	0	0	0	0	0	0
Zoology/Animal Biology.	199	37	0	15	16	53	-15	-37

3. Health

In the category of health disciplines and occupations, the RNL data yielded some surprising results that are not necessarily aligned with outcomes from other analyses (Table 5). Although the RNL data did show a significant gap between awards and job postings in this category (107 more jobs than degrees in Maine, and a 784 more overall jobs in New England), of the 11 areas identified by RNL, only two categories, i.e., Registered Nursing/Registered Nurse and Clinical Laboratory Science/Medical Technology/Technologist showed an under-production of degrees. In fact, the large gap between degree awards and job postings for nursing alone was large enough to offset overproduction of graduates in other areas of health occupations.

Example Burning Glass Job Analysis: Although we have no reason to doubt the RNL data, our aggregated information under a health category does demonstrate the likely pitfalls of using general categories and not having a clear crosswalk between CIP and SOC codes; in other words, a more granular approach is needed for any specific occupation. In comparison to the 11 categories we used from the RNL data, BG lists more than 100 health care occupations alone, allowing for a much deeper understanding of the job market and its alignment with educational programs. For example, using "physical therapist" in an analysis with the Burning Glass software would yield a different understanding. In the RNL data, the broad category of "rehabilitation science" suggests that more degrees are produced than job openings posted annually (-21 and -48 for Maine and NE, respectively). Using the occupation of "physical therapist" as a specific example, which falls into a CIP Code for "Rehabilitation and Therapeutic Professions, however, a different picture emerges with the narrower Burning Glass approach. In Maine for the past 12 months, 1,557 openings for a physical therapist were posted (79.9% at the master's level, and 20.1% at the doctoral level (DPT - doctorate of physical therapy), with only 100 degrees (DPT) conferred by UNE and Husson University. Job growth for physical therapists is projected to grow by 14.9% over the next decade. As noted for other occupations, job postings for physical therapists are particularly localized, e.g., 314 in Cumberland county, 210 in Penobscot county, 150 in York county on the high end versus only 54 openings in Aroostook county.

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Table 5: CIP Code Category - Health. Undergraduate degrees awarded versus job openings in Maine (ME) and New England (NE) for 2017.

Program	2017 Apps	2017 Enrl	ME Jobs	ME Awards	NE Jobs	NE Awards	ME Δ	NE Δ
Health Category	**4016**	**819**	**903**	**796**	**7951**	**7167**	**107**	**784**
Allied Health Diagnostic, Intervention, and Treatment Professions, Other.	226	73	0	67	0	122	-67	-122
Athletic Training/Trainer.	623	107	10	54	90	400	-44	-310
Clinical Laboratory Science/Medical Technology/Technologist.	99	20	64	5	381	101	59	280
Communication Sciences and Disorders, General.	91	24	0	27	0	280	-27	-280
Community Health Services/Liaison/Counseling.	38	17	35	26	85	166	9	-81
Dental Hygiene/Hygienist.	32	4	0	51	0	197	-51	-197
Health Information/Medical Records Administration/Administrator.	15	0	3	0	4	2	3	2
Registered Nursing/Registered Nurse.	2729	526	787	527	7321	5768	260	1553
Rehabilitation Science.	53	17	0	21	1	49	-21	-48
Therapeutic Recreation/Recreational Therapy.	18	9	4	18	70	19	-14	51
Veterinary/Animal Health Technology/Technician and Veterinary Assistant.	92	22	0	0	0	63	0	-63

4.   Engineering

As a general category, Engineering does not suggest an aggregate need for more graduates in either Maine or New England, with substantially more degrees being awarded than job openings occuring on an annual basis (Table 6). The picture changes when engineers are disaggregated according to speciality. First, the gaps for any one specialty are generally small in Maine (larger gaps for New England), but need exists in both Maine and New England in the areas of civil engineering, computer engineering, and electrical/electronics engineering, with significant demand in the greater New England region for the latter two specializations. Surprisingly, the demand for bioengineering/biomedical engineering, chemical engineers, and mechanical engineers is particularly low throughout New England.

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Example Burning Glass Job Analysis: The RNL analysis indicated 90 job openings for mechanical engineers in Maine in 2017. Over the past 12 months, the Burning Glass analysis indicates 201 openings advertised for mechanical engineers with modest job growth expected during the next decade (+4.1%). The advertised education level for mechanical engineers was almost exclusively for bachelor's trained applicants (97%). As noted previously, the majority of openings are concentrated in Cumberland (83), York, (41) and Kennebec (32) counties.

Table 6: CIP Code Category - Engineering. Undergraduate degrees awarded versus job openings in Maine (ME) and New England (NE) for 2017.

Program	2017 Apps	2017 Enrl	ME Jobs	ME Awards	NE Jobs	NE Awards	ME Δ	NE Δ
Engineering Category	**3124**	**705**	**322**	**467**	**5684**	**6071**	**-145**	**-387**
Bioengineering and Biomedical Engineering.	252	49	5	24	285	580	-19	-295
Chemical Engineering.	204	41	8	40	125	614	-32	-489
Civil Engineering Technology/Technician.	0	0	0	32	0	44	-32	-44
Civil Engineering, General.	403	94	90	64	1078	922	26	156
Computer Engineering, General.	219	42	35	14	1170	367	21	803
Construction Engineering Technology/Technician.	99	22	0	0	3	0	0	3
Electrical and Electronics Engineering	247	56	48	45	1371	884	3	487
Electrical, Electronic and Communications Engineering Technology/Technician.	47	10	0	24	0	101	-24	-101
Engineering Physics/Applied Physics.	47	9	9	10	16	25	-1	-9
Engineering Technology, General.	18	2	0	0	0	0	0	0
Engineering, General.	601	111	6	3	137	213	3	-76
Industrial Technology/Technician.	13	10	0	36	0	86	-36	-86
Mechanical Engineering.	847	210	81	113	1305	2030	-32	-725
Mechanical Engineering/Mechanical Technology/Technician.	95	34	0	53	0	196	-53	-196
Surveying Technology/Surveying.	32	15	41	9	195	9	32	186

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Board of Trustees Meeting - ATTACHMENTS

5. Education

Openings in multiple education fields show great promise overall for graduate placements and growth across the system both in Maine and New England with the highest growth potential in elementary teaching, physical education and coaching, and special education (Table 7). Maine needs three times the number of current graduates in elementary education, nearly five times the number in physical education, and an astonishing thirty times the current number in special education. Even art and music teachers are not graduating in sufficient numbers to fill state and regional needs by a roughly two to one ratio. One curiosity in the data is in the field of science education, which indicates Maine has no openings in that field and had no graduates last year, while New England as a region had more openings than graduates. This is likely the result of imperfect code matching combined with job listings in Maine that did not specify that category reflecting, perhaps in part, the different needs of rural schools.

Example Burning Glass Job Analysis: Data derived from the Burning Glass program platform revealed 228 position announcements in the state for Special Education last year. This compares favorably with the 154 listed in the RNL research from the previous year. The regional landscape is somewhat competitive; however, with 28 institutions supplying 365 graduates for 4,954 job postings there is great opportunity for Maine to expand more aggressively into this field. In the state itself, the University of Maine at Farmington provides the most graduates, granting 16 of the 17 degrees conferred last year, but is not by itself keeping up with demand. Demand in the state is concentrated in southern Maine, specifically Androscoggin, Cumberland, and York counties. A bachelor's degree was sufficient for nearly 80% of these positions, although a specific certification in Special Education provides candidates with a competitive advantage in employment. Frankly, that may not mean much given the vital need for more Special Education teachers in the state and region. Additionally, the field is expected to grow 7.4% over the next ten years in the state, and 7.8% in New England.

Table 7: CIP Code Category - Education. Undergraduate degrees awarded versus job openings in Maine (ME) and New England (NE) for 2017.

Program	2017 Apps	2017 Enrl	ME Jobs	ME Awards	NE Jobs	NE Awards	ME Δ	NE Δ
Education Category	**2150**	**501**	**978**	**379**	**7904**	**3218**	**599**	**4686**
Art Teacher Education.	84	15	28	13	215	94	15	121
Early Childhood Education and Teaching.	186	63	82	49	452	599	33	-147
Education, General.	182	22	0	23	0	281	-23	-281
Education/Teaching of Individuals in Early Childhood Special Education Programs.	40	14	0	17	9	42	-17	-33

Elementary Education and Teaching.	706	153	315	109	2929	1042	206	1887
Music Teacher Education.	117	35	46	25	310	124	21	186
Physical Education Teaching and Coaching.	290	47	307	64	1691	381	243	1310
Science Teacher Education/General Science Teacher Education.	20	6	0	0	45	27	0	18
Secondary Education and Teaching.	464	127	21	72	45	247	-51	-202
Special Education and Teaching, General.	51	15	154	5	1837	368	149	1469
Technology Teacher Education/Industrial Arts Teacher Education.	10	4	24	2	371	14	22	357

6. Mental Health

On the basis of these data, the mental health field looks bleak for Maine graduates with a large oversupply compared to job openings across the board (Table 8). Even the area of mental health services technician suggests there were zero openings against 110 graduates in Maine. Interestingly, Maine was the only New England state producing those graduates, which suggests this data gap results from the limitations of the CIP and SOC crosswalk. A cursory Google search reveals dozens of postings for Mental Health Rehabilitation and Behavioral Health Technicians in the state, some with signing bonuses, particularly in the Portland and Augusta areas. Nearly all require MHRT-1 certification, which is available across the system including via distance modalities. Given this context, it seems likely that the UMS isn't producing enough graduates for those jobs, but may have the capacity for doing so. Additionally, mental health counseling is not listed as a discrete field, but it is seen as a growth area in the state, and many of our psychology programs include counseling tracks and courses to help prepare students to meet that need, even at the baccalaureate level.

Example Burning Glass Job Analysis: Burning Glass data were sparse for fields in this category, although there were a combined 95 job postings in Mental Health / Counseling and Substance Abuse Counseling last year. With 14 institutions in the state conferring 543 degrees in 2018, however, competition is fierce. Although employment trends nationwide are promising, the BG data did not include regional or state projections. Given what we know about the state, and the need for mental health care overall, the lack of data on both BG and RNL platforms is frustrating. Positions posted last year in the above two counseling fields were concentrated in Penobscott, Knox, and Cumberland counties with scattered postings in Aroostook, Washington, and Franklin counties. With a median salary at the baccalaureate level of $27,000 the hiring potential seems disappointing if not grim, particularly in an environment of relatively high employment despite the ratio of graduates to jobs. Given the opioid epidemic in Maine, the high demand for mental health counseling in our own institutions and elsewhere, the results in this category demonstrate the limitations of the data to provide a full view of the need for skilled

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counselors in the state. The data are only one source of information, and do not tell the whole story of what Maine communities need, and how the UMS can provide it. Here, as in elsewhere, our campuses both hire and provide professionals to our communities as part of our service and educational mission, and will continue to do so.

Table 8: CIP Code Category - Mental Health. Undergraduate degrees awarded versus job openings in Maine (ME) and New England (NE) for 2017.

Program	2017 Apps	2017 Enrl	ME Jobs	ME Awards	NE Jobs	NE Awards	ME Δ	NE Δ
Mental Health Category	**1777**	**337**	**112**	**713**	**1155**	**11571**	**-601**	**-10416**
Community Psychology.	19	6	63	208	661	3314	-145	-2653
Psychiatric/Mental Health Services Technician.	261	94	0	110	0	110	-110	-110
Psychology, General.	1497	237	49	395	494	8147	-346	-7653

7.   Social Services and Professional Services

At first blush, the social and professional services categories appear to indicate minimal growth potential for the UMS with a moderate to significant overproduction of degrees in nearly all fields (Tables 9a and 9b). Even popular bread-and-butter fields like criminology and criminal justice underperform in terms of job openings in Maine and New England. Within the data, however, are some critical findings for the state and region, most notably in the area of social work, which has more than three times the number of openings than the number of graduates in the state. Other careers with less potential, but some growth, can be found in public administration (which would include some leadership and management training and thus overlap with some business fields) and the general domain of social sciences (which would be applicable to different careers depending on context and specific job requirements). Numbers and disciplinary designations in a few cases (especially those marked "other") seem to indicate the awkwardness of aligning SOC and CIP codes in those areas. Additionally, the UMS is planning to launch an awareness campaign focused on public safety by identifying the connections between a variety of UMS programs (many within this category) and community need, which might affect how some of these jobs are described in the near future.

Example Burning Glass Job Analysis: Scattered across Cumberland, York, Penobscot, Aroostook, and Franklin counties are 29 job listings for public safety officers requiring a baccalaureate degree. With 15 institutions conferring 664 degrees in multiple fields related to public safety, there seems to be a glutted market. Buried within the data, however, are references to tangential disciplines, including psychology and social work, with only 21% of the

total degrees conferred coming from criminology, criminal justice, and law enforcement disciplines even though the job listings were specifically for police and correctional officers. This demonstrates the overlap among related fields that can cause the data to be less than transparent, but also demonstrates the occupational opportunities available for graduates in those related fields. This is also an example of the imprecise mapping between programs and occupations discussed in the analytical limitations. Nevertheless, BG data posit a positive hiring trend for the state overall.

Social Services is another area where the lack of crisply defined fields obscures or complicates some of the data. Employment trends are promising, with an expected 4.84% growth over the next ten years, although the number of recent degrees significantly exceeds the available openings. (Interestingly, these data include the Mental Health / Counseling and Substance Abuse Counseling fields noted in the mental health category above.) Fourteen institutions in the state, including five from the UMS, conferred 675 baccalaureate degrees last year. With a total of 240 openings in human services, social work, mental and behavioral counseling, and youth counseling fields, it would appear that the state is producing more graduates than can be placed. Digging a little deeper, however, also indicates that many of those graduates go on to pursue Master's degrees in similar fields; indeed, a Master's degree was listed in nearly 50% of job postings in those fields. Adjusting for the degree required revealed 297 job openings (some of which might have been included in the bachelor's search) with 622 degrees conferred by just 6 institutions. Regardless, the field is expected to grow nearly 5% in the state, and nearly 12% nationwide and, as demonstrated above, the degree itself brings with it employment opportunities in other areas. Nearly every county in the state had a handful of job openings, with Aroostook, Penobscot, Kennebec, Knox, Androscoggin, Cumberland, and York posting positions in the double digits from a low of 14 (Androscoggin) to a high of 93 (Cumberland).

Table 9a: CIP Code Category - Social Services. Undergraduate degrees awarded versus job openings in Maine (ME) and New England (NE) for 2017.

Program	2017 Apps	2017 Enrl	ME Jobs	ME Awards	NE Jobs	NE Awards	ME Δ	NE Δ
Social Service Category	**2183**	**496**	**416**	**975**	**3424**	**14359**	**-559**	**-10935**
Adult Development and Aging.	2	0	0	0	0	5	0	-5
Anthropology, Other.	8	1	0	0	0	1	0	-1
Anthropology.	100	16	8	73	43	622	-65	-579
Criminology.	194	47	4	33	28	555	-29	-527
Economics, General.	127	30	27	252	242	4446	-225	-4204

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Economics, Other.	30	4	1	4	1	4	-3	-3
Geography, Other.	1	1	0	0	0	0	0	0
Geography.	3	0	1	5	17	304	-4	-287
Human Development and Family Studies, General.	118	18	0	53	0	596	-53	-596
International Relations and Affairs.	164	21	3	17	59	872	-14	-813
Political Science and Government, General.	566	115	31	280	211	3327	-249	-3116
Public Administration.	35	11	28	10	57	43	18	14
Social Sciences, General.	77	24	31	24	369	326	7	43
Social Sciences, Other.	207	73	15	40	47	262	-25	-215
Social Work.	372	102	255	79	2214	1012	176	1202
Sociology and Anthropology.	30	9	1	4	3	34	-3	-31
Sociology.	149	24	12	101	131	1950	-89	-1819

Table 9b: CIP Code Category - Professional Services. Undergraduate degrees awarded versus job openings in Maine (ME) and New England (NE) for 2017.

Program	2017 Apps	2017 Enrl	ME Jobs	ME Awards	NE Jobs	NE Awards	ME Δ	NE Δ
Professional Service Category	**330**	**112**	**10**	**133**	**71**	**3057**	**-123**	**-2986**
Corrections and Criminal Justice, Other.	131	24	0	0	0	199	0	-199
Criminal Justice/Law Enforcement Administration.	28	9	10	82	71	1251	-72	-1180
Criminal Justice/Safety Studies.	74	38	0	51	0	1607	-51	-1607
Flight Instructor.	34	11	0	0	0	0	0	0
Library and Archives Assisting.	63	30	0	0	0	0	0	0

8.   Business

The multiple fields represented in the business category display an array of possibilities for Maine and several opportunities for the UMS to provide additional graduates (Table 10). The overall category indicates an undersupply of graduates in the state by greater than half (3628 jobs to 1527 graduates) with business administration and management, accounting, and general financial fields demonstrating the greatest potential for growth. The data show there are fewer than a third the graduates required to fill the business administration positions in Maine and, although the numbers are much smaller, more than six times the number of positions posted than the number of graduates in the general financial areas. The data also contain some promising news for those fine arts students with a business background in that there are three times the number of available positions compared to graduates. The ratios are comparable for New England in those specific fields and, taken altogether, business provides an opportunity for strategic expansion of our programs given the statewide reach of our existing curriculums and their availability via distance modalities.

Example Burning Glass Job and Program Analysis: For the General Business Administration and Management job category, the RNL analysis shows 1455 job openings in Maine in 2017, while, as with other jobs analyzed above, BG data show significantly more postings - 3132. Burning Glass data predict the best 10-year job growth to be for Business Analysts (9.4%) and Marketing Specialists (8.7%), with still higher growth in the Market Research Analyst category (at 13.9%), a subset of the broader Marketing Specialist category. Of the postings available in the Burning Glass data set, nearly 85% (2652 postings) stated a Bachelor's Degree for qualification, while approximately 24% (745 postings) called for an MBA.

These data show a clear case to expand enrollment in Bachelor's and Master's degree programs in General Business Administration. All Maine institutions combined only produced 437 Bachelor's degrees and 218 Master's degrees in 2017, fewer than 20% and 30%, respectively, of the online jobs posted in Maine requiring those degrees. In terms of market share, UMS institutions (UM, USM, and UMA) together produced 60% of the Bachelor's degrees conferred (264 degrees of 437 statewide), but only 19% of the MBAs; in the latter case, Husson University and Thomas College combined to confer nearly 70% of the MBAs awarded in Maine in 2017.

Table 10: Business Category -- Undergraduate degrees awarded versus job openings in Maine (ME) and New England (NE) for 2017.

Program	2017 Apps	2017 Enrl	ME Jobs	ME Awards	NE Jobs	NE Awards	ME Δ	NE Δ
Business Category	6307	1249	3628	1527	46519	29775	2101	16744

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Accounting.	418	83	482	162	5608	2766	320	2842
Actuarial Science.	33	6	17	4	338	69	13	269
Agroecology and Sustainable Agriculture.	48	7	1	1	5	83	0	-78
Animal Sciences, General.	568	94	0	31	0	297	-31	-297
Applied Horticulture/Horticulture Operations, General.	43	8	0	8	0	8	-8	-8
Architecture.	44	14	28	1	403	559	27	-156
Art History, Criticism and Conservation.	15	3	9	17	59	360	-8	-301
Art/Art Studies, General.	99	24	22	63	117	480	-41	-363
Business Administration and Management, General.	2633	558	1455	417	15746	9300	1038	6446
Business Administration, Management and Operations, Other.	90	24	0	37	0	155	-37	-155
Business/Commerce, General.	153	31	165	34	3172	1900	131	1272
Business/Managerial Economics.	115	15	0	14	0	105	-14	-105
Communication and Media Studies, Other.	31	0	0	3	0	219	-3	-219
Communication, General.	216	23	2	3	675	975	-1	-300
Digital Communication and Media/Multimedia.	75	28	1	21	3	101	-20	-98
Drama and Dramatics/Theatre Arts, General.	124	21	27	24	181	563	3	-382
Finance, General.	249	46	635	97	9100	2492	538	6608
Fine Arts and Art Studies, Other.	35	9	378	130	3515	1240	248	2275
Fine/Studio Arts, General.	196	34	3	54	33	742	-51	-709
Food Science.	161	33	5	52	46	92	-47	-46
Intermedia/Multimedia.	12	2	7	8	42	44	-1	-2
Journalism.	132	16	16	23	239	540	-7	-301
Marketing/Marketing Management, General.	365	59	195	136	5588	2412	59	3176

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Mass Communication/Media Studies.	51	22	39	47	140	270	-8	-130
Music Performance, General.	74	20	0	16	22	268	-16	-246
Music, General.	76	16	7	24	147	718	-17	-571
Music, Other.	21	6	0	2	17	167	-2	-150
Organizational Leadership.	42	3	1	2	57	121	-1	-64
Speech Communication and Rhetoric.	79	20	132	82	1259	2563	50	-1304
Tourism and Travel Services Management.	60	19	0	4	1	29	-4	-28
Visual and Performing Arts, General.	49	5	0	10	5	137	-10	-132

9.   Essential Skills

Multiple national studies state forthrightly that employers want their employees to possess a set of essential skills that best positions them for their careers and provides crucial capabilities in the workplace. These are the so-called "soft" skills of creativity, self-motivation, communication, ethics, resourcefulness, collaboration, critical thinking, leadership, and adaptability (AAC&U, 2018; CHE, 2018; HR, 2015; Emsi, 2018). A LinkedIn survey found that 57% of employers identified those essential skills as more significant than specific technical skills (LL, 2018). Another survey of executives and hiring managers, however, revealed a skills gap between what graduates possess when they enter the workforce, and what employers need and value (AAC&U, 2018). All of this is well-established at the national level, yet not fully understood regionally, particularly in rural areas. A recent Lumina-funded study of northern New England found that rural employers in the region do not always know what skills they would like their employees to have beyond the broad ability to do the work assigned (*DWYS*, 2019). Combining our educational and service missions with Maine's rurality challenges us not just to provide qualified graduates, but to help employers better understand and articulate the workforce skills required for them and their employees to thrive.

The essential skills listed above are not confined to the programs listed in Table 11 below, but can be taught and found across and among the disciplines. Although the data for the programs in this category do not depict an optimistic portrait for independent enrollment growth, they obscure the programs' real value. English majors, for example, do not enter a specific profession called "English," but are highly employable in multiple and sometimes surprising professions such as in fundraising, social media, and public relations work (Profita, 2019). Identifying core competencies within these essential skills fields allows alignment of those skills with verifiable workplace needs. Furthermore, history, philosophy, languages, and literature are foundational to the liberal arts and liberal learning, are relatively inexpensive programs to maintain, and provide our graduates with the kinds of essential skills required by employers. It is

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our responsibility to see that those real contributions are conveyed to employers and other constituencies through our focus on workforce development and enrollment growth, and are not eclipsed by that focus.

Table 11: CIP Code Category - Essential Skills. Undergraduate degrees awarded versus job openings in Maine (ME) and New England (NE) for 2017.

Program	2017 Apps	2017 Enrl	ME Jobs	ME Awards	NE Jobs	NE Awards	ME Δ	NE Δ
Essential Skills Category	**1270**	**301**	**183**	**570**	**1903**	**9428**	**-387**	**-7524**
Creative Writing.	99	27	16	30	163	613	-14	-450
English Language and Literature, General.	606	142	54	187	569	2868	-133	-2299
French Language and Literature.	14	4	20	39	119	287	-19	-168
General Studies.	1	0	0	20	0	989	-20	-989
History, General.	375	76	74	175	782	2936	-101	-2154
Linguistics.	82	35	2	13	35	204	-11	-169
Philosophy and Religious Studies, General.	7	3	0	0	0	0	0	0
Philosophy.	45	7	0	46	0	656	-46	-656
Romance Languages, Literatures, and Linguistics, Other.	7	2	0	1	0	5	-1	-5
Spanish Language and Literature.	18	1	17	33	235	615	-16	-380
Women's Studies.	16	4	0	26	0	254	-26	-254

10.   Discussion of Results and Relevance to Maine

The RNL and BG data allowed us to develop significant insights into employment needs, and to identify trends in specific fields that can be further explored to inform program revisions and inspire new program development. While the occasional lack of congruence between the SOC and CIP codes sometimes limited the usefulness of the RNL data, and the BG data had a few gaps that frustrated a full analysis, taken altogether, the data nonetheless revealed some common themes beyond their general applicability to a study of UMS programs and employer needs.

One consistent insight was the necessity for critical skills to be taught across every category we analyzed. Employers need and want employees to be skilled beyond the professional or technical training specific to each field. As discussed in the Essential Skills section above, communications, critical thinking, and related "soft" skills are desirable attributes at all levels of employment in every field. Furthermore, these skills aren't just embedded in academic programming but can be learned through a variety of experiences including internships, non-academic badges and micro-credentials, and in collaboration with UMS partners and Maine employers.

Given the work already underway in a number of related initiatives, the UMS is well positioned to take full advantage of these data-informed insights into skills to address employer needs. In fact, new program development as well as reconsideration of other programs to better align with workforce needs remain a critical component of our work. Some of these changes may come from the Program Innovation and multi-campus collaboration efforts underway, while additional programs may be identified as we further analyze the market research received in August 2018 and as we conduct the review associated with this Workforce Engagement report. Developing a series of "stackable credentials" that enable adult learners to build their attainment across the continuum of credentials, and in accelerated course formats, will be an important additional level of program development that will enable the UMS to better meet the needs of Maine's employers and the educational goals of its people. The work of the Micro Credential Steering Committee will be instrumental in developing the UMS approach to this evolving movement within higher education and will be an important next step in operationalizing some of the recommendations contained within this Workforce Engagement report.

Another theme that emerged from our review of the data was just how localized these findings were. The lesson here is that an analysis of any workforce demand in Maine must be framed and understood within the State's unique context. The "Dig Where You Stand" study certainly underscores that. There are many things that make Maine distinctive, providing both opportunities and challenges in developing the workforce and improving the economy, and it behooves us to remain aware of these distinctions as we work to address employment needs. Not surprisingly, this context is grounded in Maine's geography and population.

According to the Census, the population of Maine was 1.33 million in 2010. Maine has 35,385 square miles of land and 40% (14,052 sqm) of that land is unincorporated. Furthermore, 66% of the population is concentrated in just 20% of the land located in 5 of the 16 counties: Androscoggin, Cumberland, Kennebec, Penobscot, and York. This high versus low density disparity -- demonstrated in our job analyses, as well -- is an important consideration when analyzing workforce data across the State. For example, if an occupation has average annual openings of 1,000 positions, a deeper inspection may reveal that those 1,000 openings are only located in Cumberland County. On the other hand, if just one or two of those openings appear in Aroostook County, more weight needs to be applied because those openings may be the only expertise that county has available in that field. In other words, the comparison of 1,000 openings in Cumberland County and one opening Aroostook County is not valid since the

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volume of positions in Cumberland isn't comparable to the importance of the one position in Aroostook County. BG's ability to provide a county-by-county glimpse into employment needs and trends will be especially useful in better understanding, and addressing, local differences.

Demographic trends -- generalized to the New England region, but also specific to Maine -- further contextualize the theme of localization. Maine is the oldest state in the nation with a median age of 44.6; the numbers of high school/traditional age students is forecast to continue to decline through 2030. The cultural impact of this age gap can be both an opportunity for industries like health care and a challenge for counties to provide adequate social services.

Maine's proximity to more heavily dense areas with more wealth and subsequently more opportunity for high paying jobs is yet another challenge. Maine's youth are subjected to great pressure and temptation to migrate to a city like Boston or New York for high paying jobs. Consider that Boston is less than a two hour drive from Portland and the median salary for a Network Engineer in Boston is $106,730, in Portland is $83,946, and in Aroostook County is $66,345. The resulting "brain drain" chips away at the state's social masonry while negatively impacting the economy. We need to understand this phenomenon and coordinate a response through a set of fully aligned initiatives that will provide opportunities and supports for employers and employees alike.

Indeed, integrating the findings and recommendations of this report with efforts already underway will be daunting but critical to their collective success. As we develop stronger partnerships with Maine's employers and identify the highest need programs within the state, it is imperative that we recognize the interconnections among multiple UMS initiatives that relate to our workforce development and engagement priorities, since these will be instrumental in both optimizing their potential and achieving results.

Addressing the educational needs of Maine's adult population, both those in the workforce or yet to enter, is both an opportunity and challenge for Maine and is a critical call to action for the UMS to adapt to the changing higher education environment and deliver on its promise to make education accessible, affordable, and responsive to the needs of these students across the entire state. Our system-wide focus on Adult Degree Completion (see Adult Degree Completion Report and Recommendations issued in June 2018) represents a major opportunity for the UMS and its campuses to address the educational and workforce development needs of Maine's adult population and incumbent labor force.

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V. RECOMMENDATIONS

As a general matter, an implementation plan developed based on the recommendations that follow cannot be solely an academic initiative, but will require fully integrated and collaborative efforts involving student affairs, enrollment management, career services, financial aid, advising, and related student support services.

1.   Revise procedures, and reconsider policies, to ensure the use of market data (e.g., Burning Glass) in program development and review, projections and planning, career services, advising, programs for examination, and likely other areas (e.g., BOT Policies/APLs 305.1 - 305.5 dealing with new program development, and program review, suspension and elimination, etc.). These revisions will be essential to ensure that workforce needs become a critical consideration in programming and service to students.

2. Ground program expectations and plans in market realities, e.g., guide deans, chairs, and faculty in the use of employment projections and demands – perhaps include them in enrollment projections and planning; connect curriculum to employer insights and job posting requirements. In order for these goals to be realized, provide professional development for use of new tools to cultivate new ways of thinking and culture development across the system.

3. More fully integrate career services within academics and advising across the campuses. Additionally, more fully integrate career planning into the student life cycle, from entry into a major through and beyond graduation to identify skills and competencies beyond their program that will "add value" to a given degree. This could also extend to working with guidance counselors as a part of our Early College initiative. Collectively, these and related changes would yield more informed major selection, more intentional connections of major to career opportunities, and greater retention, particularly among our first-generation and underprepared students.

4. Formalize expectations and processes that ensure academic programs work with key industry sectors and state employers to better understand the core competencies and essential skills that they and their employees might need. Specific options to accomplish this goal include:

    a. Establish program advisory boards drawn from regional and state employers where logical to do so. These qualitative interactions should be used to validate the quantitative data gleaned from platforms like Burning Glass, and would provide insight into specific regional, local needs.

    b. Consider creating a structure similar to Maine Center Ventures (MCV) for undergraduate programming, or perhaps extend the mission of MCV. Alternatively, apply results of MCV efforts around employer needs to all academic programs.

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5. Integrate all UMS initiatives and planning efforts to attain efficiency, reduce costs, promote a common vision, and build momentum to achieve results. Current initiatives targeting adult degree completion, workforce engagement, Early College, Micro-credentialing framework are examples of these efforts.

6. Build on the examples provided in this report to engage the campuses in a program-by-program analysis in collaboration with System leadership to better understand the relationship between program priorities and workforce needs, and to prevent pockets of misalignment with BOT priorities. Such analyses must include consideration of both: (a) opportunities for new program development when justified from a need:demand perspective; and, (b) alignment of program delivery modalities with targeted learners (e.g. AP, micro-credentials, multi-campus programs, etc.).

7. Develop an full Implementation plan for the realization of these recommendations, including timeline, next steps, resources, structural considerations, responsible parties, etc.

8. Develop a full assessment plan and process for the above recommendations to improve our understanding of how programs support employer needs. Assessment will also support communication efforts in maintaining ongoing outreach to employers.

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VII.   APPENDIX

University of Maine System
Workforce Development Inventory
March 2019

UNIVERSITY OF MAINE	**INITIATIVE/DESCRIPTION**
College of Liberal Arts & Sciences	CLAS workforce development centers on two areas of endeavor: enhancing K-12 education so as to prepare younger students for employment and further education, and supporting applied or workplace experiences for CLAS students to improve their readiness for employment. Much of the K-12 work is ongoing and will not be reviewed here, but WaYS, a youth science program primarily funded through Maine EPSCoR, deserves special mention. It seeks to establish a pipeline of Native scientists from middle school (through an afterschool science program) through high school (through an internship program with tribal environmental professionals) and to college and graduate school. WaYS participation more than doubled this year, from 6 interns and 30 participants in a single summer camp, to 30 summer camp participants, 60 seasonal camp participants, and 10 interns across 3 tribes. Examples of CLAS student work-place experiences and successes over the past year include: · Anthropology students interned at the Maine Department of Environmental Protection, working on climate adaptation planning. · Art graduates from 2017 and 2018 were appointed as the Anne Lunder Leland Curatorial Fellow at the Colby Museum of Art, and as Gallery Director and Printmaking and Kids Education Instructor at Lighthouse Arts Center in Bucksport. A current art student is interning at the Zea Mays sustainable printshop/research facility in Florence, MA. · International Affairs students held internships or other roles at Amnesty International in Maine and Bangalore, India; Congressional Leadership Fund, a super-PAC; DoSomething.org in New York City; the Hirosaki (Japan) Tourism Bureau; the Japan-America Society in Washington DC; Journey's End Refugee Services in Buffalo, NY; the Literacy Volunteers Program; the Maine Attorney General's office in Bangor; the Maine International Trade Commission; the Maine Senate Democratic Office; *The*

	Moscow Times in Moscow, Russia; Umbrella, a business-development start-up; the Union, ME town manager's office; Voy, a non-profit online study-abroad and student travel resource center; and an orphanage in Kenya. · Master's students in the <u>School of Policy and International Affairs</u> (SPIA) interned at Adaptation Fund Project Field Research, the Council on Foreign Relations, the EU Delegation to the UN General Assembly, Impact Network International, International Republican Institute, Maine International Trade Center, Permanent Mission of the Republic of Korea to the United Nations, Reclaim Childhood, The Cohen Group, and the United Nations Capital Development Fund. · <u>WGS</u> majors were interns with the Maine People's Alliance, Hearty Girls Healthy Women, Healthy Communities of the Capital Area, the Mabel Wadsworth Center, the Rainbow Resource Center, and the Women's Resource Center. Other contributions to workforce development include an NSF Research Experience for Undergraduates (REU) program in sensor science and engineering at LASST; Robert Lad (Physics) mentored REU students from Maine and out of state. Jessica Miller (Philosophy) gave ten educational presentations in bioethics for health professionals. As continuing education credit, these presentations help maintain licensure for doctors, nurses, social workers, and others. Claire Sullivan (CMJ) worked hard to promote the Flagship Internship and Engaged Black Bear badge program.

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College of Engineering	College-wide
	· The cornerstone of the College of Engineering's efforts to ensure that our graduates are workforce ready are our 11 industrial advisory boards (IAB). In total, over 100 industry leaders serve on these boards. They represent all major employers of our graduates. There is one board for the College as a whole and one for each of our undergraduate degree programs (one board serves both the electrical and computer engineering degrees). These boards have direct knowledge of performance of our graduates in the workforce and changing industry needs. The boards regularly review our curriculum and recommend changes. An example of a recent change is that several boards recommended more training in six-sigma, a set of management techniques whose goal is to improve manufacturing and other business processes by reducing the probability of errors or defects. As a result, chemical engineering instituted a week-long intensive training institute in six-sigma and mechanical engineering technology hired a faculty member (Brett Ellis) with specific expertise in six-sigma. Dr. Ellis has created a new course in six-sigma. · Every student in the College completes a workforce relevant senior capstone project. These projects are often advised by practicing engineers. Final presentations are often made to panels comprised of practicing engineers. Our IAB's are advising us that greater interdisciplinary is needed in our projects, so we have begun a pilot program of interdisciplinary projects. Further expansion of interdisciplinary projects will be greatly enhanced once the Engineering Education and Design Center opens in Fall 2022. · Roughly 80% of graduates have at least one internship, co-op, or extended laboratory research experience. This is facilitated by our annual Engineering Job Fair which was attended by a record 159 companies in October 2018. · Over 100 undergraduate student researchers and graduate students per year work on

	workforce-relevant engineering and scientific research at the Advanced Structures and Composites Center, Advanced Manufacturing Center, Process Development Center, and Technology Research Center. Biomedical Engineering (BME): · Each BME Capstone project has an external industry/business client sponsor contact who interacts with student groups over a semester. · BME students are given guidance by CoOp coordinator as well as instructors in Sophomore courses and their academic advisor regarding off-campus internship opportunity exploration and on-campus research experience opportunities. Chemical Engineering (CHE): · Pre-internship and pre-co-op training o Students participate in training on what makes a successful co-op. They are taught basics such as arriving on time, dressing appropriately, taking initiative, avoiding cell phone use, etc. via this training, as well as how to interact in a professional setting through real-world application of these principles via our various networking events. o Each fall 6 to 10 industry members visit campus to conduct resume writing and interview skills workshops (arranged by Pulp and Paper Foundation) with all of our scholarship recipients. Students meet one-on-one for a mock interview, resume review and feedback session. Remote workshops with working engineers are also offered via Skype for students who were unable to attend in person. · Two Chinn Seminars are hosted each fall by corporate members of Pulp and Paper Foundation. Topics in the past have included: Personal Safety in the Workplace, Financial Planning, Innovation - A Practical Approach, Career Path Options, Defining Your Technological Edge to Drive Profit, and presentations from students attending PaperCon and the Tappi TREE Trip to Europe. · Students are also exposed to networking opportunities with industry members at the Fall Scholarship Banquet and the Paper Days event

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	hosted on campus each April. Paper Days features technical presentations on the latest advances and challenges in the paper industry. Civil Engineering (CIE): · 87% of 2018 graduates had an internship, co-op, or engineering research assistantship while undergraduates. · Significant interactions between undergraduate students and the civil engineering profession through project-based senior capstone design, participation in the Maine Transportation Conference, and weekly department seminars delivered by practitioners. Electrical & Computer Engineering (ECE): · In 2017/18 100% of ECE graduates had participated in a paid summer internship, or had participated in a significant paid research experience on campus. · ECE curriculum and activities are reviewed annually by the "ECE Visiting Committee", which consists of industry representatives representing a variety of possible careers for our graduates. Visiting Committee review meetings generally take two days, and include discussions related to curriculum, departmental issues and concerns, and extensive meetings with various student groups. · The ECE capstone project is a 3-semester sequence in which students must independently propose, design, prototype and demonstrate a working device. Projects may be supported by industry constituents, and occasionally are coupled to a student's internship experience. Mechanical Engineering (MEE): · Our graduates continue to be in high demand in the job market. One company alone (Navatek) hired 10 of our May 2018 graduates for their new office in Portland, ME. · Curriculum revisions are underway to enable juniors to pursue semester-long co-op opportunities. · A minor in Aerospace Engineering is under development**.

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	· An accelerated MS degree is being developed to provide an early entry of undergraduate students into the MS-MEE program**.** · Through involvement with the 3D Printing Club, MEE students are becoming more competitive in the job market**.** School of Engineering Technology (SET): · In Fall 2018 launched a completely on-line B.S. in Surveying Engineering Technology. There are already 50 students from across the country in this program. We partner with surveying engineering programs across the country for the hands-on portion of this program. · Added course in six-sigma. · Hintz/Brown - Seminars for professional surveyors. · Dunning – Training conducted four energy efficiency training workshops for engineers and technicians. Advanced Manufacturing Center (AMC): · Students worked on numerous projects sponsored by Maine companies to expand workforce training, and enhance the state's manufacturing industries, most notable was a project where the AMC worked with PackGen in Auburn to develop and build a $250,000 machine to produce large plastic liners for bulk shipping containers. The lead designer on the project was a senior double majoring in electrical and computer engineering. In total, 15 undergraduates worked on this project. Process Development Center (PDC): · BLE taught 12 non-credit classes with 474 students in attendance and made 24 presentations to labor and non-profit organizations on subjects related to labor unions, employment, legal rights, and working conditions that reached 210 working people in Maine. BLE provided information to individual workers, the press, and non-profits on a wide range of subjects.

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College of Education & Human Development	· On the surface, it may be thought that the College of Education and Human Development (COEHD) has a limited connection to traditional initiatives concerning workplace development. However, the COEHD prepares the largest percentage of PreK-12 teachers that will, in turn, educate Maine's future workforce, including those that will work in fields. This influence on Maine's current and future workforce dramatically increases when the number of teachers produced by our sister UMS institutions is included. Leading collaborative efforts across the UMS systems is an important role for the COEHD. · The diverse range of graduate programs in the COEHD offer advanced educational opportunities to Maine's teachers and administrators, as well as in Higher Education and a number of other fields. · Many programs have increased their offerings using distance technology, which supports program completion for working professionals across the state and beyond. . The COEHD has also been a key player in the UMaine Gold effort. · The specialized areas of study provided by the COEHD are unique in terms of both the breadth and depth of expertise that remain in high demand across our state. The Maine Educational Policy Research Institute (MEPRI), The University Training Center for Reading Recovery and Maine Comprehensive Literacy Partnership, The Maine Writing Project, The Maine Autism Institute for Research and Education, the Developmental Epidemiological and Bio Behavioral Informatics Project, CHILDLINK (in partnership with the Maine Center for Disease Control), and the Lifespan Literacy Project are all coordinated by faculty in COEHD. · The COEHD has added a number of faculty members in the STEM areas over the past few years. The research by these faculty members focuses primarily on improving pedagogical methods for preparing PreK-12 students in the STEM disciplines. Currently, our faculty members in science education are revising our MS in Science Education into a thesis-based program. One of the primary goals of

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	this initiative is to increase STEM-oriented research productivity by faculty and students. The MS will also better prepare graduates to enroll in our doctoral concentration in science education, which will continue to focus on research and other scholarly endeavors. · In addition, faculty collaboration between Engineering and the COEHD has led to a number of grant submissions and increased extramural funding. This is an exciting are of cooperation for faculty and administrators in both colleges, and presents a promising area for growth in research and workforce development in STEM fields. · We continue to address critical teacher shortage areas, including, special education, math, and the sciences. · Over the past few years, the Special Education graduate program has hired a number of new faculty members who bring a solid background related to research productivity and successful grant writing. The teacher shortage in special education is an ongoing challenge, both nationally and in Maine. This program seeks to address this in a number of ways, including putting the three certification options entirely online, housing the state-funded special education mentorship program for conditionally certified teachers, and conducting recent discussions with UMF faculty around the development of collaborative programs in a number of areas. High-quality educational opportunities for students receiving special education services have the potential to increase participation of individuals with disabilities in Maine's workforce. · While the terms "rural communities" and "low SES" are by no means synonymous, they do often occur in tandem in Maine. The faculty of the COEHD is committed to the mission of meeting the educational needs of those living in more remote areas of the state. One way that this is occurring is through the substantial increase in online and hybrid course delivery methods, particularly at the graduate level. Collaboration between the Division of Life Long

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	Learning and the COEHD has substantially enhanced our ability to move forward with distance education initiatives with the confidence that the quality of our course offerings will remain high.
	· Addressing the inequities of educational opportunity in Maine is a potential area of continued growth in the COEHD. We have a number of initiatives underway in this area, including:
	o Educational Leadership (Transforming Rural Experiences in Education (TREE) outreach program),
	o Prevention and Intervention Studies (Statewide project in Positive Behavioral Support and Intervention),
	o ChildLINK, a collaborative partnership between the University and Maine Centers for Disease Control,
	o The Immersive Mathematics in Rendered Environments Lab (IMRE) that has partnered with East Grand School in Aroostook County, and
	o Funded projects in the areas of developmental epidemiology and biobehavioral informatics.
	o Faculty and Administration from UM-COEHD, USM, and UMF have developed a highly successful collaborative program in Educational Technology. We have also partnered with UMM to create a collaborative concentration in special education for undergraduate education majors on both campuses. Both of these programs lend themselves to workforce development in two high need areas, Special Education and Educational Technology. Faculty from UM-COEHD and UMF are currently exploring collaborative programs in Early Childhood Education, Special Education, and Prevention and Intervention Studies. All of these programs have the potential to link faculty members across campuses regarding pre-service education, professional development, and research and grant procurement. In fact, Special Education faculty from UM, USM, and UMF established a collaborative that was formally recognized by the UMS a number of years ago. This collaborative has led to Maine DOE-funded projects around areas such as implementation science, and the adoption of a systems-oriented, public health

	model for addressing social/emotional development in Maine schools, as well as innovative models of professional development that address systematic implementation and sustainability of evidence-based practices. · The Maine Leadership and Policy Development Council (MLPDC) is a UMS approved consortium of faculty members from Southern Maine, Farmington, and UM to promote the implementation of Positive Behavior Intervention and Support in Maine schools. · Maine State Personnel Development Grant (SPDIG). Involves faculty and administrators from five of the UMS campuses. This group works closely with the Maine Department of Education to coordinate and set policy regarding professional development and certification in the area of special education. · Faculty from UMaine and UMA collaborate to support high school writing centers in Maine. · As part of a research university, the COEHD can be a leader in offering teacher preparation programs that focus on evidence-based pedagogical practices. Our research encompasses a wide array of educational and human development domains; however, one aspect of our mission is bridging the gap between research and practice in Maine's educational and community settings. This requires high-quality undergraduate and graduate programs, while also increasing our focus and delivery of professional development for Maine's schools. This can be enhanced by engaging in research on educational practices, effective models of professional development, and by linking best practices in education and human development with the growing area of implementation science and sustainability of best practices. · More generally, an area of growth for the COEHD certainly includes organizing itself in a manner that puts a high value on understanding the relationship between research and practice and the use of research as a guide for work by the PreK-12 educators we contribute to the field. This can be done at both the undergraduate and graduate levels. Further, we can enhance our graduates' capacity and desire to engage in research that improves practice

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	and contributes to the knowledge base of their specific fields. This essentially means a recommitment to putting research at the center of everything we do. · In recent years, the following three areas have been areas of focus by the faculty and administration of the COEHD. While improvements have been made in these areas, they remain aspirational in many ways. · Being more intentional about linking the research and scholarly activities of our faculty to the mission of our college and UM, and making these efforts more visible to our stakeholders. · Increasing faculty and administrator engagement with the Maine DOE and the Education Committee of the Maine State Legislature. · Assuming an increased role as the lead agency in collaborative, multi-campus efforts to improve PreK-12 education in Maine.

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Cooperative Extension	Pesticide Education · Pesticide Education Credits: Extension faculty and staff provide a variety of education options that earn education credits towards certification for growers in Maine who annually sell more than $1,000 of plants or plant products intended for human consumption and who use commercial or general-use pesticides on property owned or leased by them. The Board of Pesticides Control estimates that this enables more than 2,000 growers to safely interact with the full spectrum of agricultural treatments. · Farm Tractor Safety: We have presented effective Farm Tractor Safety courses for an average of 80 individuals per year for over 25 years. The courses includes classroom sessions, a shop session and tractor operation. In a recent survey over 33% became employed or maintained employment as a result of their participation. The UMaine 4-H program integrates career readiness and workforce development skills into their programming. Some examples of that are below:
	<u>4-H@UMaine</u> · 4-H@UMaine is a campus-based event for Maine teens to experience campus life, develop career aspirations (with an emphasis on Science, Technology, Engineering and Math programs [STEM]), to develop leadership skills and increase interest in attending college (ideally at UMaine). 4-H@UMaine introduces 80-100 middle- to early high school aged youth per year to the University of Maine, engaging them in workforce development opportunities by experiencing hands-on workshops with current UMaine faculty, staff and students. This program provides many underserved and/or underrepresented youth from across the state with access to UMaine, exposing them to many of the great things UMaine has to offer.

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	4-H STEM Ambassador Program
	· 4-H STEM Ambassadors are trained University of Maine System (UMS) students who facilitate hands-on STEM activities with youth 8–14 years old throughout Maine. In 2016, with the support of the UMS Chancellor and Board of Trustees, the 4-H STEM Ambassadors program expanded to engage students from all of the UMS campuses. 4-H STEM Ambassadors act as caring mentors to youth, facilitate STEM activities with them, and help them learn about college and career options. The UMS students enhance their own workforce development skills as a result of their experience as a STEM Ambassador. Priority in placing STEM Ambassadors is given to underserved communities. To date, over 450 UMS students have engaged almost 4,500 youth in hands-on STEM experiences while sharing about themselves and their academic programs.
	Students "Follow a Researcher™" on Expeditions in the Field
	· The need for youth to develop deeper understanding of STEM concepts is a major national initiative. Maine needs to graduate an increasing number of science literate and proficient students to meet the growing demands of our workforce and society. Studies show that youth may have an interest in science, but dislike science class, lowering their intentions to pursue STEM-related career fields. This has been linked to a lack of authentic and actively engaging learning experiences in STEM. UMaine Extension and UMaine collaborators created the Follow a Researcher (FAR®) to increase youth understanding of the research process by engaging them directly with UMaine researchers in the field. Since 2015, 4,560 youth ages 7 to 18 and over 150 educators have engaged through social media with five different researchers during expeditions to Peru, the Falkland Islands, Antarctica, along the coast of Maine, and most recently to Poland for the Global UN Climate Conference.

	4-H Community Central (CYFAR) Grant Funded Project · In 2014, UMaine Extension initiated 4-H Community Central at public housing sites in the state's two largest cities, Portland and Lewiston as a way to build stronger families, reduce school-age youth learning loss, increase their science literacy, improve their critical life skills and promote career aspirations. The program places Extension staff in public housing sites, where they engage youth with their parents, elders, school, and community through hands-on 4-H projects in science leadership and citizenship. In five years, Maine 4-H Community Central in Lewiston and Portland, Maine has reached over 2,416* youth in grade 3-6, 54% of whom were kids of color. Ninety-six teens (82% kids of color) in grades 9-12 dedicated 2,466 hours of mentoring and leadership to young people in their communities and learned more about career aspirations.
	Tech Wizards Program- Mentor ME · Tech Wizards Students Help Solve Real Community Problems Extension offers the Tech Wizards 4-H Program to local schools, through its 4-H Camp and Learning Centers at Tanglewood and Blueberry Cove and Bryant Pond, as a summer extension of the Center's ongoing after school mentoring program. Tech Wizards is a youth mentoring program that uses STEM education and service learning to help youth learn life and workforce skills; improve academic performance; and aspire to post-secondary education, productive careers, and community engagement. Extension coordinates the program in Maine, with funding from the U.S. Department of Justice. Statewide in 2018, Maine's Tech Wizards program matched 120 youth along with 10 adult mentors.

	<u>Telstar Freshman Academy… A New Model for Engaging Students</u> · In 2014 the UMaine 4-H Center at Bryant⬜Pond and SAD 44 created the Telstar Freshmen Academy (TFA), a yearlong, experiential program designed to engage students, build communities of learning, resilience and high aspiration for the high school years. The program is based on a rigorous small-group learning model that includes integrated academics, service learning, 21st Century Skills, and community mentoring.
	<u>Aquaponics Internship Program</u> · As a global leader in the aquaculture industry, Maine is uniquely positioned to engage youth in aquaculture education programs that will help grow and strengthen the local business and economy. There is an increasing need to grow the local workforce to support the growing industry. UMaine Extension partnered with the UMaine Center for Inclusion and Disability Studies and CCAR to deliver a six-week, paid Aquaponics Internship Program for high school students with disabilities. Located on the CCAR campus, this workforce development project was designed to give youth an opportunity to develop skills relevant to the aquaculture industry and cultivate career awareness. The program provided opportunities to practice life skills relevant to the transition into adulthood such as time management, teamwork, communication, and other skills marketable to any industry. The youth interns connected with experts in the local aquaculture industry, and were introduced to local employment opportunities in related fields.
	<u>Pathways Early College</u> · In 2018, UMS funded the Pathways Early College program at UMaine's Bryant Pond 4-H Center. This is a new initiative that will provide dual enrollment opportunities for high school juniors and seniors in Oxford County, with recruitment targeting first generation college students. The program's goal is to increase the number of students matriculating to UMS campuses, and to increase retention rates, especially among first generation college students.

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	<u>4-H Animal Science Projects</u> · 4-H youth who participate in animal science projects learn workforce development skills through raising and caring for their animals. This can also result in youth choosing a career in sustainable agriculture and furthering their education in this field.
	<u>Youth Entrepreneurship</u> During this time of economic change, as factory jobs that previously provided a comfortable income disappear, youth need to expand their career aspirations, which may include entrepreneurship. Many of the life skills that 4-H teaches are valuable in this new employment environment where the ability to plan, organize, communicate ideas and problem solve are used in valuable in most career paths. Four examples of programs that target these needs: · *Money Can Grow on Trees*: A statewide program to teach youth about non-timber forest products and their possible market. · *Poultry Entrepreneurship*: A statewide program to teach youth the essentials of raising poultry and starting an egg business. · *Somerset County 4H Teen Leadership and Local Foods Project:* A project where youth explored the social and economic aspects of farming. · *Financial Literacy for Teachers*: Increases educators' knowledge and skills for teaching high school students about personal finances.
	<u>4-H Summer of Science</u> · In an effort to increase science proficiencies in underserved communities, and prevent summer learning loss, UMaine Extension delivers hands-on science curricula at sites around the state of Maine. In 2018, 11 undergraduate student interns and 35 teen leaders engaged over 2500 youth from ten Maine counties.

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	Agriculture Workforce Development
	· *Farm Tractor Safety Training* - Approximately 120 individuals are trained each year in Maine in the safe operation of farm tractors and equipment. The multi-session courses are designed for youth (14 years of age and older) as well as adults. Cooperative Extension offers annual farm tractor safety courses in at least 6 Maine counties.
	· *So You Want to Farm in Maine* - UMaine Extension has provided educational outreach through its "So You Want to Farm in Maine" series to enhance the skills, business management knowledge, confidence of new and established farmers. The SYWTFIM series has reached over 500 participants from all Maine counties and out-of-state.
	· *Recipe to Market* – This program helps those aspiring to start a specialty food business by providing education on business planning combined with food science. The program has been successful statewide and is now planning on expanding to New Hampshire in partnership with UNH Cooperative Extension.
	· *Maine AgrAbility* - The Maine AgrAbility project is dedicated to helping farmers, fishermen, and forest workers work safely and more productively.
	o Maine AgrAbility is designed to assist owners, operators, managers, employees, and family members of farm, fishing or forestry businesses.
	o Maine AgrAbility offers educational opportunities for agricultural workers whose lifestyle and business have been impacted by a disability.
	o Maine AgrAbility also provides training to health care providers, agricultural professionals, emergency response agencies, and other community groups about agricultural workers with disabilities.

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Division of Lifelong Learning	The Bureau of Labor Education (BLE)
	· Presented at the *United Steel Workers Regional Convention*, *Maine's Central Labor Councils*, *Maine AFL-CIO Executive Council*, and to the *League of Women Voters of Maine.* · Continues to work with the Women's Employment Issues Committee of the Workforce Investment Board at the *Maine Department of Labor* and with the Maine Department of Labor Data Committee, to develop and conduct original data and policy analyses of gender differences in current occupational distributions in Maine, and for the 2024 occupational forecast of top 20 jobs for women in Maine. · BLE taught 12 non-credit classes with 474 students in attendance and made 24 presentations to labor and non-profit organizations on subjects related to labor unions, employment, legal rights, and working conditions that reached 210 working people in Maine. BLE provided information to individual workers, the press, and non-profits on a wide range of subjects. The Frederick E. Hutchinson Center (FHC) · FHC launched a portfolio of professional development programs and workshops to community members: o FHC hosted Jobs for Maine Grads (JMG) event in partnership with Bank of America. This event was a College and Career Exploration Day for JMG students from Knox, Waldo and Penobscot Counties. o FHC hosted numerous workshops, conferences, and professional development opportunities to support workforce development in Maine. o FHC offered 21 professional development programs, serving 520 individuals. o FHC partnered with Workforce Solutions to develop programs that meet the needs of unemployed and displaced workers. o FHC provided free STEM focused workshops for grades 5–12 educators titled: § Climate, Weather, Data PD Workshops for Teachers § From Dataset to Data Story

	§ Well below 2°C, or bust!: World Climate Summit Simulation o FHC partnered with Restorative Justice of Belfast to develop training programs for several segments of the region's population i.e. educational leaders, teachers, school security personnel, healthcare professionals, first responders and criminal justice professionals. Conferences and Institutes (C&I) · Maine Medical Center in Portland contracted with Conferences and Institutes (C&I) to host PIER Program: Voices of Recovery and Lessons Learned in Early Treatment of Psychosis, a training program for 200 clinical workers. · C&I collaborated with UM music faculty to provide support and education over the three day Maine Music Educators Association Conference. The conference provides over 300 music educators from around the state with annual professional development. C&I also provided CEU's for this conference. · C&I supported the Council of Forest Engineers (COFE) Conference – A collaboration between COFE and the UMaine School of Forestry Resources. The event hosted 50+ participants, graduate students, and guests from around the U.S. to discuss best practices in forestry teaching and research among higher education institutions.

Maine Business School	· The MBS contributes to workforce development through graduates, generally over 300 students per year, with expertise in the business disciplines. According to the latest Life After UMaine survey for the 2015-16 graduating class, 95% of business graduates report finding full-time employment within 6 months after graduation with 57% finding jobs in Maine with a median salary of $46,500 ($45,000 in Maine, $50,000 outside Maine). · The MBA program, ranked in the top 100 in the nation by U.S. News and World Report, has tripled in size and provides leadership to organizations in Maine and beyond. · MBS faculty members are active in fostering entrepreneurship through faculty participation as SCORE mentors and service outreach to the Scratchpad Accelerator and Top Gun Entrepreneurship Accelerator. · The MBS launched the Professional Development Center initiative to link business students with organizations and faculty to integrate academic learning with a fully immersed corporate classroom experiences. While early in the implementation phase, the Center offers a hub for workforce development, economic development, and stronger ties between the MBS and business communities. · Since October of 2016, the Internship Coordinator has connected MBS students and employers. From 20 students completing internships in 2015 to 125 students in 2018, the internship program is another collaborative effort that benefits organizations (for profit and not for profit) and the MBS. · MBS faculty members are active in consulting in this region offering assistance to start-ups, small businesses, and non-profits. Business faculty members provide service as members of Boards of Directors, as coordinators of projects that include students, and by themselves. One offers help with software and analytics while others provide assistance with QuickBooks, legal issues, brand issues, customer discovery, and finances. · Innovative steps tie the MBS with workforce and economic development issues throughout the region: Corporate classroom initiatives with Hannaford, technology and innovation training with Grand Rounds,

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	SAP training to have students ready to contribute at graduation, expertise and training with Bloomberg, and plans to further the impact.

| College of Natural Sciences, Forestry and Agriculture | · The college conferred 692 degrees during the past year. Many of our graduates enter Maine's workforce prepared to contribute in a variety of fields. Selected examples of advancing workforce development are provided below:
· A number of our degree programs prepare students for professional positions requiring passage of a licensure exam. The pass rates for students completing degree programs in 2018 include: licensed Master's Social Work Exam pass rate of 90%, licensed Clinical Social Work Exam pass rate of 84%, registration Exam for Dietitians pass rate of 77%, Praxis Subject Assessment in Speech-Language Pathology pass rate of 100%, National Council Licensure Exam-Registered Nurse pass rate of 87%.
· The above academic programs in the health fields develop and steward many partnerships with health agencies, private entities, and nonprofit organizations to provide high quality clinical practices for our students.
· The College graduated 235 students combined in academic year 2017-2018 across Nursing, Communication Sciences and Disorders, Medical Lab Sciences, Social Work, and Dietetics. These students all adhere to strict learning criteria that prepares them for specific workforce needs.
· To help meet the need for nurses in the state, the School of Nursing is developing a collaborative 2+2 Bachelor of Science in Nursing program with University of Maine at Machias.
· Faculty acquired extramural funding to support the development of a graduate level program in conservation sciences including financial support for several graduate students in the next 4 years.
· A very high proportion of students in our natural resource, environmental science, and economic majors have one or more job experiences in their field prior to degree completion. This track record is a key to our student recruitment and maintained by a network of dedicated faculty across the college. Example: Economics students regularly have internships at businesses and agencies including Maine Medical Center Research Institute, Acadia Hospital, the Natural |

	Resources Council of Maine, the Farm Credit East Banking Group, and many others. · A high proportion of students have a capstone or other research experience that is value-added for career development and often connects them to business, government or other public stakeholders. An example: the Marine Sea Fellow's programs that links student research with business interests. The Department of Molecular and Biomedical Sciences, along with the Honors College, offers a two-semester Howard Hughes Medical Institute Science Education Alliance Phage Genomics program. Many students begin research in this two-semester course sequence and continue research through their UMaine career. This research prepares students for work at one of Maine's biomedical or other laboratories. · The School of Economics has begun a health economics collaborative effort with the University of Southern Maine. Courses are shared via online technology, leveraging the respective institutions faculty expertise. The School of Economics has made it minor available fully online, and next academic year will have its BA in Economics degree fully online. · Owing to the importance of Maine's geology to the state, School of Earth and Climate Sciences graduates have headed state agencies and are employed in: (a) Department of Environmental Protection, (b) Department of Transportation, (c) Maine Geological Survey, (d) Nestle Waters of North America (Poland Spring in Maine), (e) environmental geoscience and engineering companies, (f) other UMaine campuses, (g) middle and high schools, and (h) other Maine businesses and government agencies.

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Honors College	· The Honors College fosters intellectual depth and rigor in pre-professional training as students complete their Honors thesis in their own chosen discipline. Thus the Honors experience adds to the competitiveness of Maine students from all of the degree-granting Colleges applying to professional schools and in workplaces by providing a strong foundation in critical thinking and writing. Through a number of research clusters, as well as the use of internships as a tutorial alternative, the College promotes engagement of University of Maine students with statewide partners in research, community engagement, and the social welfare. The College's Idea Network of Biomedical Research (INBRE) program, the Sustainable Food Systems Research Collaborative (SFSRC), and the Servant Heart (Sierra Leone) Research Collaborative are prime examples of how the Honors College strives to connect to the community of researchers, business, public service organizations, and other social change agents.

Research and Graduate School	University-level research centers and institutes provided paid workplace experiences to 239 graduate students and 445 undergraduate students in FY18. · In FY 18, the Advanced Structures and Composites Center (ASCC) financially sponsored 137 graduate and undergraduate students from 28 academic programs. The Center has been actively engaging schools across Maine to increase student interest in the STEM workforce. ASCC spun-off and attracted the following businesses to Maine: Compotech, Global Secure Shipping (GSS), Navatek, and SMARTLAM. In May 2018, the Kleinschmidt Windstorm Challenge and the 10th Annual Maine Wind Blade Challenge, hosted in the UMaine Composites Center, testing innovative wind blade and floating offshore wind turbine hull designs by more than 300 middle and high school students. · Forest Bioproducts Research Institute (FBRI) Staff provided opportunities for hands-on activities to middle and high school students through Girls Engineer Maine (GEM), Maine Summer Transportation Institute (MSTI), Sustainable Energy Leaders of the Future (SELF), and Engineering Awareness Days (EADs). · Aquaculture Research Institute (ARI) staff train and mentor local high school and undergraduate students on aquaculture projects, and provide undergraduate summer internships at DMR aquarium in Boothbay and undergraduate teaching opportunities in aquaculture workplace skills. ARI also provides requested industry workforce training in aquaculture. ARI has recently submitted a proposal to address aquaculture workforce needs in Maine by developing and piloting a hybrid of team-taught classroom and hands-on applied aquaculture curricula. · All Mitchell Center funded projects are required to provide innovative student research and training opportunities for undergraduate and graduate students. The Mitchell Center not only offers students unique opportunities to develop cutting-edge research skills in their chosen field, but to become adept at interdisciplinary teamwork by collaborating with experts in the natural and social sciences, engineering, and other fields. Because teams also work closely with stakeholders, students develop invaluable insights and relationships for strengthening connections between

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	scientific research and societal well-being. The Mitchell Center continues to provide opportunities for undergraduates to gain hands-on research experience with our sustainability projects. Specific examples of unique interdisciplinary training and mentorship opportunities include student participation on the materials management team and WaYS student participation on the Future of Dams team. The Mitchell Center provides unique opportunities for graduate students to gain hands-on research experience on our solutions-driven sustainability projects. Learning experiences include interdisciplinary team training, direct collaboration with stakeholders, and mentorship of undergraduate students. · The RiSE Center contributes to Maine's workforce development through its improvements in STEM education at both the PreK-12 and postsecondary levels. STEM taught well not only builds disciplinary content and practice knowledge, but also supports the development of essential workplace skills, such as oral and written communication, problem solving, and teamwork. During the RiSE Center's June 2018 conference, a focus was research-guided ways to support the development of these professional skills while teaching STEM. This conference included a panel discussion that brought together teachers with representatives of four Maine-based businesses. RiSE Faculty, Associate Professor Michelle Smith, received seed grant funding for "Workforce Development: Helping UMaine Faculty Develop Classroom Activities that Prepare Students for Skills Needed in Maine's Science Careers", involving biology faculty from all seven UMS campuses, as well as the Jackson Laboratory, James W. Sewall Company, and Oceanswide. Professor and RiSE Director Susan McKay is part of "Revolutionizing Computing Across the University of Maine System", led by Professor Harlan Onsrud and co-led by Professor Constance Holden (UMA), a project that involves faculty teaching computing skills at all UMS campuses. Associate Professor Janet Fairman leads a planning grant "Building a Collaborative Partnership to Support K-12 Professional Development in Maine", with collaborators from USM and UMF. In a separate

	collaboration, Assistant Professor Anita Stewart McCafferty and Professor Jeff Beaudry (USM) have worked with RiSE faculty and staff to develop and implement a professional development series on formative assessment in science. · The National Center for Geographic Information and Analysis (NCGIA) supports the Project Login initiative, a collaboration of Maine businesses and academic institutions organized to support and grow the computing and technology workforce in Maine. NCGIA is leading an effort to create a Maine Geospatial Institute (MGI). A key objective of this institute is to develop a spatially literate workforce by fostering geographic and spatial technology training from K-12 through postgraduate continuing education. This effort will include: 1) Training K-12 teachers and development of teaching tools and technology to assist teachers in integrating spatial technologies in the K-12 curriculum; 2) Enhancing and improving access to geospatial course offerings across campuses and among academic programs in the UMS; 3) Delivering continuing education, through workshops, seminars, short-courses, and learning opportunities to maintain workforce proficiency, increase public literacy in geospatial technology and offer continuing education across a broad, non-traditional audience; 4) Supporting project-based learning that connects students with industry and government partners to undertake "real-world" problem-solving. · The Laboratory for Surface Science Technology (LASST) faculty have mentored and directed research projects for 18 Ph.D. students, 7 M.S. students, and 23 undergraduates. All of these students have been trained using facilities at LASST and have obtained skills in using state-of-the-art equipment for device fabrication, materials synthesis and processing, and materials characterization. LASST continues to contribute to the economic development in Maine through technology transfer to two spin-off companies (Orono Spectral Solutions and Environetix Technologies) that have capitalized on LASST's and R&D's efforts. These start-ups have employed many of LASST's graduates and have given them an opportunity to follow an entrepreneurial path and pursue a high

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	tech career in Maine. LASST personnel also provide services to numerous large and small sized companies in Maine in the form of materials analysis and device fabrication.
	· In partnership with the Geisel School of Medicine at Dartmouth and the University of New Hampshire, the Center for Community Inclusion and Disability Studies (CCIDS) financially supported and prepared six graduate-level trainees for leadership roles in the fields of autism and other neurodevelopmental disabilities and special health care needs.
	· Center for Research on Sustainable Forests (CRSF) student field crews gain valuable experiences with field data collection, vegetation surveys, songbird surveys, and forest inventory methods. Each crew has a student leader responsible for accuracy of data collection and coordination with CRSF leadership. Trained students in forest carbon measurements. Conducted a workshop and field tour on Sustainable Forest Management and Soil Productivity in June attended by a mix nearly 70 members, academics from several institutions, and interested community.
	· Maine Sea Grant's workforce development opportunities are designed to help train and support a diverse workforce skilled in disciplines critical to the ecological health, economic vitality, and resilience of Maine's coastal communities and ocean-related resources. They include student fellowships and scholarships, research and program development funding criteria that favor meaningful involvement of K-16 and graduate students, coordination of workforce development initiatives of the Alliance for Maine's Marine Economy, and professional training for both students and adult professionals through Maine Sea Grant extension, education, and communications programs. Aquaculture in Shared Waters, a Maine Sea Grant-coordinated program in partnership with Maine Aquaculture Association, Maine Aquaculture Innovation Center, and Coastal Enterprises Inc., provides comprehensive aquaculture training, technical and business support, and networking assistance to Maine fishermen as they seek to diversify their incomes. The Sea Grant-UMaine Extension course, Strengthening Your Facilitation Skills, and a new

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	Maine-New Hampshire Community Engagement Academy offer comprehensive group facilitation and community engagement training for municipal officials, community leaders, and others who are helping their communities manage complex decision-making and planning processes. · The ElderTech Collaborative project created a public-private partnership to develop a community-based co-design and testing lab that will expand the range of devices and products available to mid-life and older adult consumers while also enhancing the technology and aging workforce in the state. The Center on Aging (CoA) is also the lead organizer of the UMaine Clinical Geriatrics Colloquium, which provides training to students and aging services professionals in Maine on pressing issues facing older adults. Lenard Kaye, Center on Aging director recently presented a half-day workshop for professional social workers under the auspices of the Maine Chapter of the National Association of Social Work on "Social Work Practice with Baby Boomers" meant to prepare practitioners to more effectively meet the needs of the current cohort of aging Americans turning 65 years of age at the rate of 10,000 a day across the U.S. · Climate Change Institute (CCI) activities are currently on-going to provide local and broader based plausible climate predictions including the impact of climate change on Maine's commodities. This information is essential to planning for future workplace development and opportunities. Some of this planning has been undertaken as part of a joint CCI-UM Business School course (BUA 645). · Center for Undergraduate Research (CUGR) faculty were involved in mentoring a large number of students preparing them for future workforce needs. · The Margaret Chase Smith Center (MCSC) Maine Government Summer Internship Program (MGSIP) is a 12-week paid work experience that places talented Maine college students in internships where they can contribute to Maine government. We work directly with representatives of the President of the Maine Senate, the Speaker of the Maine House of Representatives, and the Governor's Office in administering this program. In 2018, we received 210

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	student applications from 63 different colleges and universities. We placed 57 Maine college undergraduate and graduate students in positions across 15 state departments, 13 municipalities and 1 state quasi-governmental organization. Maine NEW Leadership held its 10th annual 6-day Institute at the University of Maine, bringing 28 college students from across the state of Maine for leadership training. Amy Blackstone developed a leadership course in conjunction with Maine NEW Leadership. Elect Her is a one-day workshop for Maine college students to encourage young women to seek leadership positions in student government and other organizations while they are still in college. Students from all UMS campuses are invited. · The combined offices of the VPR and Graduate School perform extensive workforce development activities. · A total of 521 graduate degrees were conferred in AY 2017-2018, including 375 Master's, 56 Doctorate, 23 CAS, and 67 Certificates. · Graduate Student Professional Development. o The Graduate Student Government (GSG), the Graduate School, and Office of Research Development (ORD) organized a two-day grant writing workshop specifically designed for graduate students during the 2017-2018 winter term. A panel of professional staff educated graduate students on grant funding opportunities and grant writing and a day of peer review of concept papers was facilitated. A total of 40 graduate students participated in this event, which will now be delivered on an annual basis. A third day was connected to this event in collaboration with Fogler Library with an event that focused on alternative metrics. o The Graduate School in collaboration with the Graduate Student Government has launched a series of workshops aimed at professional development for graduate students entitled UMaineGRAD. o The Graduate School has launched a three minute thesis competition (threeminutethesis.uq.edu.au) to help graduate students communicate the broader impacts of their research to the public community.

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	· Responsible Conduct of Research (RCR) Training Workshops - A total of 170 students attend RCR Training Workshops, which are run by the Office of Research Compliance (ORC). These trainings are required for undergraduate students participating in NSF, NIH, or USDA-NIFA supported projects and ultimately better prepare students to work in a research setting post-graduation. · Maine EPSCoR is housed at UMaine and administers the state's NSF EPSCoR programs. The current RII Track 1 project is the Sustainable Ecological Aquaculture Network (SEANET) which is building a network of interdisciplinary researchers to help advance aquaculture in the jurisdiction. This grant is co-led by the University of New England and includes research partners at 11 institutions throughout the state. VP Varahramyan is the PI of this project which entered Year 5 in FY 2019. Highlights of FY 2018 SEANET activities include: 85 undergraduates and 36 graduate students were supported across the partner institutions; recruitment of 13 Innovate for Maine Aquaculture Industry Interns in partnership with the UMaine Foster Center and Aquaculture Research Institute; and reaching 10,438 K-12 students with STEM programming. · GSBSE T-32 Proposal – A $1.3 million T-32 proposal was submitted to NIH representing the UMaine's first submission to this training grant mechanism which, if funded, would greatly strengthen the program. · Even in a highly competitive job market job placement in professionally-oriented programs in business, social work, education, and communication sciences and disorders has been nearly 100%. Most of these programs have a top 50% national ranking in U.S. News and World Report's Guide to Graduate Programs. · An excellent example of the extent and impact of UMaine's workforce development activities are those of the Maine EPSCoR office. o In 2017-2018academic year, as a component of the $20 million, 5-year NSF SEANET project, Maine EPSCoR at the University of Maine has been engaged in Broadening Participation activities for over 34,651 students, individuals and professional educators.

	o In collaboration with the Wabanaki Youth in Science or the WaYS program, SEANET provided afterschool, summer camp and workshops for 447 of Maine's Native American K-12 students across the state. o Internship opportunities with University faculty, government agencies, and the University of Maine's Foster Center for Student Innovation were provided to 138 high school and undergraduate students. o Research opportunities were provided for 4 post-doctoral fellows, 34 graduate students and 78 undergraduates at UMaine Orono. In addition to this, 3 undergraduate students at University of Southern Maine were engaged in SEANET research.

Innovation and Economic Development	Innovate for Maine Fellows:
	· This program continues to play a vital role in the talent pipeline for innovative companies in the state. Managed by the Foster Center, the program selects the best and brightest college students with ties to Maine who are interested in innovation and matches them with the state's most innovative, growing companies. This spring we recruited our seventh class of Fellows to begin working in the summer. This year we were able to place 34 interns on 39 company projects. To date, we have placed more than 187 fellows, representing 33 colleges and universities, with 180 Maine companies.
	· Because we have built partnerships with several organizations over the life of the program, we were able to continue the program and offer more than $100,000 in subsidies to participating companies. Many times, the subsidy award for a small company gives them the opportunity to receive this valuable intern assistance which they otherwise would not be able to afford. The support for last year's program includes funding from the Maine EPSCoR, Maine Accelerates Growth, and the Maine Center for Entrepreneurial Development's i6 EDA grant. These students went through orientation and training in late May and most began in June 2018.
	· Over the last year, we have started working with companies/organizations to provide Innovate for Maine support and boot camp offerings to their previously selected interns. We piloted this model in January 2018 with the University of Southern Maine's MEIF funded interns and trained 17 students. We are currently planning to offer two additional boot camp trainings in 2019.
	Flagship Internship:
	· OIED staff worked closely with the Career Center on the Flagship Internship Program, addressing one of the goals of the university's strategic plan. The program prepares graduates for meaningful careers and civic responsibilities through experiences both inside and outside of the classroom, while also enhancing their educational outcomes. In addition,

| | the program will help students gain an understanding of career opportunities in Maine and engage students with employers to address Maine's workforce needs. Nine students participated in a two-day bootcamp, in which they learned important career skills while touring Maine businesses and meeting young business leaders in the region. Businesses sponsored the cost of providing the bootcamp and a networking event that had about 75 business and student attendees at which students provided presentations or posters about their internship experiences. Three University of Maine programs received the Flagship Internship Program designation for following internship best practices: the Pulp & Paper Co-op Program, Innovate for Maine Program and the Peter Madigan Congressional Internship. Collectively, these programs provided more than 100 students with work experiences relevant to their education.

Student Business Incubation:
·   In FY17, the Foster Center provided counseling to 78 students and provided business space for five companies/innovation projects. Successes included Boreal Games receiving a Libra Future Fund and Maine Technology Institute Tech Start grant, two tenants who were finalists in the UMaine Business Challenge, including Boreal Games winning the second place prize.
·   Former Innovation Center tenants and users had several successes in the past year:
o Cobbler Technologies, Revolution Research and Tip Whip all received Seed Grants from the Maine Technology Institute. Sea & Reef Aquaculture received a Business Accelerator Grant from MTI. Revolution Research also received a $100,000 EPA grant.
o Tip Whip founded a new business DelWhip, food delivery service, and participated in Greenlight Maine. SCORE named the company American Small Business Champion.
o IE graduate and tenant in Stillwater Posters, Nate Wildes, opened Flight Deck Brewery in Brunswick, |

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| | which was recently named the best tap room in Maine by Downeast Magazine.
o Flowfold announced a partnership with L.L. Bean to sell an exclusive line of products.
o VegNews magazine listed Redd Bar among its 50 favorite brands of vegan energy bars. It also raised more than half of a $1.5 million equity investment round.
<u>Focus Maine</u>
·   OIED staff serve as part of the intern strategy team for the Focus Maine Knowledge Worker initiative. In this role, our staff helps organize and plan the efforts to build peer and employer networks and stronger ties to Maine. OIED staff connects students participating in the Innovate for Maine program and the Flagship Internship program to the variety of events that Focus Maine, and its partner Educate Maine, hosts.
<u>Student Business Incubation</u>
·   In FY18, the Foster Center provided entrepreneurship training and counseling to 67 students and provided business space for seven companies/innovation projects. Successes included two companies receiving a Libra Future Fund and Maine Technology Institute grant, Zephyrus Simulation was the winner of UMaine Business Challenge and Big Gig season finale. The company also received VentureWell funding.

<u>Statewide Business Incubation and Commercialization Services:</u>
·   Our staff provided coaching and worked closely with 8 tenant companies and 2 affiliate companies at the UpStart Center for Entrepreneurship. Collectively, the companies raised nearly $2.25 million in grant and equity funding. Two companies graduated from the incubator and 5 new jobs were created. With $700,000 in funding from MTI and the U.S. Economic Development Administration, the <u>UpStart Center for Entrepreneurship</u> completed an extensive lab construction project that houses <u>Cerahelix</u> and <u>Environetix</u> who were inducted into the second stage incubation program. |

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	· As part of the University of Maine's incubation program at the UpStart Center for Entrepreneurship, we have hosted thirteen Lunch & Learns with 190 total attendees on topics, such as project management, social media marketing, funding sources, patenting, public speaking, and networking. · As part of business incubation support at the Union River Center for Innovation, our staff provided business coaching and access to UMaine resources to 4 companies in the Ellsworth incubator. UMaine also assists with marketing and outreach of the incubator to the entrepreneurial community. Top Gun · The Top Gun Entrepreneurship Accelerator is a four-month experience for high-growth potential entrepreneurs. In 2018, this program was held across four locations in Maine, and the Bangor region class was organized and coached by OIED. Six companies participated this year and were connected to 11 mentors during the period of the program. Thirteen speakers were invited to cover various business topics at the weekly sessions. The class comprised of Ai Steth, an electronic stethoscope company and finalist at Big Gig; The Armaid Company, a self care massage tool company; Ecovita, organic face cream company; The Love Card, a global pay it forward inspirational card; Rx Option, a smartphone app that lets you see ALL low cost generic drug options; and Queen City Arts, a Bangor-based arts education center. Commercialization & Entrepreneurship Training Programs · Maine Innovation, Research and Technology Accelerator (MIRTA) o Through grants awarded by the University of Maine Research Reinvestment Fund, teams are selected through a competitive process to participate in an intensive 16-week program to accelerate the transition of their research into not only commercial-ready products but also develop strategies for commercialization. Participating faculty, staff and students receive training in customer discovery, market analysis, prototype development, technology

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evaluation. In FY18, five teams went through the first cohort and four teams were able to leverage MTI grants. In FY19, an additional four teams participated in the program.

·   I-Corps

    o National Science Foundation has selected UMaine as Maine's first I-Corps Site. The Site activities help foster innovation and entrepreneurship by providing faculty and students with the training, tools and guidance needed to identify valuable opportunities in market for your STEM based research. Selected participants are awarded grants to conduct customer discovery interviews and to develop a basic prototype.

·   Commercialization Training Series

    o This training series is a professional development series aimed at faculty, staff and graduate students interested in commercializing their research. The core workshops will focus on commercialization pathways, University agreements and policies, intellectual property boot camp and idea validation.

Innovation Engineering

·   The Foster Center is working with Camden Hills High School to train their faculty to offer first high school dual credit Innovation Engineering course at their high school starting in Fall 2019, with 20-25 students.

·   Approximately 250 students have taken Innovation Engineering courses in AY19 to build their skills to innovate in any field.

The Center for Cooperative Aquaculture Research (CCAR)

·   Hosted several courses in 2018/2019:

o Introduction to Aquaculture- An intensive six-week class was offered June 18th-July 27th, 2018. The course included lectures on various topics including recirculating aquaculture systems (RAS), water quality, invertebrate and finfish production, and system design and maintenance.
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	Lectures were supplemented with hands-on, practical experiences. o Marine Hatchery Technician Training- A month long experiential course that focused on the marine hatchery production of Seriola lalandi. o Exploring Aquaponics- A six-week summer internship experience for high school students with disabilities. o Land-based Aquaculture of Salmon and Other Fish: Opportunities and Challenges- A course for the Senior College at Belfast held at the Hutchinson Center. This class offered an un-biased, factual presentation and discussion of the pros and cons of land-based aquaculture to a community with a particular interest in RAS production due to the proposed Nordic Aquafarms facility. · CCAR has plans to host a paid Aquaculture Internship program for high school students in the summer of 2019. In conjunction with Hancock County 4-H with funding from Maine EPSCoR/SEANET, students will be introduced to careers in land-based aquaculture. · CCAR has a continued outreach presence in the community through appearances at area high school career days and festivals. · CCAR has partnered with the Schoodic Byway Education Program, Sumner Memorial High School's Pathways program, and the Maine Ag in the Classroom funded Sea Farm Explorer program. These programs all have a focus on promoting aquaculture careers to Maine students. · A UMS Program Innovation Fund proposal was submitted titled *Aquaculture Workforce Development: Aquatic Systems, Health and Husbandry*. The goal is to develop a credit-bearing certificate for students in addition to addressing aquaculture workforce development needs in Maine. CCAR's role will be focused on a three-credit recirculating aquaculture systems module. · American Unagi has hired three new to aquaculture employees who are receiving training onsite at CCAR. · International intern Philipp Sandman, a graduate student at the University of Rostock in Germany, spent several months at CCAR in 2018 working in the sea urchin hatchery, microalgae lab, and assisting with the spawning

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	of Atlantic halibut. · Maine Community College System developing a recirculating system technology technician training. · University of Maine CCAR staff developed their skills through training or through the University tuition credit program offered to staff. Luz Kogson continues to take on-line courses to meet requirements for a Masters' in Bioinformatics. Research Assistant Benjamin Reed completed the requirements to become a US Coast Guard licensed Captain.

University of Maine at Augusta

Program/Initiative	Description
Aviation	There is a shortage of pilots nationwide. UMA is continuing its collaboration with Maine Instrument Flight to train new pilots.
Unmanned Aerial Systems	UMA has moved its UAS program to our Brunswick Center for access to the Brunswick airport. We have developed a number of courses that lead to a FAA certificate for individuals to fly drones commercially.
Cyber Security	This program currently with USM & UMFK meets an emerging need for educated individuals to keep data safe for all organizations and institutions. We are investing in a virtual training center that will be available for all UMS institutions, other colleges in the state, K-12, and Maine businesses to practice cyber techniques in a laboratory setting.
Computer Information Systems	Students are required to complete an internship in the CIS program. Interns assist organizations throughout the State of Maine. Many interns are hired permanently by the organization/institution upon completion of the internship. Work closely with State and government employers in the region. Project Login partners with UMS and Maine Businesses. We also provide specialized "badge" training in partnership with Tech Hire.

Data Science	We have submitted an Intent to Plan a Bachelor of Science in Data Science to the UMS and are working in collaboration with UMF to develop and promote this degree.
Nursing	A nursing shortage exists in the State of Maine. Many institutions require nurses to hold a Bachelor's Degree in Nursing. Both UMA's RN-BSN program and its newly introduced pre-licensure BSN assist in addressing this statewide need, including offering the new program at 4 UMA Centers statewide.
Dental Hygiene & Dental Assisting	UMA's Dental Hygiene and Dental Assisting programs are the only ones available in the State of Maine. Both programs work closely with Dental practices throughout the State to educate and train students. They hold several community events throughout the year and the UMA Dental Clinic provides dental care (by appointment) to all citizens at an affordable price. We are exploring the use of a mobile dental assisting classroom that would educate a minimum of 6 students per year at a location to be determined.
Veterinary Technology	Students in the Vet Tech program complete practicums (internships) at facilities throughout the State. The Vet Tech program holds regular spay/neuter clinics which are open to the community. We have recently signed an articulation with YCCC for their AS Vet Tech students to transfer to UMA and earn a Bachelors in Veterinary Technology
Mental Health & Human Services	MHRTC Certification. And a new certificate in Addiction Studies. Program also working to receive national certification.

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Art	The art program continues to produce murals on buildings to promote the Kennebec Valley.
Architecture	Expecting NAAB accreditation in 2019, had our final accreditation visit in the fall of 2018. Accreditation will enable students to become licensed architects with their education provided entirely through UMA, within Maine.
Biology	All students have internships or capstone projects preparing them for the workforce or for graduate level work.
Education	Pathways for teaching (especially in STEM fields). The Exploring Computer Science training (provided through an NSF grant) is the only methods course available for educating K-12 teachers on how to teach computer science. Have 14 student teachers in schools in the spring of 2019
Engineering Pathways	Enrolled our first cohort of engineering students in the engineering pathways program enabling students to begin their studies at UMA and transfer to UMaine or USM.

Veteran Success	UMA has developed a series of initiatives designed for veterans (including active duty military) who seek to further their education. Those initiatives include: · No admission fees for undergraduate veterans or dependents · In-state tuition for all out-of-state veterans nationwide · Maximum credit hours for military experience · Exchange library · Veterans online orientation course · Veteran helpful withdrawal and readmission policy
Program Review	All programs under review invite persons from industry to participate in the review process and revise program curriculum to keep it current and relevant.
Advisory Boards	Similar to program review, programs consult with persons from industry to keep programs relevant with current trends.

| New Ventures Maine | **Workforce Development:** As a program of UMA/UMS with a presence on both campuses and at several University College locations, New Ventures Maine (NVME) serves as a workforce development resource to UMA and other UMS campuses statewide. Their online and on-site Career Planning classes and workshops help adults in work/life transition identify their skills and interests, explore growing industry sectors, determine education goals, develop foundational skills (self knowledge and confidence, learning preferences, communication, digital and financial literacy) and create a plan of action for enrollment and success in postsecondary education or entry to and advancement in the workforce.
As part of NVME's Career and College Success initiative, graduates of the My Next Career Move class are eligible to apply for the GEN scholarship to attend UMA and receive additional support and coaching throughout their transition to college and to the workforce after graduation.
NVME also coordinates six Totally Trades Conferences around the state to encourage middle and school girls to explore trade and technical careers through hands-on learning experiences and role models.

Microenterprise Development: To meet the needs of Maine's small business economy, NVME provides business development classes and workshop to help aspiring entrepreneurs develop a business plan and provide start-up support and coaching, access to credit and mini-grants to improve marketing, and linkages to ongoing technical assistance. Graduates of Venturing Forth: Business Planning for Entrepreneurs are eligible for 3 UMA |

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	business credits upon completion of the class and a written business plan; business plans are reviewed by USM's Maine Small Business Development Center Advisors. **Financial Education and Asset Development:** NVME also provides financial education classes and workshops and coaching to help individuals and families manage their money, reduce debt, increase savings, plan for retirement, and set personal financial goals. NVME manages two matched savings programs for emergency expenses and longer-term asset goals such as home ownership and repair, business start-up, education and training, car purchase or repair. In addition, NVME coordinates CA$H Maine, a statewide collaborative of 10 regional Coalitions providing free tax assistance and access to financial resources. NVME has provided financial education to employees of Maine businesses, including L. L. Bean, and technical assistance and training to staff of several non-profit organizations, including Maine State Housing Authority, Maine Department of Labor CareerCenters, Domestic Violence Centers, and Community Action Agencies. **Leadership and Policy Development:** NVME staff participate in and provide leadership to several groups providing workforce development policy recommendations, including the Women's Employment Committee of the State Workforce Board, the Maine Adult Promise Steering Group, the Maine Workforce and Education Coalition's Policy Group, among others.

University of Maine at Farmington

Alpine Operations Certificate	Developed in consultation with industry partners, the Alpine Ops certificate is a five-course, partially on-mountain program of study qualifying participants to teach ski and snowboard sports to all ages; completers earn a PSIA Level I credential. Certificate; internships; practica. **Partners**: Sunday River Ski; Sugarloaf Ski; Titcomb Mountain
ELL Certificate	The English Language Learners certificate is a 16 credit certificate comprised of a field placement and a series of courses specifically designed to prepare teachers to work with the growing population of Maine's English language learners. Students can apply to the state for the English as a Second Language Teacher Endorsement (66)0) after completing the certificate, the required Praxis II exam, and certification in their primary endorsement area. **Partners**: Maine's public schools
Early Childhood Education	The Early Childhood Education programs prepare graduates to work with children from birth to age eight. Completers selecting a certification track or tracks can earn licensure in B-5, K-3, or B-5 and K-3. Internship or student teaching. **Partners**: Early Learning Centers, Head Start, Maine's public schools, Sweatt Winter Early Care and Education Center, SMCC
Early Childhood Special Education	The Early Childhood Special Education program prepares graduates to work in early intervention settings, early education settings, and public school pre-k-grade three classrooms. Completers selecting a certification track can earn licensure in early childhood special education B-5 or early childhood special education B-5 and K-3 (general education). Internship or student teaching. **Partners**: Early Learning Centers, Head Start, Early Intervention programs, Maine's public schools, and Sweatt Winter Early Care and Education Center

Elementary Education	The Elementary Education program prepares graduates to work with students in K-8 classrooms. Graduates earn licensure in Elementary Education K-8. Student Teaching. **Partners**: Maine's public schools
Community Health Education	The Community Health Education program prepares Health Education Specialists, and offers several additional options to contribute to the workforce. Internships. **Partners**: Bath Ironworks, River Valley's Healthy Co., Alfond Youth Center, Spruce Run Woman's Care Alliance, UMF Health Center, Safe Voices, Adcare, Discovery House, Seniors Plus, Child Protective Services, Dempsey Center for Cancer, Franklin Memorial Hospital, Rockland Harbor YMCA, and many more that can be provided.
School Health Education (concentration within Community Health Education)	The School Health Education program prepares graduates to teach in K-12 schools. Graduates earn licensure in School Health Education K-12. Degree Program. **Partners**: Maine's public schools
Outdoor Recreation	Developed in consultation with industry partners, the ORBA program readies graduates for mid-level positions in four-season, outdoors industries, with emphasis on readiness for business, marketing, and recreational aspects. Degree Program
Coaching Minor	The coaching minor provides graduates with the foundational and practical knowledge to coach.
Rehabilitation Services	Graduates of the Rehabilitation Services program are prepared to work with individuals and groups across a wide range of ages, limiting conditions, and disabilities. Graduates work in a variety of careers, including counseling, social work, human services, employment services, family services, and mental health. Degree program includes internship. **Partners**: Catholic Charities, Bureau of Vocational Rehabilitation, Discovery House (a more detailed list can be compiled)

Addiction Rehabilitation Certificate	This program prepares students for a professional career in the Addiction field
Rehabilitation Services	MHRT/C (Mental Health Rehabilitation Technician/Community) Certificate
Secondary Education-	The Secondary Education program prepares graduates to teach in grades 7-12 in the areas of English, Math, Science (physical and life), and Social Studies. Math and Science are two areas facing significant teacher shortages in the state of Maine. **Partners**: Maine's public schools
Special Education	The Special Education major prepares graduate to work with students in K-12. Students earn licensure in Special Education K-8 or 7-12. This program assists in addressing a significant teacher shortage area in the state of Maine. **Partners**: Maine's public schools
Special Education Minor	The Special Education Minor responds to the growing need for all teachers to provide appropriate educational services to students with disabilities. Some students choose to complete an additional four credits and the appropriate Praxis II exam to earn certification in Special Education K-8 or 7-12, thereby helping to meet an identified teacher shortage area. **Partners**: Maine's public schools
World Language Teacher Education: French World Language Teacher Education: Spanish	Degree programs respond to the state and national teacher shortage in World languages. **Partners:** Maine's public schools.

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Graduate Education: Masters in Educational Leadership Masters in Early Childhood Education Masters in Instructional Technology (this degree is collaboratively delivered with UM and USM))	These programs are focused on preparing educational leaders in early childhood settings and in Pre-K-twelve schools. Graduates are well versed in conducting research to inform decision-making, evidence-based practice, and leading change. **Partners:** Early childhood programs and Maine's public schools.
Graduate Certificates: Administration Gifted and Talented Math Coaching Math Interventionist (new Sp 19) Math Leadership Proficiency Based Education Special Education (K-6, 6-12) (New Sp 19)	These certificates provide practicing educators with specific areas of expertise so that they can provide leadership in schools. **Partners:** Maine's public schools.
Actuarial Sciences	· Degree program responds to industry need for certified actuarial professionals. Partners: Franklin County Chamber of Commerce, Spruce Mountain Adult and Community Education, Unum, MMG, Anthem, Actuarial Designs and Solutions, Maine Bureau of Insurance, Aetna, Compass Health Analytics, Gen RE, SunLife
Computer Science	Degree program readies computer scientists for professional positions in tech fields in demand in Maine; Students participate annually in Project <LogIn> Internships. **Partners**: Franklin County Chamber of Commerce, Maine's Office of Information Technology, Maine Health Research Institute in 2016

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Visual Arts	Art students may concentrate in Arts Administration, New Media, Graphic Design, Interactive Media or other tracks, preparing for creative economy positions in Maine and beyond Internships. **Partners**: Farmington Chamber of Commerce, Maine Botanical Garden, The MFA in Boston, and Fanatagraphics in Seattle WA
Performing Arts	Performing Arts students may concentrate in Arts Admin, Music, Theater. Internships. **Partners**: Monmouth Theater, Maine State Music Festival, Maine Music Theater, Portland Stage, Aptuitiv Web Design, Alice James Books
Geography and Environmental Policy	Degree program readies students for variety of positions in town planning, GIS, environmental policy, land use, and related professions. Internships, GIS certificate, fieldwork
GIS Certificate	GIS is a critical component of careers related to natural resources, planning, environmental regulation, marketing, public safety, public health, environmental analysis, recreation management, national defense, and many others. **Partners:** Thirty Mile River Watershed Association, Mt. Vernon, ME; Center for Community GIS, Farmington, ME; Maine Audubon, Falmouth, ME; Elk Neck State Park, Maryland Department of Natural Resources; Hop Brook Lake, Army Corps of Engineers; Vermont Department of Forests, Parks and Recreation; Bethel Outing Club; Farmington Historical Society, Rustic Roots Farm, City of Gardiner, Somerset Woods Land Trust; Auburn Water and Sewerage District; Maine Department of Inland Fisheries and Wildlife; Island Institute; Belgrade Regional Conservation Alliance; Androscoggin Land Trust; Mahoosuc Pathways; Office of GIS, City of Auburn; Office of Planning, City of Lewiston; Town of Kingfield; High Peaks Alliance; Lakes Environmental Association, Bridgton, ME; Land Division, Maine Department of Environmental Protection; National Geographic Education Foundation.

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Culture, Meaning and Society	Program readies students for careers in anthropology, health, and archaeology. Internships. Partners: State archives, health facilities, other
History	Program pathways include training for professional degrees and history-based careers. Internships and research assistantships. Partners: Local archives, historical societies, museums, other
Business Economics; Business Psychology	Program readies students for careers in business, management, analysis, finance, marketing, and other. Internships, client-based projects. **Partners**: private, nonprofits and governmental employers
Political Science	Program readies students for careers in law, politics, policy, campaign coordination and other internships
Psychology	Program readies students for careers in psychology, counseling, social work, human services, medicine, and other internships. **Partners**: Western Maine Community Action, Western Mountains Alliance, Belgrade Central Elementary School
Psychology 3+2 Program	Program with USM professionalizes degree program with master's curriculum and training. Internships Required
Aging Studies	Interdisciplinary major provides students with capacity to work with seniors in all capacities. Internship; original research
Biology	Program readies students for wide range of careers from field science to medicine. Internships, training, and research. **Partners**: Mount Desert Island Biological Lab, Maine State Aquarium, LoveGrown Agricultural Research LLC, Passamaquoddy Tribe and the Cobscook Bay Learning Center, US Virgin Islands National Park VIERS Research Station, Howard Hughes Medical Institute

Earth and Environmental Science	Program readies students for careers in geology, energy, environmental science, field science, geochemistry and related. Internships and partnership work. Maine Department of Inland Fisheries and Wildlife, Rangeley Lakes Heritage Trust, Belgrade Lake Association, Department of Environmental Protection, Maine Natural Areas Program, Rustic Roots Farms
Pre-Professional Health	Program provides curriculum and experiences to ready for health professions, including medicine, dentistry, rehab, occupational health, and other Internships and partnership work. **Partners**: Franklin Memorial Hospital, Hannaford Pharmacy, Mt. Blue Drug, Allied Physical Therapy, Sandy River Rehabilitation, Orchard Park, Edgewood, Pierce House, Senior Plus, Western Maine Homeless Outreach, Penobscot Community Health Care, Maine CDC, Eastern Maine Healthcare System's Beacon Health Accountable Care Organization, Maine Development Foundation, Maine Nephrology
Leadership Training	Through seminars and experiential activities, students develop leadership skills such as goal setting, relationship building, and project management
Partnership for Civic Advancement	Multi-faceted umbrella program for internships, service learning, leadership development, and undergraduate research; affiliates also with study abroad. Internship orientation; seminars and training

Work Initiative	The Student Work Initiative program was developed to bolster the interaction between students and faculty at UMF. It is a campus-based work and learn program not based on financial need. Many positions are integrated with academic majors and student life, allowing students to engage in research and special projects relating to personal interests and/or fields of study. Employment opportunities range from research, service projects and lab assistants to learning how to repair and rebuild laptop computers. All SWI offerings provide specific learning skills for the student. Students compete for jobs by applying and interviewing for positions. Once hired, students are expected to work at their job on a schedule that is agreed upon with the supervisor. Work opportunities for students. **Partners**: Faculty and Staff
Work Study	Students indicate their desire for a work-study award on the FAFSA. Federal Work-Study (FWS) eligibility is determined by the Financial Aid Office and FWS funds are awarded to students with high financial need who filed the FAFSA by the March 1 priority deadline. Students are not placed in a job by the Financial Aid Office, rather, they must compete for jobs by applying and interviewing for positions. Positions vary and often include professional skill building. Work opportunities for students. **Partners**: Faculty and Staff
Other Student Work Programs	Other student work programs include both institutionally funded and externally funded programs. Work opportunities for students. **Partners**: Faculty and Staff

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University of Maine at Fort Kent

Program/Initiative	Description
UMFK's Revised Mission and Vision focused on health sciences and professional programs.	UMFK has recently undertaken a review of its strategic plan and has revised the plan to better align with current campus needs, UMS priorities, and the workforce needs of Maine and the broader region. In summary, the new priorities include . . . ● Embracing the concept that UMFK is an institution focused on health sciences and professional programs. ● Aligning all academic and student services programs to better meet the needs of students in professional programs. ● Forging partnerships and fostering collaboration with other institutions and industry to ensure sustainability and to better align academic programs with workforce needs. ● Rebranding UMFK as a campus focused on "transforming students into professionals."
Academic Partnerships and RN to BSN	The University of Maine at Fort Kent has teamed with Academic Partnerships to expand and grow the RN to BSN program on a local, regional, and national level. This partnership will leverage the already strong reputation of the program through AP's marketing, recruitment, and retention resources and expertise. While the University has had multiple entry points (6 starts a year) for some time now, this partnership will more fully highlight the ease of entry every couple of months and internal processes will become more tailored to more efficiently and aggressively meet the needs of the RN workforce. An official launch date is planned for the Fall of 2019.

Rural U Workforce Early College Certificates	Rural U Workforce is a new "sister program" to UMFK's Rural U program. Rural U has always encouraged students to take classes that meet general education requirements. Rural U Workforce takes a different approach by offering students the opportunity to explore specific majors and careers; thus aligning with UMFK's mission to transform students into professionals in career sectors that are in high need in the local community, the state, or the region. All of Rural U Workforce Early College Certificates are offered online. High school students during their junior and senior year in high school, taking an average of 12 specific credits in varying fields, will earn a micro-credential certificate that will be designated on their college transcript. Rural U Workforce early college certificates will be offered in Nursing and Healthcare Careers, Forestry Careers, Behavioral Science and Human Services Careers, Business Careers, Criminal Justice and Law Enforcement Careers, and Environmental and Biological Careers.
"Bringing the Pieces Together Conference" and Future Workforce Development Conference Series	On January 11, 2019 the UMFK Behavioral Science Program and the UMFK Nursing Program collaborated to present a conference on the topic of the integration of behavioral and physical health in Maine. The conference was well attended and was a first in what will be a series of on-campus conferences focused on behavioral and physical health. The target audience for these conferences is professionals in various healthcare and human services fields.
Nursing Program Online RN-BSN Program	The UMFK online RN-BSN Program provides opportunities for place-bound, incumbent nurses with two-year degrees to pursue and complete their BSN degree while still employed. The industry standard for nursing is quickly moving to a BSN requirement and this program is being marketed throughout Maine and a number of other states.

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Nursing Program Collaboration with the University of Maine at Presque Isle	The UMFK Nursing Program collaboration with UMPI was launched in the fall of 2018. UMFK is now offering its Nursing Program on the UMPI campus. The goal is to meet the needs of those seeking nursing education in the Central and Southern Aroostook County area; thus fulfilling the urgent need for nurses in rural regions of Maine.
UMFK – USM Collaboration, MSN Program	The UMFK Nursing Program has developed a partnership with the Nursing Program at the University of Southern Maine to participate in offering an all online Master of Science Nursing degree under the University of Maine System's agreement with Academic Partnerships. UMFK faculty will initially offer graduate courses as part of the MSN's administrative track but will be able to expand participation to other areas in the future.
Behavioral Science Certificate in Substance Abuse Counseling collaboration with University of Maine at Augusta.	Launched in the Spring of 2017, the Substance Abuse Counseling concentration in UMFK's Behavioral Science program provides students the courses necessary to be eligible to obtain their certified alcohol and drug counselor certification with the state of Maine. UMFK partnered with UMA to be able to provide all the classes necessary in this curriculum. Substance abuse counseling is a career in high demand in Maine and in the United States.
Irving Woodlands LLC Endowed Professorship in Forestry	Irving Woodland LLC Professor, Neil Thompson joined the UMFK faculty in the fall of 2017. His role is split half-time between teaching and research. His research focuses on advancing the benefits of outcome-based forestry in Northern Maine to address important issues like climate change and biodiversity. Forestry is a rapidly changing industry in Northern Maine and this research will help better prepare tomorrow's foresters.

Associate of Applied Science to a Bachelor in Business Management Upgrade articulation agreement with Northern Maine Community College.	This articulation agreement provides community college graduates with Associate of Applied Science degrees in a number of technical and trade areas the opportunity to use the upper level course in their degree as a concentration in UMFK's Bachelor of Science in Business Management degree. The completed concentration combined with a transfer of general education credits allows students to upgrade from an AAS to a BSBM degree in one and a half years.
JMG - Jobs for Maine Grads at UMFK	Starting fall 2017, a Jobs for Maine Grads (JMG) coordinator, Susan Dubay, has been at UMFK. The position is funded by external State and JMG funds and will provide a number of support services to students who were in a JMG program in high school as well as to students who were in the foster care system. The support provided by the JMG coordinator not only help students be more successful academically, but will help students with career exploration, preparation, and transition.
Internships	Required or optional internship opportunities are provided in the following UFMK academic degree programs: Behavioral Sciences, Computer Applications, Cybersecurity, Conservation Law Enforcement, Rural Public Safety Administration, Business Management, and Environmental Studies. Clinical experiences, preceptorships or practicum experiences are all required in Nursing. Internship experiences are often completed in various areas of the state of Maine as well as throughout the nation, and very frequently result in offers of employment.

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Career Services at UMFK	The UMFK Office of Career Services continues to provide students with a variety of career-related programs and services to better prepare them for the workforce. In addition, the physical location of the office has recently been changed and is not integrated with the Student Affairs Office on campus; thus reemphasizing the connection of career preparation to all aspects of student life and services at UMFK. A sampling of services and programs are listed below.
	
	Career Week (Held every Spring semester)
	   ● *Linked In* workshop
	   ● Mock Interviews – area professionals volunteer to participate in mock interviews with students
	   ● Making Connections Networking event – area professionals spend 2 hours networking with students
	   ● Etiquette Dinner
	   ● Resume Contest – resume are judged by a local professional
	
	Interview Skills Workshop – Four HR professionals from the area spent 2 hours with students in a round table discussion about interview skills.
	
	On Campus Interviews – Each year a variety of employers conduct on-campus interviews of those approaching graduation at UMFK. Examples of employers include, Irving Woodlands LLC, Weyerhauser, Maine Forest Service, etc.
	
	Internship ABC's (Academic, Business, Community) Summit (August 2018) - Employers came to campus to engage in discussions around internship development. MMG Insurance of Presque Isle provided a keynote address on the internship program at MMG. Employers participating in the summit included Maine Forest Service, Irving Woodlands, Northern Lighthouse, UMFK, UMPI, Northern Maine General, Daigle Oil Company, Fish

	River Rural Health, United Insurance, First Mile Brewery, NMMC, Fort Kent Chamber of Commerce, PAWS, Gene's Electronics, Town of Fort Kent, Twin Rivers, Town of Madawaska, Acadia Federal Credit Union, **First Year Experience Presentations -** Each Fall Career Services attends FYE classes to present on Career Planning, Resume writing, etc. **UMFK LinkedIn** –Career Services is now using a UMFK LinkedIn page to post job/internship opportunities, connecting with employers, alumni, and students. **Resume Reviews & Mock Interviews -** Career Services sets up individual resume review and/or mock interview appointments with students at any time of the year.

University of Maine at Machias

Program/Initiative	Description
Biology	The Biology program has a concentration in Fisheries Biology that qualifies students to become certified fisheries biologists by the American Fisheries Society. The Wildlife Biology curriculum was developed to be within one course of meeting the requirements to be certified as a wildlife biologist by The Wildlife Society. The pre-professional concentration is designed to prepare students to support regional workforce needs. The Biology program also utilizes an external NIH INBRE grant to provide workforce development in the biomedical field, featuring activities such as a workforce training course to about eight students per year at Mount Desert Island Biological Laboratory. Two students a year also do a paid summer research fellowship at a biomolecular laboratory in the state.
Business and Entrepreneurial Studies	Business and Entrepreneurial Studies undertook recent program revisions in consultation with UMaine's Business program faculty and in response to regional business interests. They also place students in internship positions with area businesses. Program faculty have consulted with local businesses and nonprofit organizations to assist in developing business plans and marketing initiatives.
Education	Education currently has programs in Elementary Education, Secondary Education, Special Education, and post-baccalaureate Teaching Certifications in Primary, Secondary, and Special Education to address regional and state teaching needs. We work very closely with area schools to place student teachers and to foster professional growth of area educators through multiple CEU opportunities.

Environmental Studies	The Environmental Studies program has a sequence of project based courses, where a student participates in at least one per year. The project for the course usually comes from a community business or agency partner, thus directly supporting specific community resource needs.
Interdisciplinary Fine Arts	The Interdisciplinary Fine Arts program contains a museum management piece that prepares students for work in both archival and digital fields. Students gain work experience in the UMM Art Gallery, Gallery for the Book, Music Library, and the University Archive and Permanent Collection Room that holds the Marin Foundation Collection. Plans also include students working with Station 98 and the Machias Bay Chamber of Commerce to establish a railroading museum.
Marine Biology	Marine Biology provides direct experience in aquaculture linked to regional and coastal economies in that field via applied field investigations, which normally involve Downeast fishermen. These projects are designed to enhance economic development and have a direct impact on both the current local economy and on the future economic outlook of coastal marine plant and animal resources.

Psychology and Community Studies	Psychology and Community Studies offers its curriculum online as well as on campus supporting working students. It has a Disabilities in Youth concentration that includes the birth-age five Teacher of Children with Disabilities Certification Endorsement (B-5 282). The program also offers the Mental Health Rehabilitation Technician certification (MHRT/C). Both of these support state and regional needs. Every major (campus or distant) completes an internship, and every major completes a community-based project for a local nonprofit or business. In collaboration with local human service providers, the Psychology & Community Studies program designed a counseling minor that provides provisional MHRT certification as well as the full Certification that is needed for employment in the field of adult community mental health and rehabilitation in the state of Maine. The certificate is a 10-course sequence that allows students to apply to the Muskie School for MHRT/C Certification. This permits the organizations that employ certificate holders to be reimbursed by MaineCare for the following services: 1) community support, 2) case management, 3) intensive case management, 4) assertive community treatment, and 5) day treatment or rehabilitation. Other adult mental health services include 6) emergency services, 7) outpatient services, 8) crisis intervention and crisis support services. BHP, Required Internship
Recreation and Tourism Management	Recreation and Tourism Management: added a Conservation Law and Natural Resources concentration in direct response to input from advisory board members in the field. (The program is accredited through the Council on Accreditation Parks, Recreation, Tourism, and Related Professions [COAPRT]). Students routinely participate in internships in the recreation and tourism fields that directly support program business partners. Joint Wilderness Therapy Certificate with PCS

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Geographic Information Systems Applications and Substance Abuse Services (SAS)	We have Geographic Information Systems Applications and Substance Abuse Services (SAS) minors that address local and statewide needs. The SAS minor covers the competency areas in the nationally required test for the State of Maine Certified Alcohol and Drug Counselor credential. GIS courses, such as Community Applications in GIS, serve to link students with service projects to meet the needs of the community.
GIS and Advanced GIS Applications	The GIS and Advanced GIS Applications certificates provide students with much desired workforce readiness skills in spatial technologies. The GIS lab also provides services to area town governments and businesses on a contract basis to support a variety of economic development and workforce needs.
Human Resources Management, Entrepreneurship and Marketing	Human Resource Management, Entrepreneurship, and Marketing certificates were developed to equip students in any major with work readiness skills.
Family Studies	The Family Studies Certificate was developed specifically for a yearly cohort of students in the *Family Futures Downeast community collaborative program*. This program is dedicated to assisting families in Eastern Maine to break the cycle of poverty through whole-family education. In addition to academic work at UMM, students are also supported in developing their workforce ready skills with the Adult Education program through a partnership with the Axiom Education and Training Center.
Book Arts	The UMM Book Arts Certificate covers a broad range of student interests in the book arts. The certificate identified and addresses specific needs in the publishing, editing, journalism, paper and book conservation, printing layout and graphic design professions. Students acquire skills through applied work in book repair in the UMM Merrill Library and preserving family albums and heirlooms as a service to the Machias community. Students then contribute their skills through a variety of internships with business and nonprofit partners.

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Audio and Media Production	A new UMM Audio and Media Production Certificate directly addresses IFA student employability by incorporating specific software and technology skills into traditional IFA curriculum. The Adobe Tech training tools prepare students for vocations in new media, video, journalism, and audio production. Students contribute their burgeoning skills through service connections with area partners. A UMM student documentary on opioid abuse produced through this certificate was featured on Maine Public TV and was discussed in several statewide news stories. Student Director Debut: Maine Public. http://mainepublic.org/maine-public-television-schedule#stream/0 "Whatever Works: Exploring Opiate Addiction" has over 25,000 YouTube views. https://www.youtube.com/watch?v=D2ZbSDWGZFs&feature=youtu.be WMTW Portland: IFA student interview http://www.wmtw.com/article/maine-college-students-make-documentary-about-heroin-opioid-crisis/11355361

Partnerships	UMM also partners with Axiom Technologies, the Machias Bay Area Chamber of Commerce, the Machias Career Center, the Sunrise County Economic Council, and a host of other businesses and nonprofit organizations focused on workforce development. Currently there are over 80 active partnerships that support student internships and coops, while UMM faculty and staff serve on multiple organizational advisory boards. We provide a variety of space, dining, and related services to area businesses and organizations for meetings and convenings. Many of our regular services -- the library, fitness center, and dining hall -- are available for use by area employees and businesses. We also offer fingerprinting services that support local schools and other agencies employing people working with children, and host the Harvest of Ideas annual gathering of area educators and administrators.
Career Services Center	Our Career Services Center is in regular communication with employers throughout the region, and works closely with students to help them develop and polish the skills needed for successful employment by focusing on those that employers deem most important: organization, time management, and written and oral communication. We also facilitate student employment opportunities and help meet local temporary and part-time workforce needs by organizing career fairs, student activity fairs and related events throughout the year.
	Annual 4-H Robotics Expo; Annual Eastern Maine Regional Brain Bee; Queer Career Panel for LGBT students; Migrant School Program; Early College Certificates

University of Maine at Presque Isle

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Program/Initiative	Description
YourPace CBE Degree-Completion, Adult Learner Program	This first of its kind program offered by a public university in New England is fully accredited by the New England Commission of Higher Education [NECHE] and it's especially for adult learners. Our life-fitting, online format allows motivated adults like you with full-time work and family obligations to complete competencies and progress toward a degree like a full-time student. This degree was developed by faculty who understand the challenges facing busy adults and are committed to your academic and workplace success. ● Launched in the Fall of 2017 with an inaugural class of 105 students with over 500 inquiries. ● Starting in October of 2018, the University transitioned to offering six entry points each year. In March of 2019 we further transitioned to an 8 week session model. ● Our $1,000/session flat tuition rate for this program is less than one-half the standard in-state tuition rate and one-third the standard out-of-state rate. ● There are no textbook costs or fees because all the materials and resources needed are embedded in the digital platform. ● This program is Financial Aid eligible. ● The program also aligns with employer preferences for workplace tuition reimbursement programs. ● Program participants may also qualify for the University of Maine System's Adult Degree Completion Scholarship. ● Concentrations in Project Management, Accounting, Management and Leadership, and a BLS program have been added to the CBE Options. ● Our program has been branded as YourPace.

Employer U Recap 2018-19	· Continue to provide American Management Association certifications in General Management, Customer Satisfaction, and Human Resources. Courses are offered in the spring and fall. · Developed a new Workplace Excellence series with a primary focus on essential (soft) skills. There are 14 workshops total, each of which employers can have customized to meet their specific workforce development needs. This will launch in May of this year. · Expanded our CEU program for educators by partnering with the Maine Education Association and VESi (Virtual Education Software, Inc.). UMPI is the exclusive provider of VESi courses in Maine and is now providing CEU courses to MEA members as a membership benefit. · We are now in our fourth semester of offering Risk Management and Insurance certification in partnership with the University of Southern Maine. · Delivered new trainings to several area employers, including new workshops as part of the St. John Valley Small Business Seminar series. · Hosted a variety of organizations/groups who are addressing regional workforce development needs. · Delivering the 12th Young Professionals Institute, a leadership program to help area professionals hone their skills for career advancement. This year's theme is "Managing the Career Life Cycle". · Design and deliver full-day conferences for regional organizations. · Expanded our team to include a part-time master trainer and career coach.

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University Experience Programming	As a comprehensive revision of the university's 1-credit First Year Experience course for first time students, a multi-semester University Experience program is being piloted in 2019 and 2020. This will include: · A 2-credit first year course focusing on career planning and retention initiatives · An additional 2-credit service-learning course for students having completed 30 credit hours · A 1-credit discipline-specific capstone course transitioning juniors to graduate school and/or the workforce.

Campus to Career	Campus to Career Steering Committee
	This past year UMPI launched its Campus to Career Steering Committee. This Committee will ensure that students are prepared for career opportunities upon graduation and that UMPI's academic programming is aligned with workforce needs in Aroostook County, across the state of Maine, and beyond. The Campus to Career Steering Committee will provide oversight to the university's matriculation-to-graduation practices in preparing students for professional and graduate careers. This will include ensuring that our students are "job-ready" in that 1.) university services and programming are aligned with the requisite skills and competencies as identified by our public and private sector partners; 2.) students in all programs have increased access to internships; 3) said internships meet the needs of our business partners; and 4) the university works to enrich our graduates' understanding of relevant issues and opportunities to be a force for positive change and productivity in the world after graduation. The committee is comprised primarily with business leaders, as well as several students and university faculty and staff. A portfolio will be created by all students as part of their capstone course. Programs can elect to use a paper format or ePortfolio software and can develop their own portfolio criteria. Distinguished Graduate 2018 Group: 16 students participated. 11 were successful. 36 total panelists. 20 from the community and 16 from campus.

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New Programs	Bachelors in Accounting (Fall 2019):
	· A BS in Accounting has been updated and added to our available programs for Fall of 2019.
	· The program will also be developed and delivered via YourPace.
	Bachelors in Cybersecurity (Fall 2019):
	· UMPI has signed onto the cross campus Cybersecurity program.
	· A shared Director will be hired between UMA and UMPI.
	· The program will also be developed to be delivered via YourPace.
	Bachelors in Agricultural Science and Agribusiness (Fall 2018)
	Bachelors of Nursing through Collaboration with UMFK (Fall 2018)

University of Southern Maine

Program/Initiative	Description

Engineering Buildup	The University of Southern Maine (USM) is leading a planning effort with the University of Maine (UMaine) to develop an implementation plan for the University of Maine System's response to the state's engineering shortage. The Planning Committee has developed a preliminary plan to increase undergraduate engineering enrollment by 1,300 within 10 years (from 2005 in FY18 to 3305 in FY28). This represents a 65% increase in enrollment system-wide, a 160% increase at USM and a 55% increase at UMaine. This increase does not resolve the engineering shortage but would represent a significant contribution by the University of Maine System to address the challenge. To achieve this goal, the plan will include requests for: · New faculty positions at both institutions. USM proposes to increase the number of engineering faculty from seven to 16 in ten years; · USM will establish an undergraduate industrial engineering degree program; · Renovations of existing facilities and/or new facilities at both campus to accommodate program expansion while achieving net zero increase in the footprint; · Joint academic programming between institutions; · Significant increase in internships and coops with intercampus coordination; · Enhanced retention strategy; · A marketing plan for recruiting students within and outside Maine; and · A short and long-term k-12 strategy for increasing interest among high school graduates in engineering careers. The proposal will include a financial plan that forecasts net revenue within 4-5 years following a period of seeding investments from a variety of sources. The goal of the committee is to present the implementation plan to the Board of Trustees at its November meeting.

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USM & SMCC Engineering Partnership	As one of 15 articulation agreements between the two institutions, USM and SMCC forged a new engineering partnership in 2017 focused on increasing the number of qualified engineers in Maine.
Food Studies Program	This interdisciplinary program, led by veteran Economics Professor Dr. Michael Hillard, engages students in the social, economic, and environmental factors associated with global, national, regional, and local food systems. The program, which is pursuing a new major, is highly responsive to the needs of Maine's food-based business, nonprofit, and public sectors by helping students develop a range of professional skills central to working in those varied communities, and it also provides institutional support to grow food systems which ensure long-term economic, social and environmental public health.
Risk Management & Insurance Program	The only academic program of its kind north of Hartford, Connecticut, USM's risk management and insurance program, housed within the business school, was co-created with industry to prepare students and further develop current professionals for careers in the insurance industry and allied risk management fields, such as banking, financial planning, accounting, real estate, stockbrokerage, and third-party administration. This program has been so enthusiastically endorsed by industry that a named endowed chair has been established: the MEMIC John Leonard Chair in Risk Management & Insurance. MEMIC and other industry partners will invest a total of $3,000,000 to fully fund the chair.
Variety/Differentiation in Nursing	In addition to a BS in Nursing degree, USM offers an RN to BSN program, an accelerated baccalaureate conversion program, and graduate level explorations of gerontology, mental health, and education in response to the varied needs within the field of nursing in the state of Maine.

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Tourism & Hospitality Program	Established as a USM major in 2014, Tourism & Hospitality is one of USM's fastest-growing departments. The program is designed to develop a creative, innovative workforce that will sustain and grow Maine's leading industry. The program has developed a relationship with Reykjavik University. It also offers a minor and certificate options.
Variety/Differentiation in Education	From initial certification to educational leadership to a Doctorate of Psychology in school psychology, USM's School of Education and Human Development meets the educational and pedagogical needs of Southern Maine at the elementary, secondary, and post-secondary levels. It is estimated that more than 80% of southern Maine educators have been trained at USM.
Innovation, Creativity, and Entrepreneurship	USM's Entrepreneurship program is one of the fastest growing concentrations within the Business School, and one of the most popular minors across a variety of other disciplines. The ICE program aims to grow and equip new entrepreneurs and small business leaders throughout Maine, as well as develop an overall workforce with an orientation toward innovation.
Undergraduate Certificate in Regulatory Compliance	The Maine Regulatory and Training and Ethics Center (MeRTEC) has partnered with the Social and Behavioral Science program within Lewiston Auburn College to create an undergraduate certificate program consisting of 5 courses that has been reviewed and approved by the Provost and will fully launch in the Fall of 2017. Exploratory talks underway to build inter-institution mechanism to transfer USM undergraduate minor in Regulatory Compliance to UMF.
Professional & Graduate Certificates in Regulatory Compliance	MeRTEC has partnered with the University of Maine School of Law to co-design a professional certificate program that will be offered through six courses starting this October. In Fall 2018, the law school will initiate a new masters of law science degree (MLS).

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Internships or coops developed to better link students to employers	
Corporate Engagement & Relationship Management	In response to employer feedback, USM has internally restructured to better respond to the needs of employers, engage alumni and community partners, and prepare students to thrive in the workforce after graduation. Four new positions have been created with an aim toward creating responsive partnerships that create a robust workforce pipeline and benefit students and industry: a Vice-President of Corporate Engagement position, two Employer Relationship Managers, Operations Manager of the Career & Employment Hub. These positions will manage toward Key Performance Indicators for holistic employer engagement, internship/co-op development, preparation, and matching, career advising, and growing and replicating best-in-class pilot partnerships.
Internship Programs	Internship Programs: About 50% of USM graduating seniors report completing at least one internship experience. As of Fall 2018, every major program at USM offers internships to students. With support from the Maine Economic Improvement Fund, USM offers even more internships, both for credit and not for credit, to provide community partners with a pipeline of prepared future employees. MEIF funds support about 120 internships annually. Employers represented a broad array of fields, including health care, finance, government, engineering, computer science, composites, biotechnology, fisheries, food service and preparation, and entertainment. Additionally, USM has worked with select employers to develop paid summer internship experiences for students that expose students to areas of workforce demand in Maine. This effort will expand in the future.
UNUM Scholars Program	The Unum Scholars program expands students' professional horizons by offering current students direct employment at Unum, working as part-time client data specialists, while also job shadowing throughout the company.

Enactus	An entrepreneurial student group with chapters internationally, Enactus at USM connects students with business leaders and the community to create a better world using business concepts learned in the classroom. Enactus focuses on team community outreach projects that empower people in need by applying business and economic concepts and an entrepreneurial approach to improve their standard of living and quality of life.
Gateway to Opportunity	An employment initiative based on best practices learned through successful national programs. The program connects rising low-income high school juniors and seniors at Portland's public high schools with meaningful, work-based learning projects during the summer months. Through partnership with USM, youth-led tasks include innovative applications of technology to summer projects; integrating faculty, staff, and undergraduate students in achieving tangible outcomes emphasizing the growth of leadership, communication, organizational skills and the application of academic learning to workforce needs.
Special initiatives designed to enhance workforce development in the southern Maine region.	
Employer Relationship Management	With seed support from MEIF, USM hired two employer relationship managers in fall 2017 and spring 2018. These professionals, reporting to the VP of Corporate Engagement and supported by a university-wide advisory council, will manage a portfolio of more than 100 employer relationships each, responding to employer needs and exploring new opportunities to create pipelines and partnerships for workforce development.

Quality Control Collaboratory (QC2)	A partnership between the USM Chemistry department and the dynamic craft brewing industry in Maine, the QC2 promotes both university and industry goals for education, workforce development, research, and economic development while also assisting and collaboratively engaging the brewing community with their analytical needs.
The Ci2 Special Research Studio (Ci2 SRS)	Prepares a generation of students from all disciplines to be engaged and talented leaders: creative and innovative entrepreneurs who add to Maine's creative economy; and enrich its diverse communities. The Ci2 achieves this by providing a unique experiential learning environment where students address real-world problems through hands on project driven challenges. USM students are encouraged to work at the Ci2 throughout their entire tenure at the university. The Ci2 SRS enriches USM's undergraduate student experience and provides them the opportunity to engage in self-directed research and development that leads to innovations in technology, products and services. Ci2 students are creative entrepreneurs who are offered the opportunity commercialize their research at any time, through publication, product deployment or launching a business. The USM's Ci2 SRS prepares a generation of students to be engaged and talented leaders: creative and innovative entrepreneurs who add to Maine's creative economy and enrich it diverse communities.

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The Maine Cybersecurity Workforce Development Program	In addition to the system-wide cybersecurity academic degree program, the USM Maine Cybersecurity Workforce Development Program improves cybersecurity workforce education and development opportunities for Maine's private and public sectors. The program addresses this need by providing incumbent workers and new hires the necessary courses and seminars from participating Maine universities and community colleges to increase their knowledge and skills, and keep them abreast of best practices in cyber security and advanced systems and technology. The program provides internship opportunities for students to participate in real-world projects with guidance from businesses, and improve individual workforce preparation skills.
Southern Maine Partnership	SMP is a school-university collaboration that links schools and university in support of learners, and serves as s regional center of the Coalition of Essential Schools (CES) and a member of the National Education Association (NEA). Current work centers on issues of equity, rigor, and personalization in classrooms, schools, and communities. Through networking, applied assistance, and research and dissemination, the SMP assists schools in fulfilling the promise of public education. Current membership includes 36 school districts, 2 private schools, and USM. Membership represents over one-third of the public school students and teachers in the state, and the major teacher education and leadership development post-secondary institution in the region.

Health Informatics	The Health Informatics (HI) Program supports HI development in Maine while enhancing the health system's capacity to provide efficient, high quality clinical and population health services. The program works with health information and healthcare provider organizations in Maine to provide workforce development and support health data integration and analyses to improve healthcare value as well as clinical and population health. Based on the needs of USM community partners and our collective research and development capacity, our primary areas of focus include: Data innovation and development achieved by linking heterogeneous sources of health and other data to support research, surveillance, and clinical practice; State-of-the-art analytic approaches including machine learning, data mining, and predictive modeling; and Telehealth and mobile health applications for improving health status and clinical care for underserved populations, particularly those in rural or other low-resource areas.
The Data Innovation Project	Provides non-profits, for-profits and government entities with expert, accessible guidance, reliable community needs data and tools to develop, sustain and utilize data in improving their programming and outcomes. The DIP addresses the communities need for enhanced access to reliable data for data-based decision making as well as additional knowledge regarding how to collect and utilize reliable data for planning and decision making. Non-profits and for-profits benefit from centralized community needs data allowing them to develop responsive programming. They also benefit from data and evaluation skills taught through effective workshops and customized one-on-one technical assistance. The effect of providing a central repository of community needs data will be to reduce the cost of doing business as those businesses will no longer have to hire consultants to provide the data. Additionally, with enhanced knowledge of how to thoroughly evaluate their programming, businesses

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	will be able to improve their programming and intended outcomes.
The Maine Regulatory Training and Ethics Center (MeRTEC)	An interdisciplinary, educational partnership between USM and a consortium of marine industries and business startups in Portland. The vision is to establish the nation's first professional development, undergraduate and graduate certificate programs focused on core competencies within law, ethics and the social sciences. The program draws from USM's recognized strengths in these areas to offer online course modules, summer institutes and internships. The impact goal is to make USM faculty and students integral to workforce education, business viability and Maine job growth.
North Atlantic Initiative	North Atlantic Initiative: USM is currently embarking on its next phase of partnership development with Reykjavik University and that is the development of joint academic/research programs in Tourism, Innovation & Entrepreneurship, Marin Bio Innovation, and Engineering. In March 2019, we will begin exploring partnerships with our counterparts in Norway through research partnerships, knowledge transfer, and training activities to provide students and faculty the global experience from which they can learn from this region and apply their gained knowledge to support Maine's growth in economic prosperity. Due to the success of this initiative, USM is transitioning the initiative into the Maine-North Atlantic Institute.
Initiatives Under Development	

Michael Dubyak Digital Science and Innovation Center	The University of Southern Maine has been charged with 1) increasing the regional technical workforce and 2) supporting the advancement of local industry. Based on a personal donation from Michael Dubyak, Chairman of the Board of Directors at Wex, USM is looking to establish a signature Center for Digital Science and Innovation in the Science Building on the Portland campus to address the tasked charges. The recently passed bond issue and other grant resources will support the cost of renovations and the Dubyak gift will support development, programming, management, and some equipment costs. The showcase facility on the Portland campus will be characterized by a high end prototyping makerspace, smart classrooms, common work space, support for digital literacy, student intern programs, entrepreneurial programs, and advanced research labs in engineering, materials, VR/AR, applied physics, and digital science. The Center will also completely house at least one initial industrial partner, a regional leader of composite research, the Maine Composites Alliance's Composite Engineering Research Laboratory (CERL). As an established tech hub and valued resource of the metropolitan Portland area, the Center for Digital Science and Innovation will serve as a beacon for attracting engineers, designers, and business. The Center will bring about a positive cultural shift and increased visibility to the tech and science sector in the Portland area. The center will not only address the aforementioned charged tasks but it will also increase the number of STEM majors generated by USM, support K-12 outreach, and facilitate faculty technology transfer efforts. The proposal has strong support from the University of Maine system as well as regional industrial partners such as Wex, Bath Iron Works, Maine Medical Center Research Institute, Maine Composite Alliance, and others.

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Maine Center for Graduate and Professional Studies	The University of Maine System creates opportunities for its students by providing educational programing that prepares them to meet the needs of the employer community – employer community in its broadest sense, to include business, government and non-profit sectors – and by offering professional education programs that will evolve over time to continue to meet the needs in that community. The Maine Center will advance those efforts by apprising the community of the resources of the academic programs to support workforce development and through development of new programs drawing on all of the assets of the Maine Center academic programs. For students, this will make it possible to access inter- and cross-disciplinary programs in law, business and policy, tailored to today's workforce needs. For employers, the Maine Center initiative is an opportunity to collaborate, shape, and influence the education programming of the Maine Center. The members of the consortium that form the Maine Center include the University of Maine School of Law, the University of Maine Graduate School of Business, the graduate programs of the University of Southern Maine's Muskie School of Public Service, and the Cutler Institute for Health and Social Policy.
Immigrant Community Initiative	USM is undertaking a planning effort with the City of Portland, the Greater Portland Chamber of Commerce and representatives of the immigrant community from Augusta to York to determine the strategies USM should consider to reduce educational, cultural and social barriers hindering the immigrant population from entering and sustaining themselves in the workforce in high paying jobs.

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Woodfords Corner Project Living Laboratory	USM is working with the Friends of Woodfords Corner to engage an interdisciplinary team of USM faculty and staff to support the economic development vision of the group for Woodfords Corner on Forest Avenue, Portland. In essence Woodfords Corner would be a living laboratory on how USM can support community economic development from an economic, cultural, health, social and environmental perspectives. Such as laboratory would not only engage faculty and staff in understanding community needs at the grass root level but also provide undergraduate and graduate students will a tremendous learning experience through internships and assistantships.

University of Maine System

MaineSpark	A core group of stakeholders came together in the fall of 2016 to form the Workforce and Education Coalition, now called MaineSpark for the purpose of addressing Maine's pressing workforce challenge. They form the MaineSpark Core Committee: · Educate Maine · Maine State Chamber of Commerce · Maine Development Foundation · Finance Authority of Maine (FAME) · University of Maine System · Maine Community College System MaineSpark provides a supportive backbone structure to help connect organizations and align efforts over the next 10 years in order to achieve Maine's goal of 60% credential/degree attainment by 2025.

Maine Adult Promise	The UMS has worked with the Maine Development Foundation and other partner organizations in building a broad based plan associated with supporting and expanding adult credential/degree attainment within the state. This work has expanded to become a part of MaineSpark, and is focused on the "Adult Promise", which has been the recipient of a Lumina three-year grant designed to implement broad based supports and design some financial "promise" to assist adults in pursuing a credential.
MaineEARNS	The University of Maine System and the Maine Community College System partner with Maine Department of Labor in the development and expansion of MaineEARNS (Maine Education and Attainment Research Navigation System). MaineEARNS is a data series derived from a variety of sources, and designed to shed light on the effect on earnings of education program completions, and other economic events, over time.
Project>Login	The University of Maine System in partnership with Educate Maine is a key partner in Project>Login, a workforce development initiative focused on expanding the numbers of credentialed computer science/information technology employees in Maine.
Building a stronger Maine food economy	Trustees in 2015 changed University policy to allow for a preference for food from closer rather than farther away from UMS campuses leading to the objective of sourcing 20% of food purchases locally by 2020. As part of this work UMS works with dining hall vendor Sodexo, auxiliary services at UMaine, and cooperative extension to help small producers and processors develop the capacity to sell food to institutional customers. In 2017, three years ahead of schedule, UMS and Sodexo exceeded their goal and expectations by purchasing 23% of food locally. The public-private partnership continued to exceed the 20% goal in the Fall of 2018, spending over $1.2 million locally. The more than 150 Maine food producers who sold to UMS is a 17% increase over the prior year.

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Economic Impact of University of Maine System Purchasing	In FY18, UMS directly spent an estimated $54 million with firms in Maine and another $19 million with firms which have a substantial Maine presence and employ people in Maine.
UMS Program Innovation Fund 2018-2019	Collaborative new programmatic initiatives tied to career readiness and marketable skills of graduates to meet workforce needs. **Partners**: UMS universities
Nursing Workforce Advisory Group	A result of the October 2017 Nursing Summit hosted by the University of Maine System and the Department of Health and Human Services, the group has a statewide role in aligning clinical, academic and policy leaders in their work to increase the number of nursing graduates and recruits to address the current and expanding workforce shortage. **Partners**: UMS, nursing programs, state agencies, health care systems, providers, nursing industry leaders, and others.
Existing Academic Collaborations	Cybersecurity, Nursing Education, and Instructional Technology - each of these programs has a workforce training and development aspect. **Partners**: UM, UMF, UMFK, UMA, USM
Emerging Academic Collaborations	GIS - Spatial Technology, Master's in Nursing Education, Maine - UMaine at Machias Nursing, Pre-Engineering - each of these programs is either well into planning and/or has received funding from the UMS for further development. The Engineering 1+3 launched fall 2018: **Partners**: All UMS institutions
Board of Counseling Professionals Licensure	Chancellor appointed individual who is a member of the University faculty involved in the training of counselors.
Board of Agriculture	Chancellor and Board of Trustee appointed. Legislation stipulates that two research faculty members associated with agricultural research at UMaine sit on the Board.

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Informe Board	The InforME Board, as created by the InforME Access to Public Information Act, is a 15-member entity that combines government and private business interests, education and association representation, all focused on creating the policy that will drive this comprehensive gateway network. Board members include state agencies who are major data custodians, a representative from the University of Maine System, one member from a municipalities association, a non-profit organization advancing citizens' rights of access to information, and a representative from the libraries. Most Board members are appointed by the Governor, with the exception of one public member appointed by the state House and one by the Senate. CIO David Demers serves as the Chancellor's designee. The Board approved the State's master contract with Maine Information Network (MIN) and reviews and approves all Service Level Agreements with state and municipal agencies. The Board also develops each of InforME's two-year strategic plans and provides input about InforME's priorities and policies.
Maine Technology Institute	MTI works with entrepreneurs, innovators, established businesses and institutions conducting research and development to FUND, CONNECT and GROW them to resources that will help them commercialize their technologies. Our programs help innovators accelerate progress to the market, leverage additional private and public investment, and ultimately, expand their economic impact in Maine. MTI is a lead player in the State of Maine's strategy to build an Innovation Economy. Read the 2017 Maine Innovation Economy Action Plan here, and the Executive Summary here. UM Vice President for Innovation and Economic Development Jake Ward serves as the Chancellor's designee.

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Commission on Higher Education and Employability	Regional endeavor of the New England Board of Higher Education Chaired by Governor Gina M. Raimondo of Rhode Island. Purpose is to develop an action agenda, policy recommendations, strategies and next steps to align institutions, policymakers and industry to increase the career readiness of graduates of NE colleges & universities-and facilitate their successful transitions to work and sustained contributions to the well-being and competitiveness of the region. Chancellor Page serves as a member of the commission. The Commission submitted their report [Learning for Life and Work](#) to the New England Board of Higher Education in March 2018.
Science, Technology, Engineering and Mathematics Council	The major duty assigned to the Council is the development of "strategies for enhancing science, technology, engineering, and mathematics education from prekindergarten through postsecondary education" (LD 1540). The Council is creating a "roadmap," a dynamic plan that is based on policy and practice research in education and labor that will "recommend strategic directions for consideration by policymakers as they identify future investments in science, technology, engineering, and mathematics" (LD 1540). The first version is now available [here](#). In addition, the Council is developing initiatives to promote science, technology, engineering, and mathematics education in school and out of school. Vice Chancellor Robert Neely serves as the Chancellor's designee.
Task Force to Recognize Computer Science in the Path to Proficiency	Legislation (PB 2017, Chapter 21) authorizing the Maine STEM Council to appoint a task force to develop an informed strategy regarding computer science in education and career paths.

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Maine School for Marine Science, Technology, Transportation and Engineering	The Maine School for Marine Science, Technology, Transportation and Engineering is established as a public magnet school for the purpose of providing certain high-achieving high school students with a challenging educational experience focused on marine-related science, technology, engineering and mathematics. The school is a body politic and corporate and is an instrumentality and agency of the State. The exercise by the school of the powers conferred by this chapter is the performance of an essential public function by and on behalf of the State. UM Director, Maine Sea Grant Dr. Gayle Zydlewski serves as the Chancellor's designee.
State Workforce Board	Board is responsible for assisting the Governor in performing the duties and responsibilities required by the Federal Workforce Innovation Act of 2014. Chancellor or designee is an advisory member: Appointed by the Governor.
Steering Committee of the Maine Education Policy Research Institute 'MEPRI'	Established to collect and analyze early care, public preschool, kindergarten to grade 12 education information and to perform targeted education research for the Legislature. The MEPRI Steering Committee advises the Legislature and the University of Maine System on all matters related to the Institute. The members are appointed by the Joint Standing Committee on Education and Cultural Affairs for a term of 2 years. UMF Acting Provost and Vice President for Academic Affairs Katherine Yardley serves as the Chancellor's representative for the 2019-2020 legislative biennium.
FocusMaine	Their purpose is to strengthen and revitalize opportunity and prosperity in Maine by accelerating the creation of quality jobs within a few select, traded sectors that have high growth potential, based on global growth projections and Maine's competitive advantages in those sectors. Chancellor Page sits as the Team Chair for the Academic Advisory Committee.

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Maine & Co.	Maine & Company is a private, non-profit corporation with members and a board comprised of senior executives from Maine's top businesses, the president of the Maine State Chamber of Commerce and the commissioner of Maine's Department of Economic & Community Development. Chancellor Page serves as member of the Executive Board. Their services include real estate site searches, data collection and analysis, incentives identification and valuation, site visit coordination, workforce analysis, and financing coordination. They are a one-stop shop for business relocation or expansion. Whether your business needs are driven by specific real estate requirements, labor force availability, incentive maximization, or any other criteria, Maine & Company can help you select the business location that best meets your needs.
Three Ring Binder BTOP grant	The Three Ring Binder project created an open access fiber-optic network extending to the most rural and disadvantaged areas of the state of Maine linking the unserved and underserved areas of the state together with a modern communications network. The project created a 1,100-mile network that passes through more than 100 communities making broadband more readily available to 110,000 households, 600 community anchor institutions, and a number of last mile service providers. A new for-profit company, Maine Fiber Company, focused solely on the lease of dark fiber assets, was created to receive, administer and deliver on the objectives of the grant proposal. This public-private partnership enabled the delivery of 10 Gbps and greater broadband capabilities for University of Maine System campuses, community colleges, government facilities, public safety departments, the MaineREN research and education network, and rural healthcare clinics and hospitals. Total Award: $25,402,904 **Partners**: Maine Fiber Company

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Old Town - Orono Fiber Corporation (OTO Fiber)	OTO Fiber is a public-benefit nonprofit 501(c)(3) corporation formed by three entities: the City of Old Town, the Town of Orono, and the University of Maine System, having its flagship campus located within these two municipalities. The three founding entities have joined with the goal of bringing open-access, high-speed, symmetric, fiber-based Internet connectivity to the communities, for economic growth, improved access to University resources, and improved entrepreneurial and innovation opportunities. A pilot project has been successfully funded by the combination of a Northern Border Regional Commission grant and City and Town funding. **Partners**: City of Old Town and City of Orono

Northern New England Neutral Internet Exchange (NNENIX)	NNENIX (say "nee-nicks") is a new, non-profit Internet Exchange (IX) specifically for Maine, New Hampshire, and Vermont. An Internet exchange is a network fabric and physical location where Internet network operators and enterprises can come together to peer, or pass Internet traffic between each other's networks in a more optimized way. NNENIX is not an Internet Service Provider (ISP). It is a connectivity resource for ISPs, content providers, government, education, healthcare, and commercial enterprise networks. NNENIX assembles the "critical mass" needed to attract major international Internet providers and content distribution networks to the Northern New England market. NNENIX, with the University of Maine System acting as an anchor tenant, has successfully attracted Hurricane Electric (he.net) to Maine bringing with them on-net pricing much lower than previously available in Maine. NNENIX will have the long-term effect of improving overall Internet speeds, reducing Internet bandwidth costs, and increasing the reliability and resiliency of the Internet for its members, and for the general public in all of Northern New England. NNENIX is incorporated as a non-profit in the state of Maine and has applied for IRS 501(c)3 status. As of April of 2017, starting at its first location in Portland, Maine, NNENIX's initial membership includes Networkmaine which encompasses the University of Maine System, the Maine School and Library Network (MSLN), and MaineREN and Bowdoin College with a number of Maine based ISPs expected to join in the fall of 2017. **Partners**: Networkmaine, Maine School and Library Network, Maine REN, Bowdoin College

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IT Workforce Development	US:IT has adopted a strategic initiative aimed at facilitating expansion of student internship opportunities in computer science and information security areas across the UMS. Work has begun to establish a pipeline for students interested in cybersecurity to partner with the US:IT Information Security team. Furthermore, the Advanced Computing Group (ACG) Cyberinfrastructure Engineer has worked with numerous students funded by the Cyberinfrastructure Team grant to greatly leverage the amount of assistance that can be given to researchers in the Data Sciences. UMS has launched 8 such projects, including one with UMF and the rest at UM. The Data Science initiative is primarily geared toward workforce development. Additionally, ACG is an active participant in a grant that teaches programming and computer science skills to middle school students using the MineCraft game as a platform through which the programs interact. This has been shown to increase interest in STEM careers and has also shown a correlation between improved spatial skills and interest in STEM. A soon to be submitted proposal to the Department of Education would fund additional work in this area. The Advanced Computing Group, on its own and in conjunction with the Fogler Library have also led a series of training seminars to assist with the use of cyberinfrastructure for research.

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March 20, 2019
Pre-publication draft

University of Maine System Research and Development Plan FY 2020 – FY2024
R&D to promote industry, business, and community growth in Maine

Joan Ferrini-Mundy, President, University of Maine and University of Maine at Machias

Executive Summary

We propose that the University of Maine System advances three R&D goals for the state of Maine over the next ten years:

1. Make Maine the best state in the nation in which to live, work, and learn by 2030.
2. Establish an innovation-driven Maine economy for the 21st century.
3. Prepare the knowledge-and-innovation workforce for Maine.

The University of Maine System (the System), with its seven distinct campuses, its more than 5,000 employees, its 28,040 students, and its $550M overall budget, is a vital and vibrant asset to the state of Maine.[i] As the heart of the state's public system of higher education, the students, faculty, and staff at the System campuses are defining the future of Maine. Our institutions provide a broad suite of educational programs designed to prepare future generations of professionals, leaders, and innovators for our state and beyond. Here we propose a framework for research and development (R&D) for the System.

The University of Maine, the state's only public research university, has a comprehensive portfolio that addresses the most challenging problems of our time (i.e. "grand challenges") through basic and applied research, development, and commercialization, with direct impact in Maine. We emphasize the importance of basic, foundational research in this context, knowing that the applications of the new knowledge generated from those research programs will provide unpredictable benefits to our state and our society in the decades to come.

The University of Southern Maine provides research leadership in economic, social, environmental, health, and workforce development policies that advance the state's economy, and with its greater Portland location, advances workforce development and applied learning, and tackles the pressing community and state policy issues that weigh on the minds of Maine people. The University of Maine at Augusta, the University of Maine Farmington, the University of Maine at Fort Kent, the University of Maine at Presque Isle, and the University of Maine's regional campus, the University of Maine at Machias, all add vital and distinctive opportunities for geographic and place-based R&D specialization, where researchers and students, in partnership with their communities, strive to find solutions to critical challenges that span our state.

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Most critically, there are active, internationally recognized scholars and researchers who are moving society forward through their scholarship and research on all of the University of Maine System campuses.

In December 2018, the University of Maine System Board of Trustees issued a Declaration of Strategic Priorities,[ii] the first of which is Advancing Workforce Readiness and Economic Development, with a priority action item: Strengthen research and economic development efforts to support Maine industries and to foster business formation and expansion. The President of the University of Maine and University of Maine at Machias was charged by the Chancellor to deliver a multi-year plan for expanding research and development across the System by March 2019.

The plan we present here has been developed in consultation with faculty, professional staff, and researchers from throughout the System; the presidents of the System universities; and the Vice Chancellor for Academic Affairs. In particular, the findings and recommendations listed below emerged through a number of open sessions with faculty and staff, through web-based inputs to the plan, and through engagement with external stakeholders.

Maine has a history of linking university-based R&D to economic needs across the state's urban and rural landscapes. The University of Maine System has a remarkable span of research, scholarship, development, commercialization, technical assistance, policy analysis, and creative contributions across disciplines resulting from the efforts of faculty, staff, and students. That work is of significance not only to the state of Maine, but also to the nation and beyond. We provide examples and discuss the importance of that diversity of scholarly work and knowledge building, including how such work can intersect and bolster the science and technology R&D enterprise as specified in the state's seven legislated technology sectors. Because of the emphasis on economic development, this plan includes special focus on research in science and technology, using national indicators and metrics available in those areas. But, to achieve the three goals listed above and to fulfill our missions as universities, the full, broad, and comprehensive set of creative, knowledge-building, translational, and community-engaged scholarship must be sustained, supported, and celebrated across the System.

The state of Maine, the University of Maine System, and the University of Maine are underperforming in R&D activity and expenditures.[iii] We clearly need to boost our R&D performance as a state, a System, and a research university in order to serve the state and its people, and to be competitive nationally. We need to establish research focus in Maine that will support the future economy, and to ensure that all campuses are able to participate in R&D as appropriate to their mission. There are clear steps proposed in this plan that the System universities, in partnership with other entities, can implement to improve the situation.

The findings and recommendations that follow acknowledge many positive features of the current context for R&D across the System. However, for the University of Maine System institutions to collectively move to the next level and lead in the accomplishment of the three broad goals will require substantial new investment from a variety of sources, as well as realignment of current resources. In addition, re-examination and reformulation of certain policies, practices, and collaborative mechanisms will be needed to support the R&D enterprise.

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Data from the past 20 years, along with national benchmarking, give every indication that such investment in the research, realignments, and reformulations will yield tangible benefits and significant returns for Maine's economy, its people, and, most importantly, its learners, for generations to come.

Finding One: Investment by the State of Maine and the University of Maine System in R&D has been essential to reach our current R&D capacity.

The Maine Economic Improvement Fund (MEIF) was established by the Maine Legislature in 1998, and the Research Reinvestment Fund (RRF) was established by the System Board of Trustees in 2015. Without these resources, it is quite possible that engagement in R&D at the University of Southern Maine and other System campuses would have been minimal, and the capacity at the University of Maine to seek and obtain external funding would have been severely impeded. These state funds have leveraged significant external funding, and enabled hundreds of students to participate in research. To sustain and grow a university-based R&D infrastructure in Maine in the next ten years that is properly scaled to achieve the goals will require increased investment from state and System sources. It will also require re-alignment over time within campus budgets. Clear metrics and accountability expectations will be necessary to track the outputs, outcomes, and impacts of these changes. Such investment stands to raise our national ranking and competitiveness with similar institutions in other states for federal funds, leading faculty, and excellent students. But, most importantly, these investments will yield benefits for the students and people of the state of Maine by enabling preparation of a knowledge-and-innovation workforce to fill key positions and attract business in a growing Maine economy.

Recommendations:

First, we recommend that the Research Reinvestment Fund be renewed for five years, at a level of $4M per year beginning in FY20. Additional new selection priorities should be considered, such as partnerships with private-sector entities or local communities to solve practical problems, or collaborations among researchers on different System campuses. These investments should promote strong networks of researchers; allow adequate time for faculty to conduct research, and expand opportunities for paid student research experiences. Outcomes should include return on investment, effectiveness in leveraging external funding, and the quality and impact of student engagement in research.

Second, we recommend regular increases in the MEIF investment to reach a steady level of $40M annually by the end of FY24. This fund supports the on-campus capacity, including researchers, students, and facilities that allows success in the intense national competition for federal research funding from the National Science Foundation, the National Institutes of Health, and other agencies. Additional MEIF resources would sustain and enhance infrastructure, and expand research capacity and expenditures in the highest-priority R&D areas for Maine's future well-being and economic success. Improving Maine's standing in national rankings of higher education expenditures in R&D (Maine is 51st)[iv] should help attract R&D-intensive industry to the state. But the most important outcome of this investment will be expanded opportunity for Maine students to be educated in R&D-rich environments so they can be tomorrow's Maine

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leaders and innovators. System campuses will be asked to consistently track and report the number of students involved in R&D. An interim review of return on investment on MEIF funding should be undertaken in FY22 for the years FY20 – FY22 to allow for mid-course correction.

Third, the System institutions will collaboratively develop a plan for integrating R&D expenses in the Educational and General (E&G) budget, in parallel to the way that instructional costs are embedded. In addition, universities will consider realigning resources within their E&G budgets to provide additional support as appropriate for their R&D goals, e.g., by directing indirect cost recovery back into the research enterprise. This commitment will contribute to attracting students in Maine and to Maine by expanding the breadth of learning opportunities, including such options as paid internships with Maine companies interested in R&D expertise. Students with exposure to undergraduate research are likely to continue into our graduate offerings, establishing a pipeline and improving the quality and capacity of the System graduate student body. These students will be prepared for the jobs of the 21st century and will be competitive in the national job market.

These changes would raise the profile of the University of Maine and other System campuses in ability to recruit students who are interested in undergraduate research, to attract and retain first-rate research faculty and graduate students, to compete for external federal funds, and to partner with the private sector to engage in R&D. All of these potential outcomes should be considered in designing accountability measures.

Finding Two: Each System campus has its own unique, engaged R&D core of expertise that should be further strengthened.

Research now and in the future will have a major role in "Making Maine the most desirable state in which to learn, work, and live by 2030." Across the System, we have a rich and diverse set of interests, and great expertise among the faculty to continue ongoing R&D, and to undertake new lines of work in connection with their students. Each institution has distinct identifiable strengths and emerging goals for their role in R&D, and R&D is differentially central to the different universities in the System. For the University of Maine, the state's comprehensive land and sea grant public research university, basic and applied research, development, and commercialization are core to the mission. At the University of Southern Maine, the R&D strength also spans many areas, and much of the work is applied. Goals for applied learning and workforce development are important there. On the other System campuses, there are excellent examples of research and scholarship fully integrated into instruction and service, together with some externally funded research.

Recommendations:

First, each of the System campuses should develop a five-year R&D implementation plan for increasing research expenditures aligned with the goals of this plan and appropriate to each campus. Coordination and collaboration across campuses in R&D can then be considered. Existing and emerging signature R&D strengths at the University of Maine and other campuses will provide a foundation for this effort. By

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connecting to those established and emerging areas of strength, all campuses can design research agendas that are tailored to specific needs of their communities and geographic regions, that suit the interests and expertise of their faculty, and that will engage their students. Coordinated and public campus plans will be useful to potential new businesses and partners.

Second, the System universities, working together with AFUM and Human Resources units, should design and implement creative approaches to joint faculty appointments, including membership in the University of Maine Graduate Faculty. Such appointments will help to reduce barriers to conducting research and allow direct engagement with doctoral students. R&D faculty and student exchange and residency programs will be considered. The idea is to cultivate more cross-campus R&D collaboration that will generate tangible results for specific problems in Maine.

Third, the universities should collaborate on data governance in R&D to achieve consistency in reporting and to ensure appropriate credit for R&D expenditures. Methods to consistently include credit for a range of types of scholarly production should be explored when national surveys are not sufficient. By addressing these matters, we would support accountability and enable measurement of progress. In addition we should assess System-wide access to research databases of interest to scholars on multiple campuses and create cost-effective solutions.

Finding Three: Across the University of Maine System, we have been failing to compete as well as we should for significant federal funding, and our facilities, infrastructure, and administrative support for R&D are inadequate in several fields important to Maine's future.

The System as a whole is underperforming in higher education R&D expenditures. Between 2007 and 2016, Maine's total R&D expenditure declined nearly 40%, the largest decline of any state over that period. Many federal competitive-grant programs provide funding for R&D in areas that are highly relevant to the state of Maine. There are dozens of federal competitive grant programs available across the major science agencies[v] annually in R&D areas of relevance to the state of Maine for which few or, in some cases, no applications are made from System universities. This unacceptable situation results from a combination of lack of faculty, graduate students, and postdoctoral research associates to prepare proposals; insufficient administrative capacity to support proposal planning and submission; inadequate faculty time to prepare proposals because of competing teaching and service loads; and lack of postdoctoral associates and technicians. In addition, there is a critical need for improved facilities, acquisition of modern and innovative instruments, and research resources, and procedures for sharing equipment and instruments. Sometimes faculty cannot pursue research funding opportunities because the needed equipment and facilities do not exist in the System, or the costs of compliance and purchasing licenses would be too great for faculty to cover on their own. Other similar universities have this research infrastructure in place already, which puts our faculty at a disadvantage when competing for federal grants. And there are opportunities to engage undergraduate students in research that are not being realized because of the lack of needed equipment and personnel. Improving modernized

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equipment has the added benefit of training our students for the jobs of the future that would use this instrumentation. All campuses report a large need for more administrative support in R&D. *Despite all this, we believe that System faculty and staff are resourceful and deeply committed to their students, their research, and to Maine, and that we can remedy much of this situation with relatively modest resources, and increased coordination and communication.*

Recommendation:

With combined additional resources, the universities will review and address needs for coordinated hiring of faculty in key areas of importance to the state as determined, for instance, by System Board of Trustee goals, or recommended in the reports of the Maine Economic Growth Council or other statewide processes. Similar coordination or information-sharing should be applied to hiring of postdoctoral associates, and technicians, and graduate students. In addition, a System-wide inventory of R&D instruments and facilities should be assembled and made available to all new faculty. Campus master plans should address needs for expanded and renovated R&D facilities. In addition, the comprehensive research administration and development capacity currently in place at the University of Maine should be made available to support faculty research needs across the System. Intercampus research administration collaborations between the University of Maine and other System campuses have been established (e.g. with the University of Maine at Machias and the University of Maine at Fort Kent). Research administration services also exist at the University of Southern Maine. Both the University of Maine and the University of Southern Maine house expertise for research compliance, which could become shared resources with other System campuses.

Finding Four: Across the System undergraduate students are engaging in authentic research experiences and community-engaged research initiatives that are benefitting the region and the state.

The opportunity to participate in research, development, and commercialization activities is highly attractive to undergraduate and graduate students, and a significant number of faculty across the System are effectively integrating research with instruction, including community-engaged research on problems of specific local interest. However, this student involvement is not as widespread or systematic as would be necessary to attract many more students to the System institutions.

Recommendation:

The System must provide leadership in incentivizing and enabling every undergraduate student in the University of Maine System to have a meaningful/authentic experience in research, scholarship, development, creative production, policy analysis, translation, or commercialization. System Program Innovation Funds should be considered as a resource. The use of Course-based Undergraduate Research Experiences (CURES) should be piloted across the System according to campus capacity and interest, supported with campus resources, and evaluated. Impact on recruitment, enrollment, and retention will be assessed, as well as the ability of students to obtain paid summer internships and future employment after graduation, including whether students remain in Maine.

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Finding Five: The private and nonprofit sectors and the Maine State Government are eager for expanded R&D interactions with higher education.

Private-sector entities already partner in R&D relationships with several System universities, with a large number at the University of Maine. External companies considering moving to Maine also have expressed great interest in partnering with entities in the System to extend their R&D capabilities. However, pairing System research experts, and gaining access to R&D to respond to those external interests is challenging. If System institutions were more easily able to partner well with private-sector industries and businesses, we can tap a great source of economic stimulus in the state and opportunity for student interaction.

In the context of a dispersed and locally driven ecosystem in Maine for economic development, University of Maine System faculty and staff are deeply engaged in efforts to support commercialization, business development, and incubation, and private sector needs in R&D. Those efforts could be expanded with potential impact statewide. And, in areas of policy and business that are key to the state, ranging from ecosystem health, health care and new uses of forest resource products, to education, aquaculture, renewable energy, and agriculture to balancing competing interests related to marine resources, and biomedical and biotechnology applications, the System institutions already are positioned, because of the breadth of research expertise, to more systematically provide background information and analyses to the state and to the members of our federal delegation.

Recommendation:

The universities should continue to work closely with the private and government sector to establish productive collaborations. Such approaches as the creation of a *Maine R&D Fellows* program designed to connect System faculty, state government, Maine's federal delegation, and potential private/nonprofit partners to work collaboratively should be considered.

The University of Maine will undertake a high-level review of existing doctoral graduate programs in the STEM fields. The review should consider how program emphases align with current and projected state needs, whether basic, discovery research is sufficiently supported, and whether new directions in science and technology, including convergence, machine learning, and shared datasets are being incorporated. Program consolidations, new program development, and other realignments should be undertaken to lead to increased production of doctoral degrees, an important part of building R&D capacity.

The institutions will engage in more robust communication of System R&D accomplishments statewide and nationally. Finally, we call for strategic interactions with the Governor and the Maine State Legislature in identifying and responding to changing priorities needing R&D inputs.

The success of the R&D enterprise in the University of Maine System depends, ultimately, on the creativity, willingness to innovate, and productivity of the individuals and groups engaged in that R&D. The System must make strategic shifts in policies,

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practices, and resource allocation to enhance the abilities of our faculty, students, and staff to reach their potential. They will then become the regional, state, national, and international leaders in research that they are already qualified to be, and the students and people of Maine will benefit.

[i] http://www.maine.edu/about-the-system/ums-data-book/

[ii] https://thinkmissionexcellence.maine.edu/wp-content/uploads/sites/1/2019/01/BOTDeclaration.pdf)

[iii] https://www.nsf.gov/statistics/2019/nsf19303/nsf19303.pdf

[iv] Ibid.

[v] National Science Foundation, National Oceanic and Atmospheric Administration, NASA, U.S. Department of Agriculture, National Institute of Standards and Technology, National Institutes of Health, Department of Defense, and U.S. Department of Education.

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Adult Degree Completion
Preliminary Report and Recommendations
June 2018

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Adult Degree Completion
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Executive Summary

A critical element of Maine's economic future centers on increasing statewide educational attainment so that 60% of Maine adults ages 25+ have a post-secondary degree or a vocationally significant credential by 2025. Given Maine's demographics, that number cannot be reached without a major increase in the number of adults seeking and obtaining post-secondary credentials.

Engaging adult learners is a well-established UMS priority. For example, UMS's Adult Degree Completion (ADC) initiative has been active since 2013 and in November 2013, the BOT passed a resolution recognizing adult learners as a core student constituency. More recently, led by UMS, Maine was one of four states selected by SHEEO[1] with funding from Lumina to participate in a multi-state pilot for engaging and retaining adult learners. As part of that initiative, UMS became a founding member of the MaineSpark state attainment effort to achieve the 60% benchmark. UMS now needs to better integrate its adult learner initiatives and programs in order to respond to this challenge.

Assuming acceptance of the basic premises and support for the short- and long-term recommendations outlined within this plan and called for as a part of the new charge to the ADC Committee (see 2018 Charge contained within the Appendix), the ADC Working Group will develop an implementation plan with prioritization, timeline and resource identification. In order to achieve our goals for adult degree and credential completion, investments must be made in a variety of areas – at the campus, System and state level. As the implementation plan is developed, we will identify short- and long-term funding needs (one time and ongoing). A window of nine weeks did not give us sufficient time to do more than review our current state, learn and research what has been done nationally and in Maine, reflect on and learn from our post-2013 ABCDE experience, and build a plan that reflects best practice, makes the case for why this population MUST matter to us and lays the groundwork for the work to come.

While much has occurred since the 2013 report and some progress has been made, we still "have miles to go" in addressing the needs of our adult learners, as evidenced by the recommendations still left uncompleted. As will be made clear within this report, our efforts in this area have been plagued by the old phrase "culture trumps strategy." All the good strategic thinking in the world cannot survive a culture unready or unwilling to adapt in a changing landscape. Our hope is that, this time, we can provide the leadership and will across those campuses ready to serve adults to be successful.

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[1] SHEEO is the State Higher Education Executive Officer organization

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Why Adult Credential and Degree Attainment Matters to Maine's and UMS's Future[2]

- A declining traditional age, high school demographic in Maine and New England and intense competition for these students
- Projected 158,000 additional workers needed In Maine by 2025 with advanced credentials of degrees
- To meet this need, 60% of Maine's workers need to have advanced credentials or degrees (we are currently at 43%)
- Large numbers of retirements which could potentially leave many Maine communities without critical services (health care, legal, municipal, mental health, etc.)
- Maine is the oldest state in the nation; out-migrations and death are outpacing in-migration and births
- Rural areas are suffering the loss of traditional Maine jobs and industries (manufacturing, fishing, etc.)
- Despite a low unemployment rate, too many Mainers are "underemployed," have difficulty finding jobs at a livable wage, and are without the skills to meet the needs of the future economy
- Maine's median income ($51,500) lags behind the national average and is far below most New England states
- 13.9% of Maine's population lives in poverty (17.5% of our children); 23.3% of our children suffer from food insecurity
- Our rural areas are especially at risk – many do not have reliable broadband service, access to higher education campuses, healthcare, child care or transportation
- An estimated 200,000 adults in Maine have some college but no degree – flexibility of program and access across the state is critical
- The adult population in Maine is comprised of those 25+ in age, may be veterans, could be "New Mainers" (immigrants/ refugees), many are single mothers, most are caring for children or other adults
- The adult population is a critical enrollment strategy for the sustainability of the campuses of the UMS and for our service to the state of Maine.

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[2] Source: Materials and presentations related to MaineSpark, Maine's state attainment initiative and the Adult Promise grant submitted to the Lumina Foundation, May 2017

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Key Recommendations in Priority Order

Click on recommendation for detail goals

Recommendation	Page	Who	Short-Term (<12 months)	Mid-Term (1-2 years)	Long-Term (3+ years)
1. Executive support and sponsorship	16	UMS Leadership and Governor (MaineSpark/Adult Promise collaboration)	Policy update/creation, initiatives, funding!	Ongoing policy development (within System and within State connected to MaineSpark/Adult Promise)	Ongoing
2. Appoint a full-time professional to lead the adult degree completion initiative	16	UMS Leadership in conjunction with ADC Committee	Immediately begin to secure funding for and hire a full-time lead to guide strategic initiatives related to adult learners	Coordinate with existing to ensure alignment with initiatives related to adult learners and their success	Based on success of current initiatives, coordinate the rollout of other programs for adult learners
3. Appoint and empower ADC Working Group	16	Chancellor and Presidents	Immediately-appoint, connect to MaineSpark, pull together project teams, develop detailed implementation plan with funding	Assess membership based on plan implementation	
4. Identify campuses most able/ready to serve adults	16	Chancellor/Presidents	Immediately – 3-4 seem ready	Work with other campuses to bring those interested into readiness	
5. Prioritize target programs, course and program format/length, credential development	16	VCAA and Campus academic leaders	Implement collaborative master, next steps OPM, conduct mkt research, identify and remove barriers to enrollment (policy/practice) Innovation hub, shifting academic culture, stackable credentials	Develop new collaborative degrees, incentive funds for start-up, expand CBE, expand PLA, identify completion college(s)	Ongoing development

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6. Support faculty professional development	18	Faculty in targeted programs	Continue SAALT, develop shared faculty development across the System	Determine additional faculty development and support related to ADC	Ongoing
7. Develop shared student support delivery model	18	ADC working with CSAOs, EMC, student service areas	Implement renewed "navigator" model, provide professional development for wrap around services (with MaineSpark), develop clear on ramp, resolve barriers	Develop unified, cross-institution support team to serve adults (call center/24-7 service)	
8. Provide Financial intervention and scholarships	19	ADC Working Group working with campus EMC, CBOs, VCFA	Identify scholarship for adults with no credit, small debt forgiveness, emergency loans/funds, explore expansion of Pell Promise	Ongoing with marketing campaign and as other needs identified; work with MaineSpark to advocate for state support	
9. Identify target audiences	20	ADC working group with participating campuses	Connect to work of MaineSpark/ Adult Promise, start with "some college group"	Add other adult groups, Refine as needed and assessment occurs	
10. Launch marketing and communications plan	20	ADC Working Group with MaineSpark/Adult Promise	Secure funding, vendor, key messaging, partner/co-brand with MaineSpark	One-stop, single source web resource; develop a comprehensive UMS outreach campaign; develop external partnerships; promote "activist agenda"	Ongoing
11. Identify and Garner External funding support	22	UMS leadership	Ongoing	Explore funding sources and pursue	Ongoing
12. Evaluation, assessment and improvement	22	ADC Working Group	Develop annual reporting specific to adults, develop research agenda,	set campus goals for adult enrollment, incorporate in campus EM plans	Ongoing

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Maine's Attainment Challenge

Maine lags behind New England in the proportion of the adult workforce with two- and four-year college degrees and advanced credentials (43%), putting the state at a competitive disadvantage from the perspective of economic and workforce development but also from the perspective of community and family prosperity. Five counties in Maine have attainment rates below 30% (Aroostook, Oxford, Piscataquis, Somerset and Washington, and all of these have percentages of adults with no college at all between 35% and 46%)[3]. Education attainment varies by race in Maine with Native American and African American attainment between 25-27%.[4] Employers are facing a wave of retirements as the "baby boom" generation begins to exit the workforce. Employers speak to the dual concerns of their ability to fill both new and existing positions, and that those employees entering or in the workforce will not have the skills to meet their need. Several projections suggest that, both nationally and here in Maine, there will be significant skills gaps between future job needs and the credential/degree attainment levels of the workforce. Maine is the oldest state in the nation with a median age of 44.5; the numbers of high school/traditional age students is forecast to continue to decline through 2030. Addressing the educational needs of Maine's adult population, both those in the workforce or yet to enter, is both an opportunity and challenge for Maine and is a critical call to action for the UMS to adapt to the changing higher education environment and deliver on its promise to make education accessible, affordable and flexible to respond to the needs of these students across the entire state.

Following the lead of the Lumina Foundation in its work across the nation, a statewide Workforce and Education Coalition, made up of a diverse set of leaders from education, business, philanthropic, nonprofit and government organizations came together to set a credential/degree attainment goal for Maine and to realize that goal by 2025. This statewide Coalition and work, now called MaineSpark, provides the framework for organizing and aligning work across the state to meet this goal; the UMS adult degree completion work fits as one of the strategic components of that work. In late 2016, the Coalition set a goal for Maine of 60% by 2025. In real terms, and based on a projected approximately 1% growth per year over the time period, this translates into a need for 158,000 more workers in Maine who have a credential of value beyond what they have today. This number does not include the additional workforce lost through retirement which by some estimates brings the number to over 200,000. The Coalition identified four strategic priorities for meeting this goal: strong foundations (birth to 6th grade), future success (grade six through age 24 – traditional population), adult promise (age 25+), and new opportunities (retaining and attracting existing

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[3] US Census Bureau, 2011-2015 American Community Survey 5-Year Estimates
[4] Lumina Foundation. "A Stronger Nation" Report, Maine's Report 2017

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and new populations to Maine). The foundational work of MaineSpark is supported in part by a Lumina Foundation grant.

A broad group of organizations which promote opportunities for adult learners formed an Adult Degree Attainment Partnership (ADAP) in 2014 to explore the current status of adult credential and degree attainment in Maine, research best practices across the nation, and develop a set of recommendations connected to better serving this population and helping larger numbers of them attain a credential or degree. The UMS initiatives coming out of our 2013 ABCDE report provided critical learnings that helped to frame and inform the ADAP work, and the UMS has been an engaged and core partner throughout. That work formed the underpinning for the "adult promise" component of the broader state attainment initiative and placed Maine in an ideal position to apply for a Lumina Foundation "Adult Promise" grant in 2017; the purpose for the grant was to "seek to increase opportunities for Maine's adult learners to attain a college degree or credential of value with the goal of increasing the number of adults with degrees or credentials of value in Maine."[5] Connecting to this project, and to the broader work of MaineSpark, will be an important factor in the next "generation" of the UMS' approach to responding to the adult credential and degree attainment challenge.
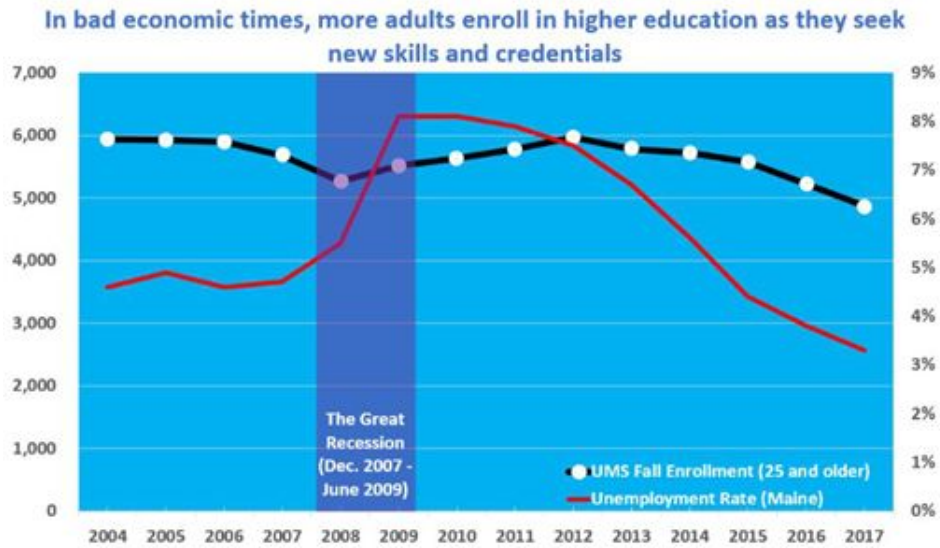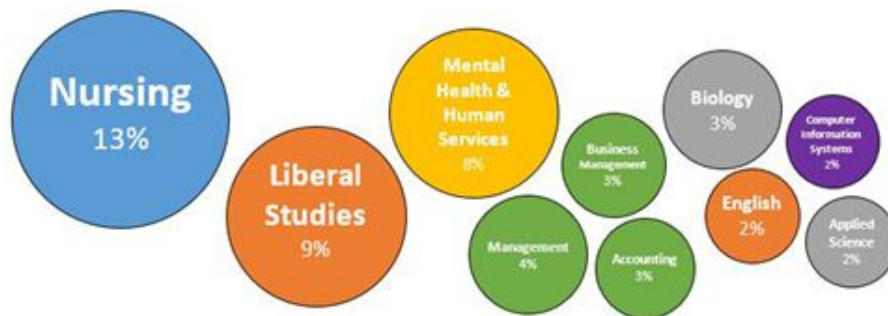
Who are our adult learners?[6]
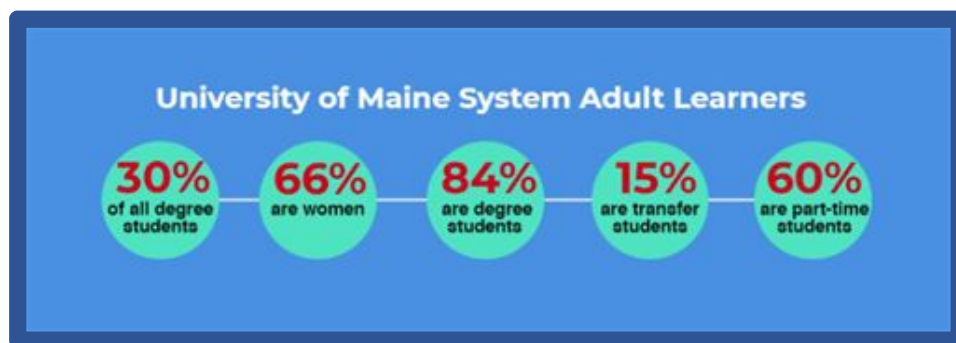
Most adult learners have family responsibilities in addition to a job. Many care for a dependent, struggle financially, and receive benefits from a third party agency. Many enroll after a life-changing event: unemployment, children entering higher education, death in the family, a life-changing disability, divorce or discharge from military service. They could be a "New Mainer" new to the US education system or bringing prior learning difficult to translate into a credential.

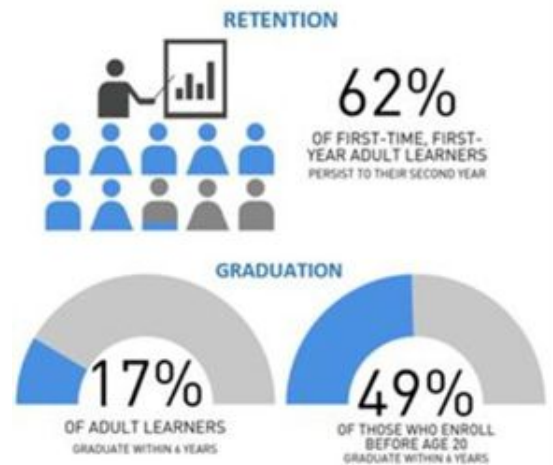[5] Lumina Foundation grant application, "Maine's Adult Promise," awarded May 2017
[6] Young, J. and Zuercher, R. 2018 Adult Enrollment and Degree Completion report, University of Maine System. March 2018.
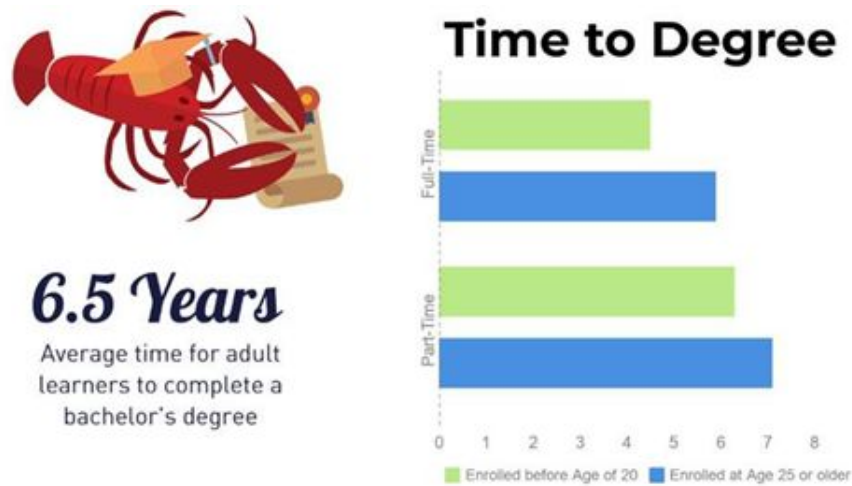
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In bad economic times, more adults enroll in higher education as they seek new skills and credentials

The Great Recession (Dec. 2007 - June 2009)

UMS Fall Enrollment (25 and older)
Unemployment Rate (Maine)

In what programs do adult learners tend to enroll?

Nursing 13%

Liberal Studies 9%

Mental Health & Human Services 8%

Business Management 3%

Management 4%

Accounting 3%

Biology 3%

English 2%

Computer Information Systems 2%

Applied Science 2%

ADULT LEARNERS IN BACHELOR-DEGREE PROGRAMS TEND TO HAVE HIGHER CUMULATIVE GPA's THAN THEIR YOUNGER PEERS

Full-Time Students:
- Under 20: 2.78
- 20 - 24: 3.05
- 25 and Older: 3.08

Part-Time Students:
- Under 20: 2.23
- 20 - 24: 2.86
- 25 and Older: 3.12

RETENTION

62% OF FIRST-TIME, FIRST-YEAR ADULT LEARNERS PERSIST TO THEIR SECOND YEAR

GRADUATION

17% OF ADULT LEARNERS GRADUATE WITHIN 6 YEARS

49% OF THOSE WHO ENROLL BEFORE AGE 20 GRADUATE WITHIN 6 YEARS

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In Fall 2017, 15% of adult learners transferred to the UMS (most often from the MCCS or from within the UMS), bringing with them an average of 78 credit hours. Others were re-admitted students with some college and no degree, who often have financial/financial aid holds, defaulted loans, or were academically dismissed/suspended from a university. College-ready adult students are likely to be challenged by technology, algebra or lab-science courses, and study/time management skills. Personnel who serve these students report barriers to success that include chronic healthcare issues, childcare needs, or unreliable transportation, as well as a lack self-confidence or resilience to navigate bureaucracies without significant coaching.

6.5 Years

Average time for adult learners to complete a bachelor's degree

Time to Degree

Legend: Enrolled before Age of 20 | Enrolled at Age 25 or older

Many campuses of the UMS provide services to adult students, including: the University of Maine at Augusta which predominantly serves adults; the University of Maine's Division of Lifelong Learning which has a major focus on adult students; UMA Centers (previously University College) which functions as single points of contact in their communities; the University of Maine at Presque Isle which has introduced the UMS' first CBE program specifically designed for adult learners. A full scan of the current status on our campuses was not possible in the short time frame of this report but is included as a recommendation going forward.

UMS Adult Degree Completion: The Last Five Years – Progress and Status Report

In July of 2013, the UMS issued its Adult Baccalaureate Completion/Distance Education (ABCDE) report. The following were included among the key findings and formed the framework for a set of recommendations designed to respond:

- Most UMS institutions primarily serve, and are structured to serve, traditional age (18-22) students – an essential first step was to audit existing policies and procedures to determine what barriers exist for adult students and determine how best to serve them
- Because adult students usually work either full or part-time, have family responsibilities, and have limited ability to relocated to pursue higher education (e.g., attend on a campus), adult students are best served by flexible educational formats and scheduling;

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easy transferability of credits; the ability to gain credit through demonstrated prior learning; and the need for a "navigator" at the campus level (at the time called "concierge")

- Although examples of best practice in serving adults exist on some campuses, they are not coordinated, have not been implemented to scale, or been embedded within the policy structure
- At the time of the 2013 report , the concept of and focus on "adult degree completion" was new and best practice was still developing
- Funding for adult students is a key barrier – many working adults do not qualify for financial aid, state policies connected to funding sources like the Maine State Grant have timelines which can inhibit adult participation
- UMS faculty and staff needed additional professional development to serve adult students effectively – adults bring very different needs to the table and faculty, advisors and any staff working with this population need to be well versed in high quality teaching and learning techniques for adults, and in the "wrap around services" they may need in order to persist and be successful
- Outreach and communication to the broader state about our work with and commitment to adult students will be key
- Both new programs and existing programs offered in new formats need to be developed

While some progress has been made in the time period since the issuing of the report, the fact is that for a variety of reasons fewer adult learners are enrolled today than five years ago, whether due to the lack of connection to a broader state attainment effort, the current impact of a "good economy" or our own lack of momentum in addressing the needs of this population since that time.   We have not made enough progress in several key areas and it is apparent that not every campus is currently equipped to serve adults in the ways in which they need to be served.

Many of the recommendations made in 2013 are still true today – little has changed in the barriers students face, their need for a menu of credentials and/or degrees that are accessible across the state and are flexible in their modality and scheduling, their need for understanding and informed service which helps them persist and successfully complete their programs. Our adult degree completion work could be argued to be an excellent example of "culture trumps strategy" – our culture has been predominantly one that sees its role as educating and serving a traditional age population and we have been very slow in making the transition. Absent an intentional re-focusing to incorporate adult learners and the programs and services they need into the mix, too many campuses just were/are not ready to respond in a comprehensive way. It is time to address this.

Why will this work be any different? What has changed this time is that far more national focus has been placed on this population as the higher education landscape has changed, as

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demographic shifts have become more apparent, and as large, well-resourced philanthropic organizations have responded to what is for most states and certainly for Maine, a crisis. The multiple platforms for distributing knowledge and the race to providing low cost and affordable education forces our institutions to examine current practices and rethink our educational system so that we can compete in a very changeable environment.

Our recommendations in 2013 in fact have been reinforced by the experience of the past five years, by the excellent work being done in other states (and in our ability to learn from these due to our participation in the state attainment work), and by the sheer reality of what all of this means for Maine if we are not successful in serving these students. The next section will provide an overview of our work since 2013 and the key additional or enhanced recommendations we see coming out of that work, based on the substantial and oft-repeated best practice evolving across the country.

Status of the ABCDE Implementation and Next Steps

<u>Executive Level Support</u>

In the years since the ABCDE report, the Board of Trustees adopted a resolution affirming our commitment to adult learners:

> Resolved, that the Board of Trustees recognizes its responsibility to serve the educational needs of all Maine citizens, confirms the evolution in the UMS' core student profile to include adult and non-campus based learners, and directs the System to review and act on policies, practices and operating procedures to better serve the needs of all of its students.[7]

As important as this level of commitment is, we must, as a System and at the highest level, reinforce the importance of adult learners and reimagine how we typically provide academic programs and student supports as a result. We are still predominantly focused on traditional age students and have not made enough progress in serving adults; both our culture and our structure need to adapt. We know the demographics; we know the huge concern about our collective enrollment future – we are already behind in what we should be doing to serve adults; we know that in the not distant future that Maine is going to have serious workforce issues which threaten its economic vitality and the fabric of our communities. We need to rise to the challenge and make some difficult choices that best enable us to serve <u>all</u> of the citizens in Maine, not just those near to us on campus or those of a certain age. "Being all things to all people at all campuses" is not the solution – determining which institutions within our System

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[7] UMS Board of Trustees, November 2013

can best serve which populations so that ultimately all are served within the state is the challenge and the opportunity.

One of the recommendations within the ABCDE report revolved around the need to better partner with organizations across the state in order to develop a comprehensive, statewide approach to increasing adult attainment. Many programs, including Project Login, the statewide Nursing initiative, Next Step Maine, and others, have strengthened the UMS connection to workforce and labor needs within the state. Too many constituencies in Maine do not understand that our universities are at the heart of workforce development and are critical in helping to meet Maine's needs. We must partner with other higher education institutions in Maine, with Maine employers, with state and local government and other state agencies (adult education, workforce investment boards as examples) in order to develop this comprehensive approach – MaineSpark is our avenue for doing so and we must take advantage of this opportunity.

Developing and supporting state policies that promote the needs of Maine's workforce will be critical, and enlisting the support of the next Governor(s) and future legislatures a fundamental requirement. In examining other states' focus in these areas, it is clear that this will take substantial time, work, integration and collaboration between organizations, and a clear focus on serving adults. States like Tennessee and Indiana have been working on this for close to ten years and are just now starting to see results (and they started with an integrated higher education system across the state and supportive executive branch leadership). Not doing so in a comprehensive, collaborative and statewide way will imperil our ability to deliver to the state and its citizens the skills and credentials so needed for a robust economy.

Outreach and Communication

While the concept of outreach and communication seems relatively easy, in actualization, it is not. The adult population is a very difficult population to attract absent a coherent and compelling message about why educational attainment matters. While we can individually as campuses speak to how we have impacted adults in positive and powerful ways, a broader statewide message about the importance of advanced credentials in the workforce, the "ROI" for attaining these credentials, and, most importantly, the development of messaging that captures the "hearts and minds" of adults that compels them to listen, reflect and enroll is critically important. In a time when unemployment is low, broader messaging that makes a compelling case for the "opportunity cost" of going or returning to college will be important. [See President Glenn Cummings recent Portland Press Herald column making the case for college: https://www.pressherald.com/2018/04/15/maine-voices-college-is-smart-choice-if-you-want-it

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It is problematic that Maine does not have a well-developed or understood economic development plan for the future but even the most conservative estimates still see Maine needing to achieve a 60% attainment goal by 2025. The work of MaineSpark and, as a part of it, Maine's Adult Promise will be key in developing this larger view for Maine, and in working with government, higher education and other policy leaders in supporting the work of all of the organizations serving adults and by their words and actions making it very clear that this is a priority. Even when we consider what we could do specific to our own system and programs, we do not have the marketing expertise or funding in house to do this on our own.

<u>Student Support</u>

Adults bring with them a variety of challenges – both in 2013 and now, states that have been successful in bringing more adults back into higher education have done so by working intentionally with their higher education institutions to ensure that they are "adult friendly." Being "adult friendly" means that an institution has a "top-down" commitment to serving adult learners, has well developed informational literature to assist adults (websites, brochures, communication vehicles), understands how to best advice and support adults (single source support, "soft" handoffs between departments, intrusive and intentional advising throughout the students' academic career, etc.), and has flexible academic programs that can be used by adults to complete in a timely fashion. Further, they have developed funding sources to aid adults in attending their institution. Institutions which do not meet these criteria are not institutions to which adults are referred.

Further, the concept of a "navigator" or "coach" has become more apparent as these efforts have matured – adult students need someone well versed in the variety of **"wrap around services"** and supports available to them, both on and off campus. They typically have trepidation and distrust about going to college, especially if they are in the "some college" category. They may be a first generation learner, or they might have left college with considerable debt and so have the added burden of being in default. They may have left with a poor academic record and so need "amnesty." They may need career counseling before enrollment to ensure they don't bounce from major to major. And more. They need some "hand holding" to help them navigate through all of this, benefit from a consistent, one-stop approach to holistic advisement, need someone who can and will intervene to help keep them on track and who can help them navigate the quickest path to completion. While we recommended that every campus designate a "concierge"/"navigator," these roles were not clearly understood, too often became someone within admissions or someone who "wore many hats", and were constantly changing so there was no continuity. The one consistent set of navigators were the directors and student success coordinators at the University College (now UMA Centers) who have historically had the mission of supporting these kinds of learners.

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In order to determine the current needs of our students, each campus conducted the ALFI survey in late 2013. Feedback received from these surveys mirrored the feedback the ABCDE committee received when it visited the campuses, and are further reflected in what ADAP discovered in its own focus groups in 2015-2016 and FAME uncovered in its own "Voice of the Customer" focus groups in 2016. The "Voice of the Customer" work focused on assessing the barriers that prevent students from completing higher education and serve as a good overview of the findings from all of the various reports. Among the findings[8]:

- Students worry about issues of child care, transportation, food and housing security, health and wellness, access to the internet.
- Students need "life skills" in order to complete: they don't know how to advocate for themselves and need help learning these skills, they need to see themselves as college materials, they may need foundational skills before entering college, they may need help developing soft skills
- They need "trusted support at key transitions" – they need support from a key network at home and as they come back to school, they need help transferring course work and accessing PLA, they need advice so they can understand key education opportunities at critical life transitions (to a new job, through being laid off, etc.), they need help understanding admissions processes, financial aid processes, need practical financial management training early on, they need help finding resources outside the financial aid process, they need to understand the consequences of withdrawing, they need institutions understanding of "work/life" balance – "comfort in the classroom and a good professor" was identified many times as giving students the desire to persist
- They need to know how to access academic and other support services
- They need a path to get to their career plan – need to understand the ROI of higher education, need to understand loan borrowing and repayment options if they are funding their education through loans, they need a realistic plan with a clear timeframe that will get them to completion, preferably as quickly as possible
- Institutions need to provide motivating learning experiences that can be offered in a range of modalities and schedules and can accommodate a range of learning styles.

Given what students themselves have reported as their needs, clearly the "navigator" or "coach" approach, or a broad range of highly and cross-functionally trained advisors have been and are key to best serving and supporting these students. In addition, the further development of fast and responsive service available 24/7 is an important next step.

While we have some services that can be accessed on line and we have developed an adult admissions application, we don't offer a comprehensive range of supports such as online tutoring or supplemental instruction (except in writing) and too often, even what is available

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[8] Finance Authority of Maine (FAME), "Assessing Barriers that Prevent Adults from Completing Higher Education." May 2016

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online needs human intervention or activation or turnaround times are too long. The majority of our offices are open 8am-430/500pm, hardly conducive to serving adults and we have little if any online chat capability for getting questions answered. We don't even have a comprehensive system that utilizes text messaging and other "nudging" practices, although a small number of campuses are currently experimenting with this. Many of our adult students may be taking coursework from more than one campus and so resolving the barriers that may exist will also be important. If we are to best serve adults, we must continue to develop capacity for the various elements that enables them to access our institutions, our programs and the services that can support them.

Faculty Support

The critical element identified in 2013 was the importance of providing professional development and support to enable faculty to teach and work more effectively with adult students. Best practice sessions were added to the annual E-Learning Institute sponsored by UMA Centers, e-learning grants are awarded to faculty to encourage innovation and exploration in e-learning tools, technologies and methodologies, and, most significantly, the inaugural SAALT Institute (Summer Academy of Adult Learning and Teaching) was held in 2017. Modeled after other successful faculty institutes held within other states, SAALT is designed to build a UMS community of forward-thinking and innovative faculty with a focus on teaching and learning best practices for the adult learner, in particular. These sorts of faculty development activities have been successful and need to continue. We continue to see as a priority the need to connect the faculty across our campuses as a community of learners via the ability to access faculty development opportunities across the campuses, and this is reflected within our recommendations.

On-Line Learning and New Program Development

Online courses, programs and degrees represent an important way for adults to achieve their completion goals, especially in a state with such broad geography and given the need of its most rural communities. We heard consistently from students across the state that they need a broader range of undergraduate and graduate programs delivered via distance (online or other distance modality). As a System, we have been discussing the need for more online masters since the time of the ABCDE report. While some progress has been made, we still are losing ground to expensive private online providers (SNHU, ASU, Husson, etc.) despite the fact that students themselves tell us that they would much prefer to attend one of our programs – we need to get beyond talking into actually implementing some of these programs. Developing a robust approach to online which includes access to programs and services remains a critical recommendation.

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New program development as well as a "rethink" of other programs in need by the workforce also remains a critical component of our work. Some of these may develop coming out of the Program Integration and multi-campus collaboration work underway, additional programs may be identified as we review the next round of market research (Summer 2018). What has not been explored, and must be going forward, is building a series of "stackable credentials" that enable adult learners to build their attainment across the continuum of credentials and in accelerated course formats (small combinations of courses that build a certain skill – certificate programs that add more skills – associate degree linkages either within our system or in partnership with the community colleges, baccalaureate degree).

With some seed money from ABCDE, UMPI has developed a critically needed CBE program in business administration and is discussing additional programs that fit its mission. CBE programs are critical completion programs for adults – we need to explore how to expand this expertise to enable a more complete menu of programs. Additionally, as other states have done, we need to determine our approach to identifying a "completion college." New Hampshire (Granite State), Connecticut (Charter Oak), New York (Thomas Edison) all have these programs and are working together in a consortium. We have institutions within our System which could fit all of the basic requirements for a completion college – what they don't offer could perhaps be supplemented by work going on at other campuses in a collaborative approach. We need more programs that adult learners can enter and finish quickly. And we need to adopt more flexible transfer policies and broad based alignment of prior learning across our campuses (to enable transportability, to increase opportunities for veterans and New Mainers in translating their learning into credit toward a credential). In addition, we need to develop licensing and corporate training "crosswalks" that can more easily translate into credits toward a degree or credential, and partner with employers to deliver programs of most benefit to their employees and business.

Financial Intervention and Scholarships

In 2014, through the use of racino/casino funding, we implemented the adult degree completion scholarship. This scholarship is available to any returning adult with 30 or more credits and, as long as the student stays enrolled and in good academic progress, is guaranteed for four years/eight semesters. Despite a scholarship which can be as much as $4000 per year, we have too many students who stop out and lose the scholarship – for so many adult students, "life happens," causing them to stop out or drop out and leave with both stranded credits and too much debt. We also have little funding for adult students who wish to enter college for the first time.

At the time of our 2013 ABCDE report, we did not discuss other financial supports that might be necessary – small debt forgiveness to enable students to return, emergency funding to help support book purchases or other "life events" that could inhibit attendance, etc. From a "need-

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based" financial aid perspective, we have made important progress in developing "pell promise programs" at four of our campuses. As best practice in other states and contained within research by organizations such as EAB and NASPA suggests, our updated recommendations contain a series of action items designed to address all of these financial components but will take time to evolve as we will need to identify and develop potential funding sources, and work with state and federal policy makers in order to impact those policies that affect adult learners.

Detailed Recommendations

These recommendations are designed to create a better student experience for adult learners within our System, and to place them "at the center" as we make subsequent changes at the campus or System level.   We don't need to provide ever more research about why this population is important for our and our State's future. Campuses which embrace this expectation will find a population rich with opportunity but also challenge; these recommendations are designed to enhance how we currently serve them within the UMS but closely wed these activities to the overarching statewide MaineSpark initiative which can further support and supplement our own work.

The ADC believes that in order to assure the success of this work, a leadership position should be appointed which is imbued with the appropriate level of authority and access to resources to best enable this work to proceed in a sustainable fashion. Most importantly, this role will be responsible for identifying collaborative opportunities for all parties which move our adult degree completion effort forward. Absent this, we will continue to have the fragmented approach that is currently in place.

Assuming these recommendations are accepted in whole or in part, the ADC Committee will next develop a timeline, including clear phasing, and suggested responsibility areas both on campus and, more broadly, collaboratively across the UMS and with MaineSpark.

1. Executive Support and Sponsorship: At the executive levels of both the state and the System, reinforce the importance of this population in meeting the state's attainment challenge and advocate for and incentivize the development of policies, initiatives and funding that support this work.

2. To encourage enrollment and support the success of adult students throughout Maine, the ADC recommends the creation of a system-wide leader to head this initiative and collaborate with internal and external partners in the creation of clear academic pathways and support services for adult and non-traditional students to achieve their educational and career goals.

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3. Appoint and empower ADC Working Group (to become the Steering Committee): responsibilities would include: 1) establish clear governance, 2) identification of, and advocacy for, the resource needs of this initiative, 3) building support both internally and externally for our adult credential and degree attainment initiative and providing clear linkages to the workforce and economic development needs of Maine.
   a. Steering Committee
      i. The ADC Working Group becomes the Steering Committee which functions as the advisory group to the ADC lead.
      ii. The Steering Committee ensures linkage to and alignment with MaineSpark
         1. Working collaboratively with MaineSpark, execute strategies to increase UMS's enrollment of the adult market (25+) by 2025
         2. Align our definition of adult student and utilize it consistently in our outreach
   b. Project Leadership Team
      i. Identify key representatives within each recommendation area to flesh out these recommendations and to develop strategies to successfully execute them.

4. Identify those campuses most able to serve adults and focus the recommendations contained within to those campuses in the short term. Identify ways that other campuses can serve adults, albeit at a different level. Lessons learned and best practice can then be extended to the other campuses.

5. Prioritize target programs and course and program format/length: New Program Development and Online Learning
   a. Ensure the timely development of those new or updated programs, both undergraduate and graduate, to ensure responsiveness to the workforce development needs of the state and the credential and degree attainment of Maine's citizens
      i. Develop and implement those masters degrees identified as a part of the work on "Collaborative Masters"
      ii. Coming out of market research being conducted Summer 2018, identify those programs which could be added or adapted to our program menu
      iii. As detailed within the Program Integration work, continue to develop, pilot and evaluate models for collaborative offerings of courses, programs and/or entire degrees
         1. Through the work of the administrative program integration teams, resolve the student-focused barriers to collaboration and enrollment

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        2. Determine ways to embrace opportunities for program collaboration and how to best incentivize (provide investment funding for new programs)

    iv. With UMPI providing administrative oversight due to its accreditation in this area, work with campuses to identify programs appropriate to a CBE format and expand the availability of CBE programs across the System. This would include the development of credentials/ micro-credentials along the path to the degree.

    v. Develop the ability for students to "stack" credentials (certificates [or combinations of certificates] to associates to bachelors to masters) – these should be market sensitive, flexible, skills oriented

        1. Explore collaborations with MCCS to build more combinations of "stackable credentials"

    vi. Continue to align PLA practices across the System and use as a mechanism to help more adult students enroll and complete

        1. Develop a consistent approach to portfolio development and devise a BlackBoard (or similar) program to help students create portfolios

        2. Determine best approach for veterans and New Mainers who may have substantial experiential/prior learning to document same and maximize their use of prior learning credit

        3. Explore licensure and corporate training "crosswalks" for college credit (a small amount of this is happening in our System currently)

    vii. Develop more flexible course schedules and accelerated course formats to reduce time to completion to ensure access (if not online, then evenings, weekends, short sessions, better use of Summer, etc.)

    viii. Work towards implementation of the services and programs identified as a part of the collaboration with an online program manager (such as Academic Partnerships). Given the resources needed to effectively offer these programs statewide and best serve adults, an online program manager with a clear orientation to adult learners provides our best opportunity to expand in this area.

    ix. Identify an institution as the "Completion College" for the UMS and ensure development of sufficient completion programs

6. Support Faculty Professional Development

    a. Provide professional development and support to enable faculty to teach and work more effectively with adult students

        i. Continue to expand the SAALT Summer Institute

        ii. Continue to support the annual E-Learning Institute and other faculty development opportunities

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                1. Invest in and utilize UMA Centers' expertise to build a more collaborative faculty development approach

      iii. Develop ways to provide more instructional design support to faculty for the development of effective online teaching

      iv. Develop an information hub for faculty which enables faculty to participate in faculty development opportunities offered across the System

7. Develop Shared Student Support Delivery Model
   a. Continue to strengthen the "navigator" (single point of contact, mentor/enrollment coaches) model at those campuses identified as "adult-friendly"
      i. Develop a "position description" for this
      ii. Work with the campuses to identify someone in this role
      iii. Provide ongoing professional development that provide the navigators with the background and information needed to support adult learners: the availability of other state supports ("wrap around services"), the need for financial literacy and affordability counseling (resources), the need for career counseling prior to/at entry, etc.
         1. Link our navigators to the professional development/training opportunities being devised as a part of Maine's Adult Promise
         2. Strengthen our connections to, and advocacy for, local, regional, state and federal programs, services and supports that can help support adult learners
         3. Work with New Ventures Maine and others as appropriate in the integration of "readiness" or transition programming such as the development of financial literacy skills and career development/exploration resources that can build skills that can impact short and long term attainment.
         4. Work with adult learners to develop academic plans that chart an expeditious path to the degree
   b. Further enhance the face-to-face and online support services designed to address the needs of adult students
      i. Develop a clear "on ramp" for adult students – standards for what students need to be successfully "onboarded" and for the progress throughout their program
      ii. Explore the development of a unified, cross-institution support team to serve adults – similar to a call center – with clear metrics for success (a core set of outcomes) – would include immediate or close-to-immediate responsiveness

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iii. For those campuses identified as able to serve adults, conduct an assessment/survey on each campus to develop a baseline for the identification of barriers, opportunities and possible improvement. For those campuses which may have conducted such an assessment recently, determine status, next steps and needs. Include an assessment of external factors such as child care, transportation, food assistance or emergency funding.

iv. Using the list of barriers generated as a part of the Program Integration work, identify those barriers which most impact adult learners and focus on resolving these.

v. Inventory other policies and procedures connected to information available online, on websites, within recruitment processes, current status of academic amnesty, any forgiveness policies for outstanding debt, availability of emergency funding, or others as identified. Devise a plan for resolving these.

vi. Identify and implement best practices for online service delivery to more fully provide responsive 24/7 service, technology support and education, orientation, etc. – this should include both academic and student support services such as online tutoring, online career development tools, etc. Again, the current initiative to explore an online management provider could be one approach for this work.

8. Provide Financial Intervention and Scholarships
   a. UMS ADC Scholarship:
      i. Identify opportunities for additional funding
         1. Eligibility for those with zero to 30 credits
         2. Eligibility for those continuing to bachelor's degree without gap (e.g., from a community college or other two-year institution)
         3. Offer summer funding for current ADC scholarship students
         4. Change the current 8 semesters limit structure to a maximum dollar figure which will allow part time students to complete with stress or worry of maxing the 8 semester limit. This would be particularly beneficial for students working full time and or nursing students who have prerequisites.
      ii. Outreach Activities
         1. Collaborate with Enrollment Management and other appropriate divisions/departments on outreach activities to promote scholarship
         2. Develop print materials such as posters or rack cards to enable outreach for transfer events

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3. Expand outreach activities and/or distribute materials to MaineSpark partners

4. Explore using Target X to specifically target adult learner and transfer inquiries

5. Identify additional annual events/activities (i.e. FAME, Veterans)

6. Review Hall of Flags participation - more of an enrollment event...but important for UMS visibility

b. Develop a program to implement small debt forgiveness for returning adults – develop a policy to forgive small past debts or past due bills or other financial barriers to re-enrolling

c. Ensure that students know about emergency loan funds or other short term funding to help them access higher education

d. Explore more uniform adoption of Pell Promise Programs – UMS currently has four campuses offering these (see Tennessee Reconnect as example)

e. Explore on-campus jobs that could enable adult students to work and go to school.

f. Within our broader outreach activities, work with state, local and federal government to promote economic and workforce development policies that would better support adult learners

9. Identify Target Audiences: Develop priorities around who will be served

a. Focus on retention and completion of those who have "some college but no degree" – although this seems like "low hanging fruit," this group can be the most difficult to re-enroll but we have access to the many who have attended our institutions over time

b. Focus on those who have expressed an interest in pursuing a credential or degree

c. Understand the diversity of what defines an adult learner – outreach efforts will hinge on how to best engage subgroups of learners

10. Launch Marketing and Communication Plan

a. Develop a comprehensive, System wide UMS outreach and communication plan regarding adult credential and degree completion that is integrated and clearly communicates the importance (and ROI) for completion (for the state, the economy and most specifically shares the success stories of the student/their family) - see (d) below for additional detail

b. Partner with the work of MaineSpark, specifically Maine's Adult Promise (MAP) to link into the comprehensive website being developed as a part of the Lumina grant

i. Develop and invest in a <u>single source, high quality, interactive one-stop information resource</u> website for the UMS (example could be a

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reimagined learn.maine.edu) and identify appropriate staff to interact with prospective students (see recommendation 4 (b) (ii) below)

1. This site will serve as the single website for adult learners within the UMS to which all campuses identified to serve adults will link. Each campus will commit to adding and maintaining content. The site will contain information on all programs and supports available to adults within the UMS, across all modalities (on line, blended, on campus, undergraduate and graduate).

c. Develop partnerships with other service providers including Maine employers, other higher education institutions, local governments and state agencies (Adult Education, FAME, LWIBs, Maine Municipal Association, CareerCenters, etc.) and others who work with and serve adults

   i. Utilize those resources already in existence to help support our work (ex. FAME's Adult Learner Toolkit, Next Step Maine, etc.)
   ii. Explore deeper connections with Adult Education's College Transition program

d. Develop a comprehensive outreach and marketing effort that reaches and targets potential Maine adult learners, the Governor's office and state Legislators, employers that may be engaged in promoting credential and degree attainment, and others as appropriate

   i. Identify resources to fund the development and implementation of this recommendation, most specifically the creation of a position responsible for marketing expertise and leadership within the UMS. This kind of expertise does not currently exist within the UMS and has been identified as an inhibitor within other initiatives (such as Early College, Collaborative Programs, etc.); partnering with the MaineSpark marketing professional may be an approach, or some other marketing expertise external to the UMS (such as that provided by Academic Partnerships), but will not be as comprehensive as developing our own capability and capacity.
   ii. Co-brand with MaineSpark to firmly link our work to that of the broader state initiative
   iii. Promote a more "activist agenda" related to advocacy and the importance of adult degree completion – intentionally promoting its importance and the UMS role in workforce development and the future of the economy, advocating for adult learners within local, state and federal government as policies or procedures are developed or enhanced that could serve adult learners (ex. changes within the Maine State Grant, Parents as Scholars program, legislation related to TANF or other funding for adults returning for a credential, etc., or advocating for better

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infrastructure to serve adults including transportation, child care and broad band availability).

11. Identify and Garner Internal and External Funding Support
   a. Explore additional funding sources to support adult degree completion by Maine citizens
      i. Expanded scholarship support
      ii. Operational support for professional development, navigator training, etc.
   b. Provide UMS Institutional Incentives
      i. Continue to incentivize collaboration
      ii. Identify and provide funding to incentivize the development of recommendations within this plan
12. Evaluation, Assessment and Improvement
   a. Prepare annual adult student enrollment reports which look at a range of data specific to students 25+ (key metrics of headcount, credit hours, FTE, retention, completion, GPA, etc.)
   b. Develop a research agenda for adult enrollment and degree completion to include the following:
      i. More analysis is needed to determine what factors play the greatest role in lower retention and graduation rates (along with longer than average time-to-degree) among adult degree seekers.
      ii. Longitudinal analyses will be employed to track students by cohort, comparing students admitted for a given fall term by age, credit hours, academic program, etc., to determine at what point students leave the UMS without completing a degree here or elsewhere. Cross-referencing our own data with that from the National Student Clearinghouse will provide further insight into which students leave the UMS to enroll/complete a degree elsewhere compared to those who do not.
      iii. In 2016 (the most recent one-year figures available from the American Community Survey), 19.4% of Mainers 25 and older had "some college" experience but no degree, up from 17.4% in 2007. Data from the UMS could be used to paint a clearer picture of who these students are, what institutions within the UMS they attended, and in what counties they reside.
   c. Set campus goals to meet UMS goal for adult enrollment and incorporate within relevant campus enrollment plans
   d. Conduct annual assessments of adult support services and establish annual goals for improvement

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Next Steps and Funding Estimates for Implementation

The recommendations outlined within this updated plan are both and short- and long-term in nature. Assuming acceptance of the basic premises and support for the recommendations outlined within this plan, the ADC committee will develop an implementation plan with prioritization, timeline and resource identification. In order to achieve our goals for adult degree and credential completion, investments must be made in a variety of areas – at the campus, System and state level. As the implementation plan is developed, we will identify short- and long-term funding needs (one time and ongoing). A window of nine weeks did not give us sufficient time to do more than review our current state, learn and research what has been done nationally and in Maine, reflect on and learn from our post-2013 ABCDE experience, and build a plan that reflects best practice, makes the case for why this population MUST matter to us and lays the groundwork for the work to come.

While much has occurred since the 2013 report and some progress has been made, we still "have miles to go" in addressing the needs of our adult learners, as evidenced by the recommendations still left uncompleted. As stated earlier in this report, our efforts in this area have been plagued by the old phrase "culture trumps strategy." All the good strategic thinking in the world cannot survive a culture unready or unwilling to adapt in a changing landscape. Our hope is that, this time, we can provide the leadership and will across those campuses ready to serve adults to be successful.

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Appendix

A New Start: Adult Degree Completion – 2018 Charge

 A critical element of Maine's economic future centers on increasing statewide educational attainment so that 60% of Maine adults ages 25+ have a post-secondary degree or a vocationally significant credential by 2025. Given Maine's demographics, that number cannot be reached without a major increase in the number of adults seeking and obtaining post-secondary credentials.

Engaging adult learners is a well-established UMS priority. For example, UMS's Adult Degree Completion initiative has been active since 2013 and in November 2013, the BOT passed a resolution recognizing adult learners as a core student constituency. More recently, led by UMS, Maine was one of four states selected by SHEEO with funding from Lumina to participate in a multi-state pilot for engaging and retaining adult learners. As part of that initiative UMS became a founding member of the MaineSpark state attainment effort to achieve the 60% benchmark. UMS now needs to better integrate its adult learner initiatives and programs, an initiative for which the organizing Charter appears below.

Charge

The University of Maine System will, through the Offices of the Vice Chancellor for Academic Affairs and the Chief Student Affairs Officer in cooperation with the System campuses:

1) develop an updated, comprehensive and integrated strategic plan for engagement with adult learners, including participation in the MaineSpark state attainment effort (Maine Workforce and Education Coalition), specifically the Adult Promise (AY 2017-2018), and

2) implement this plan using appropriately focused recruitment, retention and completion initiatives geared toward more non-traditional/adult students attaining their credential and/or degree, incorporating multiple pathways (certificates, associate degrees, baccalaureate degrees, PLA, etc.) and responding to identified workforce development needs.

Steering Committee Organization and Members

The Adult Promise initiative will be directed by a Steering Committee led by the Chief Student Affairs Officer. The Committee is responsible for developing the comprehensive strategic plan for adult learners including a recommended implementation plan as outlined below. The members of the Steering Committee are:

Rosa Redonnett, Chief Student Affairs Officer, UMS - Chair

Paul Cochrane, Director of Online Teaching and Learning, USM

Carolyn Dorsey, Associate Professor Business Management, Director CBE program, UMPI

Jonathan Henry, Vice President of Enrollment Management and Marketing, UMA

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David Nutty, Director of Libraries and University Librarian, USM
Dan Philbrick, Director of UMA Center-Saco, UMA
Donna Seppy, Project Manager, Coordinator of UMS Adult Degree Completion Scholarship, UMS
Samantha Warren, Director of Community and Government Relations, UMS

Goals & Deliverables

The Steering Committee will develop and, upon approval, implement an updated, comprehensive plan that:
   a) Compiles data and information on the target adult population adequate to support this planning effort;
   b) Identifies and evaluates all existing campus and System-level programs, services and partnerships that serve adult populations;
   c) Recommends appropriate KPI targets related to adult enrollment and success;
   d) Identifies or proposes "best practices" to attract and serve adult students, including collaborating within communities to provide "wrap around services" to enable maximum access to higher education;
   e) Recommends ongoing "permanent" management and operational structure(s) that serve adult students, replacing or working in collaboration with existing UMS initiatives and projects (e.g., the ongoing work of MaineSpark/MWEC, individual campus work related to adult students and/or workforce development, credit for prior learning, program innovation, veterans services, etc.)
   f) Recommends innovative programs, policies and strategies to strengthen access and ensure flexibility within programs to help adult students complete their credentials/degrees including exemplary academic programs and student support services that enable place bound students to pursue their credentials through any medium (on campus, on line or hybrid);
   g) Identifies and either continue to remove institutional and system barriers to adult student success, including logistical and financial barriers to re-enrollment if within the Committee's scope of responsibilities, or recommends changes that remove these barriers otherwise;
   h) Identifies 1x and ongoing resources necessary to accomplish these outcomes.

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Resources Referred to In Preparation of this Report:

Adult Baccalaureate Completion/Distance Education (ABCDE) Report, University of Maine System, 2013.

ABCDE Status Report: Original Recommendations, Status to Date, Special Issues/Needs, internal document for Chancellor, Senior Leadership and BOT, 2015.

Adult Degree Attainment Partnership: Recommendations for Increasing Adult Learner Attainment in Maine, 2016.

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Blumenstyk, Goldie. "The Adult Student". Chronicle of Higher Education publication. 2018

Complete Tennessee Staff. "The State of Higher Education in Tennessee". 2017

EAB, "Recapturing Adult Learner Enrollments: Strategies to Recruit Students Through Employer Partnerships", Community College Executive Forum, 2015.

Erisman, W. and Steele, P. Adult College Completion in the 21st Century. Higher Ed Insight. June 2015.

Finance Authority of Maine, "Assessing Barrier that Prevent Adults from Completing Higher Education", May 2016.

Johnson, N. and Bell, A. "Scaling Completion College Services as a Model for Increasing Adult Degree Completion." December 2014.

Kruger, K., Parnell, A., and Wesaw, A. Landscape Analysis of Emergency Aid Programs. NASPA publication. 2016. Presented at 2017 SHEEO/Lumina convening.

Laderman, Sophia. "Surveying the Landscape: Higher Education in Maine". SHEEO, October 2016.

Lumina Foundation. A Stronger Nation," 2017.

Lumina Foundation grant application, "Maine's Adult Promise," awarded May 2017.

MaineSpark – meetings of Adult Promise strategy area, core team, steering committee, policy committee, communications committee, metrics committee – September 2016-Current. http://mainespark.me/

New England Board of Higher Education (NEBHE). "Learning for Life and Work: Report of the Commission on Higher Education and Employability." Chaired by Gina Raimondo, Governor of Rhode Island. March 2018.

SHEEO, Adult Promise Project – Phase II Kickoff Convening. All PowerPoint presentations. Boulder, CO, June 2017.

Taliaferro, W. and Duke-Benfield, A. "Redesigning State Financial Aid to Better Serve Nontraditional Adult Students". Center for Postsecondary and Economic Success at CLASP. September 2016.

Resources/PowerPoints/Discussions at Various Convenings specific to adult credential and degree attainment and state attainment goals: Lumina Foundation, 2017; SHEEO Adult Promise – June 2016, June 2017 and January 2018; Education Commission of the States – October 2017.

Young, J. and Zuercher, R. 2018 Adult Enrollment and Degree Completion report, University of Maine System. March 2018.

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Detailed Adult Degree Completion (ADC) Matrix Implementation - March 2019

#	Recommendation	Action Items	Next Steps	Timeline	Resources Needed	Responsible Parties	Current Status
1	Executive Support and Sponsorship: At the executive levels of both the state and the System, reinforce the importance of this population in meeting the state's attainment challenge and advocate for and incentivize the development of policies, initiatives and funding that support this work.	1.1 Ensure that all relevant leadership groups within the UMS are updated on the recommendations of this report, are engaged in developing policies, initiatives and identifying funding to support this work. Includes BOT, Chancellor and staff, PC, CAOC, EMC, CSAOs, CBOs and others as appropriate.	1.1.1 Need to ensure that this work is captured within campus strategic plans and campus enrollment plans	Fall 2018 and ongoing	None	Chancellor, VCAA, CSAO	PC, CAOC, EMC, CSAO, Student Reps to BOT, ASA and BOT all updated; ADC included within BOT Strategic Priorities
			1.1.2 Determine how to ensure that the needs of these students and workforce development are presented in a way that resonates (with faculty and others)	Spring 2017 and ongoing	None	Chancellor, VCAA, CSAO, PC	ADC work incorporated within ongoing UMS messaging
			1.1.3 Messaging: determine the "bridges" (service to the people of the state; compelling reason "why" – see Making Maine Work for possible messaging)	Spring 2017 and ongoing	None	Chancellor, etc., working with UMS Communications	Current UMS communications contain this sort of messaging
		1.2 Ensure that the leadership of MaineSpark is aware of these recommendations and engaged in linking our work to that of MaineSpark and Maine Adult Promise	1.2.1 Further development of strategic partnerships (and relationships) inside and outside the UMS to include DOL, DHHS, DOE, MDF, Educate Maine, State Chamber, FAME and others as appropriate	Spring 2017 and ongoing	None	Chancellor, CSAO	CSAO is a member of core MaineSpark Team & the Maine Adult Promise (MAP) team; co-writer of Lumina grant supporting MAP work; meets with MaineSpark partners; attends best practice convenings sponsored by Lumina Foundation
		1.3 Advocate for and incentivize the development of policies, initiatives and funding that support this work.	1.3.1 Identify those policies, initiatives and funding that can support this work and partner as appropriate	Fall 2018-Fall 2019	None	Chancellor, CSAO, VCAA	Budget request submitted to support the work; policy development in concert with MaineSpark underway

#	Recommendation	Action Items	Next Steps	Timeline	Resources Needed	Responsible Parties	Current Status
2	Designate system-wide leader to head this initiative and collaborate with internal and external partners	2.1 UMS CSAO will work with the Chancellor and VCAA in determining appropriate leadership for this.	2.1.1 Develop plan to transition the CSAO to be able to assume this responsibility	By July 2019	Salary and benefit adjustments that may be needed based on leadership selection ($150K est)	VCAA, Chancellor, CSAO	Discussions underway
3	Appoint and empower ADC Working Group (to become the Steering Committee)	3.1 UMS CSAO will work with the VCAA to appoint the official ADC Steering Committee; the Steering Committee will appoint membership to project teams	3.1.1 Determine if we are missing any particular expertise or partnership; will explore adding 1-2 members from outside the UMS who are key partners (FAME, Adult Ed)	By April 2019; other members Summer 2019	None additional	VCAA, CSAO	Appointed March 2019; Members of the Steering Committee attended the CALEM conference in February 2019
4	Identify those campuses most able to serve adults and focus the recommendations contained within to those campuses in the short term	4.1 The primary campuses for primary focus are UMA, UMPI and USM.	4.1.1 Identify the core group of campuses and determine phasing for onboarding of all	Fall 2018-Summer 2019	None	Steering Committee	
4	Identify ways that other campuses can serve adults, albeit at a different level. Lessons learned and best practice can then be extended to the other campuses.	4.2 An assessment will be conducted to determine the status for all campuses in order to identify needs for serving an adult population.	4.2.1 Identify assessment tool and conduct	Spring 2019-Fall 2019	$49,000 est (based on CAEL 360)	Steering Committee	ALFI conducted in 2014 can provide a baseline
			4.2.2 As assessments are done, determine commonalities that could be built centrally/shared services vs developed on individual campuses?	Fall 2019-Spring 2020	TBD	Steering Committee	
5	Prioritize target programs and course and program format/length: New Program Development and Online Learning	5.1 Ensure the timely development of new/updated programs (UG, Grad) to ensure responsiveness to workforce need & credential/degree attainment of Maine's citizens	5.1.1 Develop and implement those Masters degrees identified asa p[art of the work on "Collaborative Masters"	AY 2018-2019 and AY 2019-2020 (depending on the initiative)	Estimate: $500K (1-2yr) [estimate for all action items under recommendation #5 - this is in addition to funding already committed to these initiatives]	VCAA, CAOC	This work is underway (Collaborative Masters in Cybersecurity is an example)

#	Recommendation	Action Items	Next Steps	Timeline	Resources Needed	Responsible Parties	Current Status
			5.1.2 Identify those new program opportunities identified via market research or via Goal 1 of BOT Strategic Priorities which could be added to our program inventory	AY 2018-2019 and AY 2019-2020	TBD	VCAA, CAOC	Market research results are being reviewed by VCAA, CAOC; recommendations specific to Goal 1 are being prepared; Making Maine Work provides additional insight
			5.1.3 Continue to develop, pilot and evaluate models for the collaborative offering of programs/courses; 5.1.3.a Identify and resolve barriers	Spring 2017-AY 2019-2020	TBD	VCAA, CAOC, Multicampus Program Team	Using MGI as pilot, team is developing guidelines for collaborative programs designed to remove barriers; work still needed on identifying and resolving barriers for non-collaborative programs
			5.1.4 Identify programs appropriate to CBE and expand the availability of CBE across the System	Fall 2018 and ongoing	TBD	Led by Pres/CBE Director, UMPI	UMPI is currently working with UMA on this; CBE program at UMPI also available via Academic Partnerships Fall 2019
			5.1.5 Develop micro credentials which are market sensitive, flexible and skills oriented; 5.1.5a Ensure that these microcredentials are "stackable"	Spring 2019 and ongoing	Development cost TBD	VCAA, CSAO, CAOC, Micro Credential Steering Committee	Micro credential Steering Committee formed and will issue report in May 2019; UMS participating in the Credential Engine national pilot; Current PIF proposals contain criteria related to micro credentials
			5.1.6 Continue to align PLA standard across the System and use as a mechanism to help more adult students enroll and complete 5.1.6a Develop portfolio development template;	Fall 2017 and ongoing Spring 2019 - Summer 2020	None	VCAA, CAOC, CSAO CSAO, PLA Workgroup	PLA standards are aligned across UMS as of 12/18; a PLA Work Group meets regularly and will be working on these items in partnership with CAOC and external partners

#	Recommendation	Action Items	Next Steps	Timeline	Resources Needed	Responsible Parties	Current Status
			5.1.6.b Determine best practice for veterans/new Mainers PLA;	Spring 19 and ongoing	None	CSAO, PLA Workgroup, CAOC	
			5.1.6.c Determine best practice for corporate licensure/training and PLA	Fall 2019 and ongoing	None	CSAO, PLA Workgroup, CAOC	
			5.1.7 Develop more flexible course schedules and accelerated course formats to reduce time to completion to ensure access	Summer 2018 - Ongoing	TBD	VCAA, CAOC	Some campuses already have this. Work with AP will accelerate its development (7 week terms, 6 terms per year)
			5.1.8 Implement work with OPM (Academic Partnerships)	Fall 2018 and ongoing	Separately funded	VCAA, CAOC	This is underway at USM, UMFK and UMPI.
			5.1.8a Explore the marketing and service provision of the OPM and incorporate as appropriate into our planning for ADC service and marketing	Fall 2019 - Fall 2020			AP has indicated willingness to share insights into marketing and service provision.
			5.1.9 Identify an institution as a "completion college" and ensure development of sufficient completion programs	Fall 2019 - Spring 2020	TBD	VCAA, CAOC, CSAO	Preliminary discussions and exploration underway
6	Support Faculty Professional Development	6.1 Provide professional development and support to enable faculty to teach and work more effectively with adults	6.1.1 Continue to expand SAALT and the E-Learning Summit and determine how to better align these efforts with the work of the Steering Committee and the ADC plan**	Fall 2018-Fall 2019	SAALT and E-Learning Institute $80,000	VCAA (with CAOC)	SAALT and E-Learning Summit planning for 2019 is underway, funding has been obtained
			6.1.2 Explore and implement ways to expand access to professional development opportunities across the System (topics include CBE, micro credentials, etc.)	Summer 2019 and ongoing	Access to professional development: $50-$100K	Steering Committee	"Re-envisioning learning and instruction" document prepared for Oct BOT retreat provides some insight into professional development focused on innovation

#	Recommendation	Action Items	Next Steps	Timeline	Resources Needed	Responsible Parties	Current Status
			6.1.3 Explore and implement approaches to the sharing in instructional design support across the System, including the development of a "charter" around collaboration	Summer 2019 and ongoing	Broader access to instructional support: TBD	Steering Committee	
7	Develop Shared Student Support Delivery Model	7.1 Continue to strengthen the "navigator" (single point of contact, mentor/enrollment coaches) model at those campuses identified as "adult-friendly"	7.1.1 Develop a "position description" for this role	Fall 2018-Spring 2020	TBD	Steering Committee, select smaller work groups	
			7.1.2 Ensure campuses have a person identified	Spring 2018 - Fall 2018	None	CSAO, Campus VPEM/CSAO	All campuses have Navigators identified (as of 2014), most are also identified as MaineSpark Adult Promise Navigators
			7.1.3 Provide ongoing professional development (PD)	Summer 2014 and ongoing	$20,000	CSAO, Steering Committee	An annual professional development workshop has been in place for Navigators since 2014;
			7.1.3.a Link to PD provided by Maine Adult Promise (MAP);	Fall 2018 and ongoing		CSAO, MAP Project Director	All UMS navigators and advisors have been included within the broader Adult Promise network for expanded professional development; Via Maine Adult Promise, we are linked to a broader network of service and support for adults
			7.1.3.b Strengthen our connection to state, federal and local services and supports that can assist Maine adults;	Summer 2018 and ongoing		CSAO, Steering Committee	Work with Maine Equal Justice Partners (HOPE Scholarship, PaS), FAME (MSG), Maine Community Foundation
			7.1.3.c Work with New Ventures Maine and others in the integration of readiness or transition programs	Spring 2019-Spring 2020		CSAO, Steering Committee	Discussions underway with NVM

#	Recommendation	Action Items	Next Steps	Timeline	Resources Needed	Responsible Parties	Current Status
			7.1.3.d Work with all adult learners to develop an academic plan to completion of degree	Fall 2016 and ongoing		Academic Advisors, Navigators	Required of all adult degree completion scholarship recipients
		7.2 Further enhance the face-to-face and online support services designed to address the needs of adult students	7.2.1 Develop a clear "on ramp" for adult students – standards for what students need to be successfully "onboarded" and for the progress throughout their program	Summer 2019-Fall 2020	$670K [for all 7.2]; $50K-$100K for website development	CSAO, Steering Committee	
			7.2.2 Explore the development of a unified, cross-institution support team to serve adults (e.g., "system" navigators)	Summer 2019-Spring 2020	TBD (Funding is proposed within Gov budget to support this)	CSAO, Steering Committee	AP will be able to provide some insight into this
			7.2.3 Conduct an assessment of all campuses to develop a baseline of barriers, opportunities and possible improvement	Summer - Fall 2019	$49,000 (approx.)	CSAO, Steering Committee	We conducted an assessment in 2014 (ALFI) which can serve as a baseline
			7.2.4 Using the list of barriers generated as a part of the Program Integration work, identify those barriers which most impact adult learners and focus on resolving these.	Fall 2019 - Spring 2020		VCAA, CSAO, Steering Committee	This list has been generated and is being addressed for collaborative programs.
			7.2.5 Inventory other policies and procedures and develop plan for resolving	Fall 2019 - Spring 2020		CSAO, Steering Committee	Some information will be gained from the campus assessments

#	Recommendation	Action Items	Next Steps	Timeline	Resources Needed	Responsible Parties	Current Status
			7.2.6 Identify and implement best practices for online service delivery to more fully provide responsive 24/7 service, technology support and education, orientation, etc	Spring 2019-Spring 2020	TBD (Funding is proposed within Gov budget to support this)	CSAO, Steering Committee	UMS CSAO is working with the other web governance leads to determine best approach and development for both maine.edu and learn.maine.edu, and a preliminary proposal has been developed; AP has been hired as OPM and this will inform this recommendation
8	Provide Financial Intervention and Scholarships	8.1 Identify opportunities for additional funding	8.1.1 Determine criteria and funding for those with zero to 30 credit	Spring 2019-Spring 2020	UMS Scholarship: funded – if expanded for students with no credit, would potentially need $500K additional	Steering Committee, ADC Scholarship Committee	
			8.1.2 Determine criteria and funding for those continuing to a bachelor's degree with no gap	Fall 2019-Summer 2020	TBD	CSAO, Steering Committee	
			8.1.3 Determine criteria and funding for those seeking to "skill up" through additional coursework (micro credentials or courses)	Fall 2019-Summer 2020	TBD	CSAO, Steering Committee	
			8.1.4 Offer summer funding for current ADC scholarship students	Summer 2019	Within current ADC scholarship funding	CSAO	In discussion with ADC Scholarship Committee
			8.1.5 Change the current 8 semester limit to a maximum dollar figure to enable more access for part-time and working adults	Fall 2019-Spring 2020	Within current ADC scholarship funding	CSAO	In discussion with ADC Scholarship Committee
			8.1.6 Collaborate with appropriate groups to promote the scholarship	Ongoing		Steering Committee, ADC Scholarship Committee	We already work with EMC, Admissions, Financial Aid, Maine Adult Promise, Adult Education and FAME to promote the scholarship

#	Recommendation	Action Items	Next Steps	Timeline	Resources Needed	Responsible Parties	Current Status
			8.1.6.a Develop print materials to enable outreach	Fall 2019-Spring 2020	TBD	Mkting leadership (TBD)	
			8.1.6.b Explore use of TargetX to target adult learner and transfer inquiries	Fall 2019-Spring 2020		Mkting leadership (TBD)	
			8.1.6.c Identify additional events to promote the scholarship	Fall 2019-Spring 2020	TBD	Mkting leadership (TBD)	
		8.2 Develop a program to implement small debt forgiveness	8.2.1 Develop a policy to forgive small past debts or past due bills modeling best practice from other states and identify funding	Fall 2019 - Spring 2020	Debt Forgiveness: $70,000 for a pilot program ($5-$10K per campus) – if successful, increase [in Governor's Budget]	CSAO, Steering Committee	Conversations have begun with the campuses specific to small debt forgiveness – two campuses (UMF and USM) have programs underway
			8.2.2 Explore availability at campuses and work with Navigators, Financial Aid, external partners to develop communications	Fall 2019 - Spring 2020			
		8.3 Ensure that students know about emergency loan funds or other short term funding		Fall 2019 - Spring 2020	None	CSAO, Steering Committee	Underway at some campuses
		8.4 Explore adoption of Pell Promise at all campuses	8.4.1 Ensure alignment of Pell Promise practice across campuses to reduce confusion	Summer 2019- Spring 2020		CSAO, Steering Committee	Four campuses currently have Pell Promise programs; Information about the four Pell Promise programs has been gathered and a meeting will be held to explore better alignment
			8.4.2 Determine cost for expansion and discuss with campus leadership	Fall 2019-Spring 2020	Pell Promise expansion - TBD	CSAO, Steering Committee	
		8.5 Explore expansion of on-campus jobs available to adults	8.5.1 Explore with appropriate campus departments and implement if possible	Spring 2020 - Summer 2020	Unknown	CSAO, Steering Committee	

#	Recommendation	Action Items	Next Steps	Timeline	Resources Needed	Responsible Parties	Current Status
		8.6 Work with local, state and federal government to promote economic and workforce development policies that support adult learners	8.6 Identify appropriate policies and determine UMS stance and approach	Fall 2018 and Ongoing		Chancellor, CSAO	FAME is already working with the legislature on a possible expansion of the Maine State Grant to extend to adult students; UMS was an active participant in both the HOPE Scholarship (DHHS) and possible expansion of Parents as Scholars; working with Maine Adult Promise to determine how best to partner on legislation connected to policy (collaborative with UMS Director of Governmental Relations)
9	Identify Target Audiences: Develop priorities around who will be served	9.1 Work with primary adult campuses to develop priorities	9.1.1 Focus on retention and completion of those with some college, no degree	Fall 2018-Spring 2020 and ongoing	None – cost would be for marketing	CSAO, Steering Committee	UMS IR is working with MN Adult Promise related to identification and guidelines to connect with this population
			9.1.2 Focus on those who have expressed an interest in pursuing a credential or degree	Spring 2019 and ongoing			
			9.1.3 Develop outreach efforts which best engage subgroups of adult learners and reflect the diversity of the learner	Summer 2019 and ongoing			
10	Launch Marketing and Communication Plan	10.1 Develop a comprehensive, System wide UMS outreach and communication plan;	10.1.1 Develop internal infrastructure to support this recommendation (note: SRAP resources may be an opportunity);	Spring 2019-Spring 2020	Marketing resources approx. $450K: 1)Salary/benefits for a marketing lead ($150K) plus operational funding for actual marketing and outreach, collateral and advertising design, etc. – est $300K (preliminary)	Steering Committee with [TBD] UMS Marketing Director (and campus marketing and Enrollment Management leads) (*Chancellor's Office and Presidents may be part of approving group)	Proposal was presented to SRAP Team in November – approved development of job description and initial funding; Job description has been developed and presented to VCAA and VCFA; Governor's budget may free up the SRAP funding

#	Recommendation	Action Items	Next Steps	Timeline	Resources Needed	Responsible Parties	Current Status
			10.1.2 Co-brand with MaineSpark to link to the broader state initiative	Spring 2019-Fall 2019		CSAO, Steering Committee	This has begun and will continue as website and collateral are developed
			10.1.3 In the short term, work with campus marketing professionals, UMS Govt/Community Relations and UMS Public Relations to devise and develop a beginning outreach campaign	Fall 2019-Summer 2020		CSAO	
		10.2 Partner with the work of MaineSpark, specifically Maine's Adult Promise	10.2.1 Continue work with Maine Adult Promise and MaineSpark in the development of a state resource hub and in forming better connections with external partners	Fall 2017 and ongoing		CSAO, Steering Committee	In process - beta for hub 03/19; CSAO is active member of Maine Adult Promise (and co-wrote the grant that funds it); attend best practice convenings, have access to natl resources for development of mkting & outreach initiatives
		10.3 Partner with the marketing initiative coming out of the work with Academic Partnerships	10.3.1 Determine how leverage this for both AP-connected programs and programs in general	Fall 2019 and ongoing		CSAO, Steering Committee	
		10.4 Develop and invest in a single source, high quality, interactive one-stop information resource website for the UMS	10.4.1 Transition learn.maine.edu to become the adult learner website	Fall 2019-Summer 2020	$150K (est) [funding contained within recommendation #7]	CSAO, Steering Committee	UMA offered learn.maine.edu for this purpose and their staff has transitioned the site
			10.4.2 Form RFP team to select web designer	Fall 2019 - Spring 2020		CSAO,Mkting lead	
			10.4.3 Connect site to external resources such as Maine Adult Promise	Spring 2020 - Fall 2020		CSAO, Mkting lead	
		10.5 Develop partnerships with other service providers	10.5.1 Working with MaineSpark and Maine Adult Promise, utilize those resources available to serve adults within the UMS	Fall 2019 and ongoing		CSAO, Steering Committee	This is already underway.

#	Recommendation	Action Items	Next Steps	Timeline	Resources Needed	Responsible Parties	Current Status
			10.5.2 Explore deeper connections with Adult Education's College Transitions	Fall 2019-Spring 2020		CSAO	
11	Identify and Garner Internal and External Funding Support	11.1 Explore additional funding sources or collaborations to support adult degree completion ;	11.1.1 Devise a budget request to the state to support this work	Fall 2018-Spring 2019	separate request for state budget	Chancellor	Funding is contained within the Governor's budget
			11.1.2 Identify possible grant funding for elements of these recommendations (ex. micro credential platform, etc.)	Spring 2019 and ongoing		CSAO, Steering Committee	UMS received planning grant for Lumina "All Learning Counts", grant application underway (focused on credential platforms)
		11.2 Provide UMS Institutional Incentives	11.2.1 Continue to incentivize academic collaboration	Ongoing		VCAA	
			11.2.2 Identify and provide funding to incentivize the development of recommendations within this plan	Fall 2019-Ongoing	$50,000-$70,000 (est.) for incentives;	CSAO, Steering Committee	Funding for this is within the Governor's budget
12	Evaluation, Assessment and Improvement	12.1 Prepare annual student enrollment reports	1) Update adult degree completion report to include Fall 2018; update annually	Summer 2018 and ongoing	*Resources needed* : IR resources at the System and campus level	UMS IR	Fall 2018 updated
		12.2 Develop a comprehensive IR plan	12.2.1 UMS IR in collaboration with Steering Committee and CSAO will develop ongoing research agenda specific to adult credential and degree completion (will include metrics connected to navigator contact/etc.; SAALT assessment guidance);	Spring 2019 and ongoing		UMS IR, Steering Committee	CSAO and UMS IR have begun this process
		12.3 Set campus goals & incorporate in EM plans	12.3.1 As a part of the FY22 budget process, determine broad UMS goals for adult enrollment as well as campus specific goals;	Fall 2020		CSAO, VCFA	

#	Recommendation	Action Items	Next Steps	Timeline	Resources Needed	Responsible Parties	Current Status
		12.4 Conduct regular assessments and establish goals for improvement	12.4.1 Conduct annual (or bi-annual assessments) for improvement	Fall 2020 and ongoing		UMS IR, Steering Committee	

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Adult Degree Completion (ADC) Implementation Gantt Chart - March 2019

#	Recommendations	Action Items	Next Steps	Responsible Parties	Spring 2017	Summer 2017	Fall 2017	Spring 2018	Summer 2018	Fall 2018	Spring 2019	Summer 2019	Fall 2019	Spring 2020	Summer 2020	Fall 2020
1	Executive Support and Sponsorship	1.1 Ensure UMS leadership groups are updated and engaged	1.1.1 Include this work within campus strategic and enrollment plans	Chancellor, VCAA, CSAO						X	X	X	X	X	X	X
			1.1.2 Determine how to present the needs in a way that resonates (with faculty and others)	Chancellor, VCAA, CSAO, PC	X	X	X	X	X	X	X	X	X	X	X	X
			1.1.3 Determine high level messaging	Chancellor, etc., working with UMS Communications	X	X	X	X	X	X	X	X	X	X	X	X
		1.2 Ensure leadership of MaineSpark updated and engaged	1.2.1 Develop strategic partnerships (and relationships) inside and outside the UMS	Chancellor, CSAO	X	X	X	X	X	X	X	X	X	X	X	X
		1.3 Advocate for/incentivize the development of policies, initiatives and funding	1.3.1 Identify policies, initiatives and funding	Chancellor, CSAO, VCAA						X	X	X	X			
2	Designate system-wide leader	2.1 Chancellor, VCAA and UMS CSAO determine leader	2.1.1 Develop transition plan for the CSAO	VCAA, Chancellor, CSAO							X	X				
3	Appoint ADC Steering Committee	3.1 VCAA will appoint the official ADC Steering Committee	3.1.1 Explore adding internal and external members	VCAA,CSAO							X	X				
4	Focus the recommendations contained within to those campusesmost able to serve adults in the short term	4.1 The primary campuses are UMA, UMPI and USM.	4.1.1 Identify the core group of campuses and determine phasing for onboarding of all	Steering Committee						X	X	X				
4	Determine best practice methods for serving adults and extend to all campuses	4.2 Conduct an assessment to determine the status for all campuses	4.2.1 Identify assessment tool and conduct	Steering Committee							X	X	X			
			4.2.2 Determine commonalities that could be built centrally/shared services vs developed on individual campuses	Steering Committee									X	X		
5	New Program Development and Online Learning	5.1 Ensure the timely development of new/updated programs (UG and Grad) to ensure responsiveness to workforce need and the credential/degree attainment	5.1.1 Develop and implement those identified as "Collaborative Masters"	VCAA,CAOC						X	X	X	X	X	X	X
			5.1.2 Identify those new program opportunities identified via market research or via BOT Strategic Priorities	VCAA, CAOC						X	X	X	X	X	X	X
			5.1.3 Continue to develop, pilot and evaluate models for the collaborative offering of programs/courses; 5.1.3.a Identify and resolve barriers	VCAA, CAOC, Multicampus Program Team	X	X	X	X	X	X	X	X	X	X		
			5.1.4 Identify programs appropriate to CBE and expand the availability of CBE across the System	Led by Pres/CBE Director, UMPI						X	X	X	X	X	X	X
			5.1.5 Develop micro credentials which are market sensitive, flexible and skills oriented 5.1.5a Ensure that these microcredentials are "stackable"	VCAA, CSAO, CAOC, MicroCredential Steering Committee							X	X	X	X	X	X
			5.1.6 Align PLA standards across the System and use as a mechanism to help more adult students enroll and complete	VCAA, CAOC, CSAO				X	X	X	X	X	X	X	X	X
			5.1.6a Develop portfolio development template;	PLA Workgrp							X	X	X	X	X	
			5.1.6b Determine best practice for veterans/new Mainers PLA;	PLA Workgrp							X	X	X	X	X	X
			5.1.6c Determine best practice for corporate licensure/training and PLA	PLA Workgrp									X	X	X	X

#	Recommendations	Action Items	Next Steps	Responsible Parties	Spring 2017	Summer 2017	Fall 2017	Spring 2018	Summer 2018	Fall 2018	Spring 2019	Summer 2019	Fall 2019	Spring 2020	Summer 2020	Fall 2020
			5.1.7 Develop flexible course schedules & accelerated course formats to reduce time to completion	VCAA, CAOC				X	X	X	X	X	X	X	X	
			5.1.8 Implement work with OPM (Academic Partnerships)	VCAA, CAOC					X	X	X	X	X	X	X	
			5.1.8a Explore the marketing and service provision of the OPM and incorporate as appropriate into our planning	Steering Committee, CSAO									X	X	X	X
			5.1.9 Identify an institution as a "completion college" and ensure development of sufficient completion programs	VCAA, CAOC, CSAO								X	X			
6	Support Faculty Professional Development	6.1 Provide adult-focused professional development and support for faculty	6.1.1 Continue to expand SAALT and the E-Learning Summit; better align these efforts with the ADC plan**	VCAA (with CAOC)							X	X	X	X		
			6.1.2 Explore and implement ways to expand access to professional development opportunities across the System	Steering Committee								X	X	X	X	X
			6.1.3 Explore and implement approaches to the sharing in instructional design support across the System; develop a "charter" around collaboration	Steering Committee								X	X	X	X	X
7	Develop Shared Student Support Delivery Model	7.1 Continue to strengthen the "navigator" model at those campuses identified as "adult-friendly"	7.1.1 Develop a "position description"	Steering Committee, select smaller work groups							X	X	X	X	X	
			7.1.2 Ensure campuses have a person identified	CSAO, Campus CSAO/VPEM				X	X	X						
			7.1.3 Provide ongoing professional development (PD)	CSAO, Steering Committee	X	X	X	X	X	X	X	X	X	X	X	X
			7.1.3.a Link to PD provided by Maine Adult Promise (MAP)	CSAO, MAP Project Director						X	X	X	X	X	X	X
			7.1.3.b Strengthen our connection to state, federal and local services and supports that can assist Maine adults;	CSAO, Steering Committee					X	X	X	X	X	X	X	X
			7.1.3.c Work with New Ventures Maine and others	CSAO, Steering Committee								X	X	X	X	
			7.1.3.d Develop an academic plan to completion of degree for all adult learners	Academic Advisors, Navigators	X	X	X	X	X	X	X	X	X	X	X	X
		7.2 Enhance face-to-face and online support services	7.2.1 Develop a clear "on ramp" for adult students	CSAO, Steering Committee								X	X	X	X	X
			7.2.2 Explore the development of a unified, cross-institution support team to serve adults	CSAO, Steering Committee								X	X	X	X	X
			7.2.3 Conduct an assessment of all campuses to develop a baseline	CSAO, Steering Committee								X	X	X		
			7.2.4 Using the list of barriers generated as a part of the Program Integration work, identify and resolve those barriers which most impact adult learners	VCAA, CSAO, Steering Committee								X	X			
			7.2.5 Inventory other policies and procedures and develop plan for resolving	CSAO, Steering Committee								X	X			
			7.2.6 Identify and implement best practices for 24/7 online service delivery	CSAO, Steering Committee						X	X	X	X			

#	Recommendations	Action Items	Next Steps	Responsible Parties	Spring 2017	Summer 2017	Fall 2017	Spring 2018	Summer 2018	Fall 2018	Spring 2019	Summer 2019	Fall 2019	Spring 2020	Summer 2020	Fall 2020
8	Provide Financial Intervention and Scholarships	8.1 Identify opportunities for additional funding	8.1.1 Determine criteria and funding for those with zero to 30 credit	Steering Committee, ADC Scholarship Committee							X	X	X	X		
			8.1.2 Determine criteria and funding for those continuing to a bachelor's degree with no gap	Same								X	X	X		
			8.1.3 Determine criteria and funding for those seeking to "skill up" through additional coursework (micro credentials or courses)	Same								X	X	X		
			8.1.4 Offer summer funding for current ADC scholarship students	Same								X			X	
			8.1.5 Change the current 8 semester limit to a maximum dollar figure to enable more access for part-time and working adults	Same								X	X			
			8.1.6 Collaborate with appropriate groups to promote the scholarship	Steering Committee, ADC Scholarship Committee, Mkting Director (TBD)	X	x	X	X	X	X	X	X	X	X	X	X
			8.1.6.a Develop print materials to enable outreach 8.1.6.b Explore use of TargetX to target adult learner and transfer inquiries 8.1.6.c Identify events to promote scholarship	Steering Committee, ADC Scholarship Committee, Mkting Director (TBD)									X	X		
		8.2 Develop a program to implement small debt forgiveness	8.2.1 Develop policy to forgive small debts/past due bills	CSAO, Steering Committee									X	X		
			8.2.2 Explore availability at campuses, develop communications	CSAO, Steering Committee									X	X		
		8.3 Ensure that students know about emergency loan funds or other short term funding		CSAO, Steering Committee									X	X		
		8.4 Explore adoption of Pell Promise at all campuses	8.4.1 Ensure alignment of Pell Promise practice across campuses to reduce confusion	CSAO, Steering Committee								X	X	X		
			8.4.2 Determine cost for expansion and discuss with campus leadership	CSAO, Steering Committee									X	X		
		8.5 Explore expansion of on-campus jobs available to adults	8.5.1 Explore with appropriate campus departments and implement if possible	CSAO, Steering Committee										X	X	
		8.6 Work with local, state and federal government to promote economic and workforce development policies that support adult learners	8.6 Identify appropriate policies and determine UMS stance and approach	Chancellor, CSAO						X	X	X	X	X	X	X
9	Identify Target Audiences:	9.1 Work with primary adult campuses to develop priorities	9.1.1 Focus on retention and completion of those with some college, no degree	CSAO, Steering Committee						X	X	X	X	X	X	X
			9.1.2 Focus on those who have expressed an interest in pursuing a credential or degree	CSAO, Steering Committee							X	X	X	X	X	X
			9.1.3 Develop outreach efforts which best engage subgroups of adult learners and reflect the diversity of the learner	CSAO, Steering Committee								X	X	X	X	X

#	Recommendations	Action Items	Next Steps	Responsible Parties	Spring 2017	Summer 2017	Fall 2017	Spring 2018	Summer 2018	Fall 2018	Spring 2019	Summer 2019	Fall 2019	Spring 2020	Summer 2020	Fall 2020
10	Launch Marketing and Communication Plan	10.1 Develop a comprehensive, System wide UMS outreach and communication plan;	10.1.1 Develop internal infrastructure to support this recommendation	CSAO, Steering Committee with [TBD] UMS Marketing Director						X	X	X	X			
			10.1.2 Co-brand with MaineSpark to link to the broader state initiative	CSAO, Steering Committee						X	X	X				
			10.1.3 Devise/Develop a first stage outreach campaign working with campus marketing professionals, UMS Govt/Community Relations and UMS Public Relations	CSAO							X	X	X			
		10.2 Partner with the work of MaineSpark, specifically Maine's Adult Promise	10.2.1 Work with Maine Adult Promise and MaineSpark in the development of a state resource hub and in forming better connections with external partners	CSAO, Steering Committee				X	X	X	X	X	X	X	X	X
		10.3 Partner with the marketing initiative coming out of the work with Academic Partnerships	10.3.1 Determine how leverage this for both AP-connected programs and programs in general	CSAO, Steering Committee									X	X	X	X
		10.4 Develop and invest in a single source, high quality, interactive one-stop information resource website	10.4.1 Transition learn.maine.edu	CSAO, Steering Committee									X	X	X	
			10.4.2 Form RFP team to select web designer	CSAO, Mkting Lead									X	X		
			10.4.3 Connect site to external resources such as Maine Adult Promise	CSAO, Mkting Lead										X	X	X
		10.5 Develop partnerships with other service providers	10.5.1 Working with MaineSpark and Maine Adult Promise, utilize those resources available to serve adults within the UMS	CSAO, Steering Committee									X	X	X	X
			10.5.2 Explore deeper connections with Adult Education's College Transitions	CSAO, Steering Committee									X	X		
11	Identify and Garner Internal and External Funding Support	11.1 Explore additional funding sources or collaborations	11.1.1 Devise a budget request to the state	Chancellor, CSAO								X	X			
			11.1.2 Identify possible grant funding	CSAO, Steering Committee							X	X	X	X	X	X
		11.2 Provide UMS Institutional Incentives	11.2.1 Continue to incentivize academic collaboration	VCAA	X	X	X	X	X	X	X	X	X	X	X	X
			11.2.2 Identify and provide funding to incentivize the development of these recommendations	CSAO, Steering Committee									X	X	X	X
12	Evaluation, Assessment and Improvement	12.1 Prepare annual student enrollment reports	1) Update adult degree completion report to include Fall 2018; update annually	UMS IR					X	X	X	X	X	X	X	X
		12.2 Develop a comprehensive IR plan	12.2.1 Develop ongoing research agenda specific to adult credential and degree completion	UMS IR, Steering Committee							X	X	X	X	X	X
		12.3 Set campus goals & incorporate in EM plans	12.3.1 As a part of the FY22 budget process, determine broad UMS goals for adult enrollment as well as campus specific goals;	CSAO, VCFA												X
		12.4 Conduct regular assessments and establish goals for improvement	12.4.1 Conduct annual (or bi-annual assessments) for improvement	UMS IR, Steering Committee												X

updated 031119

UNIVERSITY OF MAINE SYSTEM
Board of Trustees
AGENDA CALENDAR

A working calendar for developing agendas and submitting various reports to the Board has been designed in order to allow maximum planning in organizing presentations and reference materials. The calendar identifies the timetable for submission of items and reports which recur every six to 24 months as well as special reports with specific time lines. It does not include general items which are ordinarily on each Board meeting agenda; e.g., reports and consent agenda. The following agenda is subject to change consistent with scheduling, reporting, and other factors that the Chancellor deems necessary to consider such matters.

The Calendar will be updated and included in the Board Meeting materials on a regular basis.

JANUARY: Academic Affairs
    Academic Year Calendar
    Honorary Degree Nominations
Fiscal Matters
    State Research Report

MARCH: Academic Affairs
    Tenure Nominations
    Tenure Report
Governance/Administration
    Board Calendar
    Establishment of Nominating Committee
Student Affairs
    Spring Enrollment Update

MAY: Fiscal Matters
    Budgets and Student Charges
    Multi-Year Financial Analysis

Governance/Administration
    Election of Board Officers
    Confirmation of Board of Visitors

JULY: Governance/Administration
    Appointment of Standing Committees
Human Resources
    Annual Report on Named Chairs and Professorships

SEPTEMBER: Fiscal Matters
    Appropriation Request

OCTOBER: Fiscal Matters
    Review of Annual Financial Report

NOVEMBER: Academic Affairs
    Awarding of Academic Degrees

Student Affairs
    Official Fall Enrollment Update

May 2018

University of Maine System
Management Group Appointments/Changes
Board of Trustees Meeting March 2019

Campus	Name	Position Title	Effective Date	Prior Salary	New Salary	Previous Position Title	Notes
UMA	Brandy Finck	Associate VP for Admission and Student Financial Services	10/15/2018	$ 99,960	$ 104,960	Dean of Admissions	Promotion
UMFK	Matthew Morrin	Dean of Students and Athletics	8/1/2018	$ 77,520	$ 89,148	Dean of Students	Promotion and Addition to Management Group
UM	Khodadad Varahramyan	Vice President for Research and Dean of the Graduate School	9/1/2018 - 6/30/2019				10 month Stipend of $21,533 for additional responsibilities
UM	Faye Gilbert	Dean of the Undergraduate School of Business	3/1/2019		$ 190,000		New Hire

Capital Project Status Report

Executive Summary

Attached is the Capital Project Status Report for the March 24-25, 2019 meeting of the Board of Trustees. The report reflects a total of 20 projects, with one project having been removed since the previous report, and seven new projects having been added.

The new projects include two projects for UM: Hilltop Commons Servery Update (5100489) and York Hall Kitchen Hood Replacement (5100490), as well as five USM projects. Those are: Woodward Hall Renovation (6100301), Ricci Lecture Hall Renovation (6100308), Brooks Student Center Generator and Switchgear Installation (6100315), Schematic Design of the Career and Student Success Center (6100325), and Bailey Hall Fire Protection and Electrical Upgrades (6100316, 6100323).

Three projects remain on the report with a completion date of 2018. These projects are complete but will remain on the list until final invoices have been processed and paperwork completed.

The largest single project currently in the portfolio continues to be the Engineering Education and Design Center (EEDC). Although the current budget approval is limited to $9.0 million, the often-cited estimated total cost of the project is $75 to $80 million. It is expected that this project ultimately will affect the data in this report more than it does currently.

Please note that nearly half of the current major projects being tracked are complete or substantially complete. Those details are included on the attached listing of projects.

Four of the new projects will receive designated funds from the Maine's Workforce Bond that was approved in November, awarding $49,000,000 to the University of Maine System. Those projects are Woodward Hall Renovation (6100301), Ricci Lecture Hall Renovation (6100308), Schematic Design of the Career and Student Success Center (6100325), and Bailey Hall Fire Protection and Electrical Upgrades (6100316, 6100323) at the University of Southern Maine.

The details of these projects are included in a separate, supplemental report. The format of this report is still a work in progress. Future reports will be updated to reflect additional active Bond projects as the information becomes available.
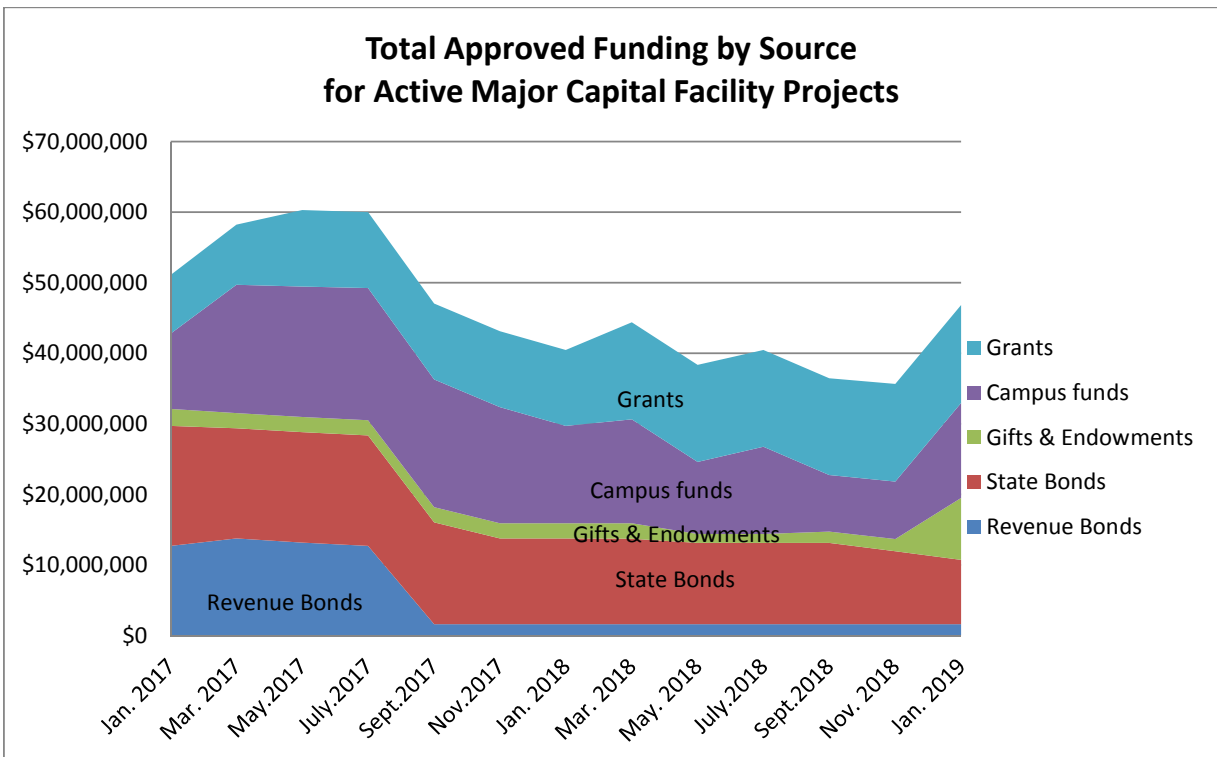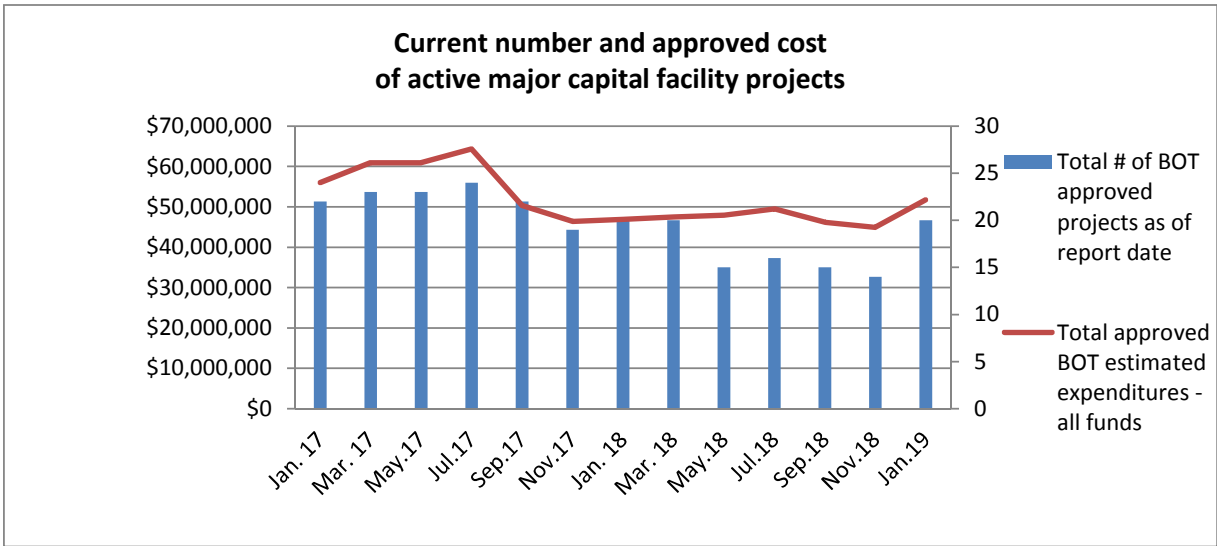
UMaine: P3 consultant services:

The University of Maine has historic properties in need of renovation to meet current needs. The university is interested in potential uses that enhance UMaine for faculty, staff, students, and the community while enhancing our financial sustainability. UMaine seeks to develop knowledge and expertise in using public/private partnerships for historic renovation.

The University of Maine intends to solicit professional consulting services to assist in the development of strategies for renovating historical buildings on campus through public-private partnership (P3). The university seeks consulting services to assist in identifying: a) what the potential value would be to the university in such a partnership; b) what are the potential legal/financial models for partnerships; and c) positive and negative outcomes of potential partnership models.

This solicitation is for expert services only and not the P3 itself. Any future potential P3 solicitation will include an update and approval request to the Finance, Facilities and Technology Committee and Board of Trustees when appropriate.

03/14/2019

Current number and approved cost of active major capital facility projects

Legend:
- Total # of BOT approved projects as of report date
- Total approved BOT estimated expenditures - all funds

Total Approved Funding by Source for Active Major Capital Facility Projects

Legend:
- Grants
- Campus funds
- Gifts & Endowments
- State Bonds
- Revenue Bonds

03/14/2019

Capital Project Status Report
Board Approved Projects
March 2019 - Board of Trustees Meeting
With Grand Totals and % of Current Approved Estimates

Campus, Project Name (Project ID)	Funding Source(s) & each source's share of expenditures to date	Status	Original Estimated Completion	Current Est. Completion	Original Approved Estimate	Current Approved Estimate	% Expended of Current Approved Estimate	Prior Actions, Information & Notes
UM								
Advanced Structures and Composites Center Expansion/ASCC Equip W2-Thermoplastics Lab/ASCC Equip W2 Tow Carriage (5100316, 5100414, 5100432)	Grants (84%), 2010 State Energy Bond (12%), Gifts (4%)	Project 5100316 is Complete, Project 5100414 Design in Progress, Project 5100432 is Construction in Progress	2014	2019	$6,400,000	$10,400,000	90%	Board Approved $6.4M in November, 2012. Board approved $1.6M in March 2014. Board approved increase of $871,000 in March 2015. BOT approved additional $1.5M in May 2016 for equipment project.
Cooperative Extension Diagnostic & Research Lab (5100387)	2014 State Bond (85%), Campus E&G Funds (10%), Grants (5%)	Substantially Complete	2016	2019	$9,000,000	$9,600,000	97%	BOT approved $9M in July, 2015. Board approved increase of $400,000 in July 2017. Chancellor approved additional incease of $200,000 in February, 2019.
Aquatic Animal Health Facility (5100440)	Grants (85%), Campus E&G Funds (15%)	Substantially Complete	2017	2019	$2,300,000	$2,870,000	94%	Board approved $2.3M in January, 2017. Board approved increase of $500,000 in November, 2017. Chancellor approved additional increase of $70,000 in February 2019.
Barrows Hall ESRB Lab Renovations (5100424)	Campus E&G Funds (100%)	Complete	2017	2018	$1,900,000	$1,900,000	83%	Board approved $1.9M in March, 2017
Darling Marine Center Waterfront Infrastructure (5100459, 5100460, 5100461)	Grants (100%)	Design in Progress	2017	2019	$3,000,000	$3,000,000	10%	Board approved $3M in July, 2017.
Engineering Education and Design Center (5100458)	Bond Proceeds (24%), Campus E&G Funds (76%), Gifts (0%)	Design in Progress	2024	2024	$1,000,000	$9,000,000	15%	Board approved $1M in September, 2017. Board approved additional $8M in May, 2018.
Wells Commons Generator (5100433)	Campus Auxiliary Reserves (100%)	Substantially Complete	2019	2019	$525,000	$525,000	61%	Board approved $525,000 January, 2018.
CCAR EDA Hatchery Building Roof Replacement (5100456)	Campus E&G Reserves (100%)	Design in Progress	2019	2019	$562,000	$562,000	3%	Board approved $562,000 in June, 2018.
* Hilltop Commons Servery Updates (5100489)	Campus Auxiliary Reserves (100%)	Design in Progress	2019	2019	$925,000	$925,000	0%	Board approved $925,000 January, 2019.
* York Hall Kitchen Hood Replacement (5100490)	Campus Auxiliary Reserves (100%)	Design in Progress	2019	2019	$562,000	$550,000	0%	Board approved $550,000 January, 2019.
UMM								
Compressed Natural Gas Heating Conversion (4100028)	Revenue Bonds (100%)	Substantially Complete	2014	2019	$1,800,000	$1,800,000	84%	Board approved $1.8M in July 2014.
USM								
Athletic Field Lighting (6100289, 6100305, 6100306)	Campus E&G Funds 29%), Gifts (9%), External Lease Financing (62%)	Complete	2018	2018	$1,780,000	$1,780,000	90%	Board approved $1.78M in March, 2018. Board approved execution of a tax-exempt master lease financing agreement not to exceed $1M in May, 2018
USM Center for the Arts (6100300)	Gifts (100%)	Pre-Design in Progress	2022	2022	$1,000,000	$1,000,000	0%	Board approved $1M in January, 2018.
Corthell Hall HVAC Upgrades (6100295)	Campus E&G Funds (100%)	Substantially Complete	2018	2018	$550,000	$550,000	85%	Board approved $550,000 in May, 2018.

1

Campus, Project Name (Project ID)	Funding Source(s) & each source's share of expenditures to date	Status	Original Estimated Completion	Current Est. Completion	Original Approved Estimate	Current Approved Estimate	% Expended of Current Approved Estimate	Prior Actions, Information & Notes
USM								
* Woodward Hall Renovation (6100301)	Bond (0%), Campus E&G Funds (100%)	Design in Progress	2019	2019	$1,800,000	$1,800,000	7%	Board approved $1.8M in January, 2019.
* Ricci Lecture Hall Renovation (6100308)	Bond (0%), Gifts (0%), Campus E&G Funds (100%)	Design in Progress	2019	2019	$500,000	$500,000	5%	Board approved $500,000 in January, 2019.
* Brooks Student Center Generator & Switchgear Installation (6100315)	Campus E&G Funds (100%)	Design in Progress	2019	2019	$675,000	$675,000	3%	Board approved $675,000 in January, 2019.
* Schematic Design of the Career and Student Success Center (6100325)	Bond (0%), Campus E&G Funds (0%)	Pre-Design in Progress	2020	2020	$1,000,000	$1,000,000	0%	Board approved $1M in January, 2019.
* Bailey Hall Fire Protection and Electrical Upgrades (6100316, 6100323)	Bond (0%), Campus E&G Funds (100%)	Design in Progress	2019	2019	$2,580,000	$2,580,000	1%	Board approved $2.58M in January, 2019.
UMPI								
** UMPI Greenhouse (7100010)	MEIF (100%), Gifts (0%)	Design in Progress	2018	2019	$850,000	$935,000	8%	Board approved $850K in Septmeber, 2018. Board approved additional $85,000 in January, 2019.

Explanatory Notes:			
* Project is new as of this report. ** Details of this project include updates since the last report. *** This project has been completed since the last report and is not expected to appear on the next report.	Funding source(s) reflects primary source(s) for project.	Calendar Year unless otherwise noted.	Percentage expended reflects total expended as of January 31, 2019 as a percentage of the current approved project estimate.

2

Bond Project Status Report
Active Bond Projects
March 2019 - Board of Trustees Meeting
With Grand Totals and % of Current Approved Estimates

Campus, Project Name (Project ID), Project Manager	Status	Original Estimated Completion	Current Est. Completion	Funding Source(s) & each source's share of expenditures to date	Estimated Bond Funding for Project	Bond Funding Expended	Estimated Project Cost	Prior Actions, Information & Notes
USM								
* Woodward First Floor Renovations (6100301) Project Manager: Dave Carney	Design in Progress	2019	2022	Bond (0%), Campus E&G Funds (100%)	$1,500,000	$0	$1,800,000	Board approved $1.8M in January, 2019.
* Ricci Lecture Hall Upgrades (6100308) Project Manager: Carol Potter	Design in Progress	2019	2020	Bond (0%), Gifts (0%), Campus E&G Funds (100%)	$150,000	$0	$500,000	Board approved $500,000 in January, 2019.
* Student Success and Career Services Center (6100325) Project Manager: Adam Thibodeau	Pre-Design in Progress	2024	2024	Bond (0%), Campus E&G Funds (0%)	$19,000,000	$0	$19,000,000	Board approved $1M in January, 2019. The total project cost remains under development and subject to change.
* Bailey Hall Fire Protection and Electrical Upgrades (6100316, 6100323) Project Manager: Carol Potter	Design in Progress	2021	2021	Bond (0%), Campus E&G Funds (100%)	$1,500,000	$0	$2,580,000	Board approved $2.58M in January, 2019.
Total Bond for Campus					**$22,150,000**	**$0**	**$23,880,000**	
Totals:					**$22,150,000**	**$0**	**$23,880,000**	

Explanatory Notes: * Project is new as of this report. ** Details of this project include updates since the last report. *** This project has been completed since the last report and is not expected to appear on the next report.	Funding source(s) reflects primary source(s) for project.	Calendar Year unless otherwise noted.				Percentage expended reflects total expended as of January 31, 2019 as a percentage of the current approved project estimate.

1

UMS Research Reinvestment Fund (RRF)
Annual Report of Activities

UMS Board of Trustees Meeting March 24 & 25, 2019

Executive Summary

The University of Maine System (UMS) is responsible for conducting research and development that supports and expands the Maine economy. These efforts are primarily led by the University of Maine (UMaine), the land grant, sea grant, and space grant university of the State. UMaine partners with the other system campuses to ensure that its efforts are indeed statewide in focus and impact. The purpose of the Research Reinvestment Fund (RRF) is to strengthen research and development activities that are tied to Maine businesses, and to industries that are critical to the future of Maine. The Board of Trustees (BOT) committed an initial $10.5MM for this initiative (2.1MM/year for 5 years, FY15 – FY19), from savings accruing from the UMS Administrative Reviews.

This report highlights FY2019 and cumulative program activities within the three distinctly funded initiatives of the RRF program established by the UMS Board of Trustees:

  I.   Competitive Grant Funding to UMS Researchers Initiative
  II.   Infrastructure Support to the Business Development Enterprise Initiative
  III. Infrastructure Support to the Research Enterprise Initiative

Notable highlights by initiative include:

I. **Competitive Grant Funding to UMS Researchers Initiative (Page 3)**
- The RRF Advisory Board established the following funding competitions designed to advance UMS research, development, and commercialization projects and attract follow-on funding from external sources: seed grants; planning grants; graduate assistantship grants; undergraduate assistantship grants; Interdisciplinary Undergraduate Research Collaborative (IURC); Interdisciplinary Graduate Research Collaborative (IGRC); and the RRF Maine Innovation, Research and Technology Accelerator (MIRTA)
- The RRF Advisory Board has awarded $5,830,914 in competitive grants since the program's inception. RRF funded grantees have submitted 161 follow-on grant applications to external funding agencies, of which 63 have been funded totaling $18,188,442 in additional external research dollars. Return on Investment = 3.1:1
- RRF funding has provided valuable seed funding to advance research, development, and commercialization within the UMS and has provided dynamic research experiences for participating UMS students.

II. **Infrastructure Support to the Business Development Enterprise Initiative (Page 13)**
- License revenue for FY18 was $552,833. UMaine's technology pipeline has been filling up over the last 10 years, and many new technologies take an average of 10 years from lab invention to marketable technology. UMaine technology transfer manages more than 125 active commercialization projects that range from initial patent applications, ongoing R&D, early prototypes and field trials, initial market trials, company startup and formation to licenses with mature companies. In FY18, 19 notifications of new inventions were received and evaluated for technical readiness, commercialization potential and patentability. Six new U.S. patents were issued; five for UMaine and one for USM. Six new provisional patent applications were filed and ten non-provisional U.S. or PCT applications were filed.
- The Office of Innovation and Economic Development (OIED) has been working on several initiatives to grow innovation, examples of which are the creation of the RRF MIRTA Accelerator, which helps move RRF-funded projects closer to

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commercialization; the application for designation of the University of Maine as a National Science Foundation I-Corps site; and the establishment of support for, and partnership with, USM and other UMS campuses.

- The work of the Innovation and Economic Development Council (IEDC) has advanced the previous recommendations of the Commercialization Working Group to actively address policy, practice, culture, and outreach issues that will further commercialization within the UMS.

III.   **Infrastructure Support to the Research Enterprise Initiative (Page 20)**
- RRF represents a significant investment in bolstering the UMS Research Enterprise infrastructure through staff positions in the Office of Research Administration (ORA) and the Office of Research Development (ORD). ORA is a University-wide office authorized to submit proposals and receive awards from external sources on behalf of the Board of Trustees of the University of Maine System. ORA is also the fiduciary for the University of Maine on grant-related matters. It manages and administers extramural grants and contracts for UMaine, UMM, and UMFK, with discussions underway to provide similar services to UMA.
- The Office of Research Development (ORD) provides proposal writing services to faculty with a particular emphasis on interdisciplinary/multi-institutional, large dollar grants and early career faculty outreach and support designed to enhance new researchers' ability to compete for extramural funds, while also protecting the university's investment in new talent. ORD recently organized the proposal development process of the $20M NSF EPSCoR RII – Track 1 submission (in collaboration with Bigelow Laboratory for Ocean Sciences, USM, UMM, and others); supported 12 separate NSF Early Career Development (CAREER) submissions requesting a total of $7.2M; and were key contributors to UMaine's first NSF National Research Traineeship (NRT) award that will train cohorts of graduate students who will become the next generation of environmental conservation leaders.
- The number of awards over $1,000,000 have increased significantly over the last year (# of $1M+ awards July-Dec 2017 (FY18) = 3 vs. Number of $1M+ awards July-Dec 2018 (FY19) = 10). ORA and ORD staff have played a key role in supporting university faculty in pursuit of high dollar value awards. Notable examples include: $5.8M Department of Defense award for biofuels research; $3M National Research Traineeship award from NSF; and a $2.6M DOT University Transportation Center award.
- RRF has been instrumental for UMaine gaining ground in national ranking, where according to the HERD survey, in FY 16 it reported $79.2M in research expenditures and ranked 160, in FY 17 it had reached $99.5M and ranked 155, and in FY 18 we surpassed the $100M research expenditure mark by reaching $106.7M, which has just been reported to NSF and which we expect to result in UMaine gaining several more points in national ranking. Such progress is consistent with the University's goal of reaching R1 Carnegie classification status and continued investment in R&D by the UMS through such programs as RRF will help to achieve this goal.

Appendices

2

I.   Competitive Grant Funding to UMS Researchers Initiative

The competitive grants program supported by RRF provides funding for research, development, and commercialization   projects. These funded projects seed larger initiatives that are tied to advancing aspects and sectors of Maine's economy. Measurable outcomes of seed grant investments include: the attraction of additional extramural funding, the provision of meaningful hands-on experiences for undergraduate and graduate students within the UMS, and the translational movement of basic and applied research to commercialization. Several of the funded research and development initiatives within the RRF portfolio have generated significant private sector engagements. By creating collaborations with the private sector, economic and workforce development activities are being accomplished in designated economic sectors of benefit to the State of Maine and beyond. Final funding decisions for the RRF competitive grants programs are made by the RRF Advisory Board whose membership is comprised of faculty and administrators from UMS campuses as well as representatives from the private sector and the Maine Technology Institute (MTI) (See Appendix A for the membership roster of the RRF Advisory Board).

Description of RRF grant programs and composition of the funded portfolio

RRF Planning Grants provide funding for 6-month projects that allow teams from UMS campuses and external partners to form and advance research, development, and commercialization projects.

RRF Seed Grants provide funding for 12-month projects to generate pilot data or proof of concept testing and target specific follow-on grant opportunities for federal, state, and private sources. Leveraging the investment of RRF funds by attracting additional funding to the University is a requirement of RRF grantees. Seed grant teams are comprised of UMS researchers and external partners from business, industry, and non-profits in Maine and beyond. Funding preference is given to projects that are able to demonstrate a likelihood of near-term commercialization and/or workforce development outputs.

RRF Student awards provide funding for 12-month UMS faculty/staff-led research, development, and commercialization projects that involve UMS students as major contributors. There are four separate student award programs supported by RRF: 1. Graduate Student Assistantships; 2. Undergraduate Student Assistantships; 3. Interdisciplinary Undergraduate Research Collaborative (IURC); and 4. Interdisciplinary Graduate Research Collaborative (IGRC). Programs 1 & 2 above support one student per project, whereas programs 3 & 4 fund teams of student researchers. The IURC program was established in FY 2018 as a means to further enhance collaborative science teams for undergraduate students within the UMS. The IGRC program is new in FY 2019 and is designed to help give UMS researchers a competitive edge in follow on graduate training grants such as the National Science Foundation's *National Research Traineeship* (NRT) program or the National Institutes of Health T-32 program.

The RRF Accelerator program, *Maine Innovation and Research Technology Accelerator – MIRTA*, was launched in winter 2017 with the goal of identifying projects within the existing RRF funding portfolio that could achieve measurable commercial outputs after a 16-week time frame with an infusion of technical assistance and funding. Potential outputs from the MIRTA program include starting a company, licensing UMS technology to an existing company, filing a patent, or forming an extended research collaboration with an external partner. Five accelerator projects were selected by the RRF Advisory Board in the Spring 2018 pilot of the program and a second cohort of four projects were selected in Fall 2018. This program is discussed further in the *Infrastructure Support to the Business Development Enterprise Initiative* section of this report.

FY 2019 Applications
In FY 2019, a total of 65 applications were received for the established RRF competitive grant programs which resulted in 29 new awards (5 planning grants; 6 seed grants; 14 student awards, and 4 accelerator grants). Several of these projects are highlighted within this report and a full listing of the project abstracts can be found in Appendix B.

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Cumulative RRF Grant Program Data

Since June 2015, the RRF Program has received 454 proposals from UMS researchers spanning all seven campuses. Of these applications, a total 161 projects have been competitively selected by the RRF Advisory Board for awards totaling $5,830,914 in grant funding. UMaine spearheaded 141 of these projects, with other system campuses taking the lead on 20 projects and being actively involved as Co-Investigators on an additional 38 projects. The number of competition rounds and number of projects funded by RRF Advisory Board approved funding programs were as follows:

- Seed Grants (5 rounds, 47 funded projects)
- Planning Grants (rolling basis, 18 funded projects)
- Graduate Assistantship Grants (4 rounds, 39 funded projects)
- Undergraduate Assistantship Grants (4 rounds, 39 funded projects)
- Interdisciplinary Undergraduate Research Collaborative (2 rounds, 8 funded projects)
- Interdisciplinary Graduate Research Collaborative (1 round, 1 funded project)
- RRF Accelerator (2 rounds, 9 funded projects).

Follow-on Grant Submissions and Awards

To date, RRF funded grantees have submitted 161 follow-on grant applications to external funding agencies.

63 were funded totaling $18,188,442 in additional external research dollars (Return on Investment = 3.1:1).

122
Publications

229
Presentations Given

408
Student Participants

Cumulative Total of Publications, Presentations and Student Involvement

Private Sector Investment, Engagement and Advancement in Maine Economic Sectors

In recognition of the fact that successful commercialization of University-based research requires meaningful engagement with external partners, applicants to the RRF are required to collaborate with private sector businesses and/or other key stakeholders. As a result of the programmatic focus on external engagement, *a total of 185 external entities have served as project partners on RRF projects* (several on multiple projects), many of which reside within the private sector and are Maine-based businesses*. Chart 1 below illustrates the type of partners that are collaboratively participating on RRF funded projects.

4
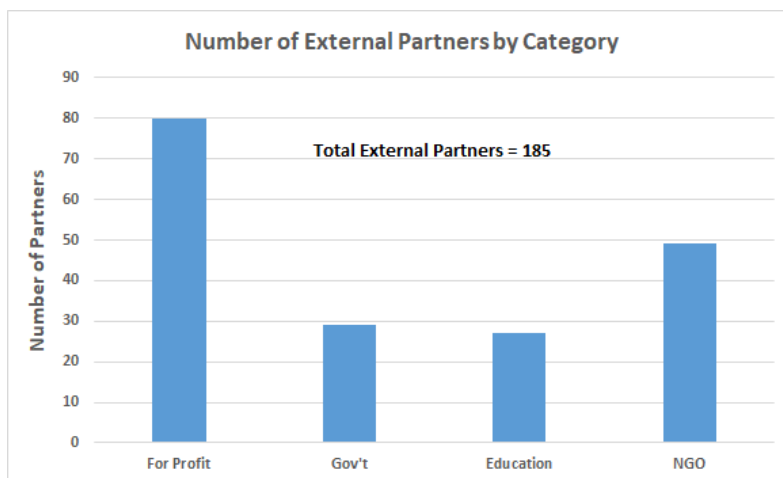
Economic Sector Representation of RRF Funded Projects

RRF funding has been directed towards a variety of economic sectors. As shown in Chart 2 below, the greatest investments have been made in Aquaculture and Marine Sciences, Education, Biotechnology, Environmental Technologies, and Advanced Technologies for Forestry and Agriculture. The breadth of RRF funding reflects the sectors highlighted on a state level by the legislature, as well as signature strengths within the System. Sector representation includes Maine Economic Improvement Fund designated sectors as well as sectors beyond MEIF that are of significant relevance to Maine's economy, such as Education and Healthcare.

Economic Sector Breakdown

- Healthcare, 5%
- Precision Manufacturing, 3%
- Education, 14%
- Aquaculture and Marine Sciences, 32%
- Advanced Technologies for Forestry and Agriculture, 13%
- Information Technologies, 3%
- Environmental Technologies, 13%
- Biotechnology, 13%
- Composites and Advanced Materials Technologies, 6%
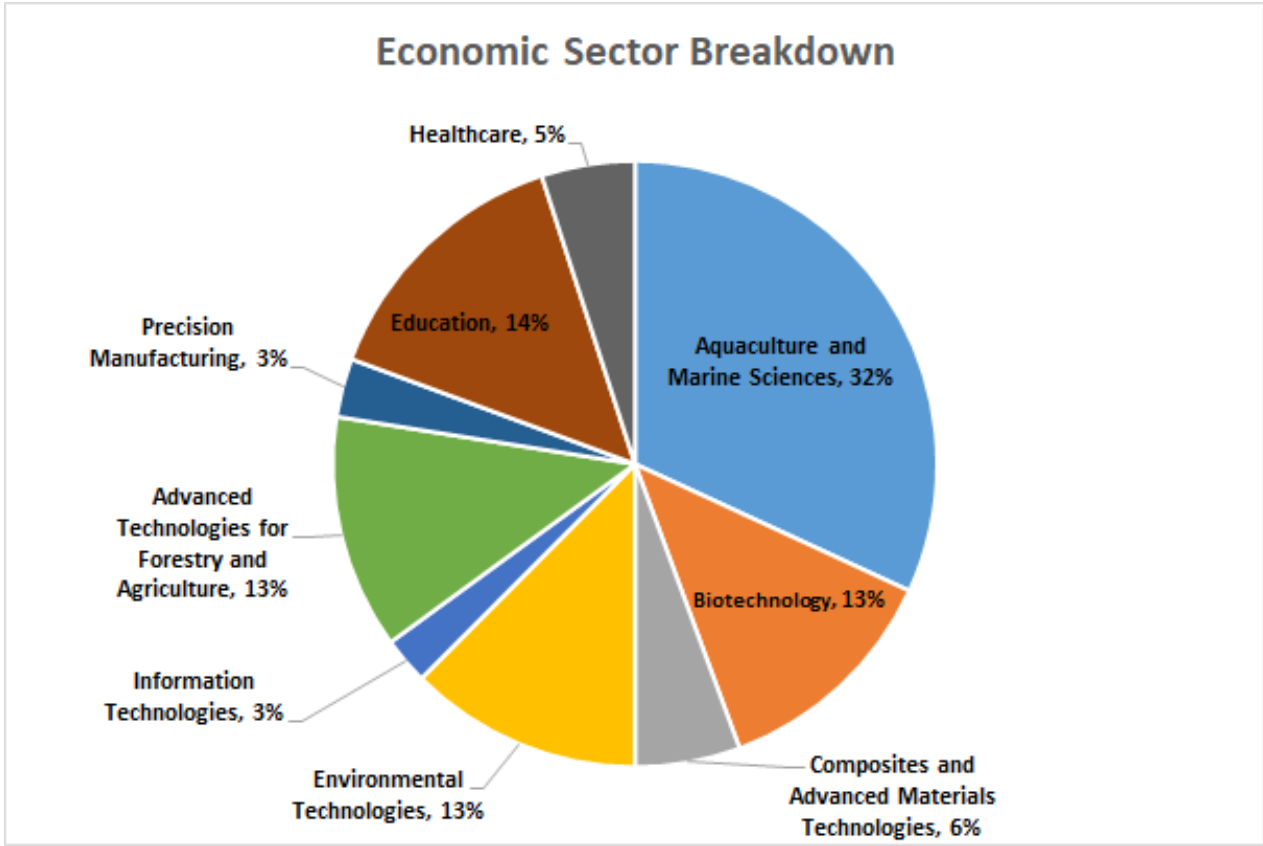
Chart 2: Economic Sector Breakdown for RRF Funded Projects

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Updates from select funded RRF projects that exemplify UMS campus collaborations and student research and training

RRF Seed Grants

Unmanned aerial systems: Supporting development and training on UAV applications for Maine businesses and State agencies
Industry sector: Education
PI: Thomas Abbott (UMA)
Co-PI: Colonel Dan Leclair (UMA)

This project was the first step in establishing an Unmanned Aerial Vehicle (UAV) training and education center at the University of Maine at Augusta (UMA). The larger goal was to demonstrate that a Maine-based UAV training and education center is valuable and an investment beacon for businesses, state agencies and external funders. The training and education center will draw investments from, and for, businesses, state and federal agencies, and assist in recruitment for UMA's own BS in Aviation program. With Dr. Abbott's efforts, UMA has supported the establishment of the UMA Flight Center and has trained almost 200 students in their FAA Remote Pilot course. With one of the lowest aviation program costs in the country, UMA expects to be able to recruit nationally.

Improving Maine's Coastal Infrastructure Upgrade Decisions through High Frequency Nutrient Measurements in Casco Bay
Industry sector: Aquaculture and Marine Sciences
PI: Damian Brady (UM School of Marine Sciences)
Co-PIs: Karen Wilson (USM Environmental Science and Policy)

The goal of this project was for UMaine and USM to work with the Maine Department of Environmental Protection, the Portland Water District, and the Friends of Casco Bay to help fill a key data gap in the relative contribution of different sources of nitrogen to Casco Bay. This new technology for high frequency nitrogen sampling is already allowing the best available information to be used in making decisions about future coastal infrastructure management in Maine. Dr. Brady now serves on the Casco Bay Estuary Partnership Management Council and Nutrient Council, and his team has informed the recent wastewater bond initiative that passed in November 2018. They have also become a part of Portland's new Integrated Planning process and have contributed to the East End Wastewater Treatment Plant's work to decrease nutrient loading to the bay by about 75%.

Eco-Sno with Ski Tips

Eco-Sno
Industry sector: Precision Manufacturing
PI: Elizabeth DePoy (UM School of Social Work)
Co-PIs: Scott Hoisington (UMF Business Administration), Vincent Caccese (UM Mechanical Engineering), and Stephen Gilson (UM Social Work)

This collaboration between University of Maine and external commercial partners proposes an innovative co-design method to develop and test the Eco-Sno, an aesthetically designed, modular, adaptive fitness support device for the growing number of elders who need and/or want standing support equipment to participate in outdoor winter recreation, fitness, and safe walking on snow and ice. With support from the seed grant, Drs. DePoy and Gilson, with assistance from the Advanced Manufacturing Center have designed a working prototype. The next step will be to bring together older adults who could benefit from the technology with researchers in order to test the device.

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Local Transportation Decisions for a Resilient Future
Industry sector: Education
PI: Martha Sheils (USM Cutler Institute)
Co-PI: Jack Kartez (USM New England Environmental Finance Center)

The Maine Department of Transportation developed a screening tool to meet their federal mandate to establish a process for risk-based transportation asset management planning. The "Transportation Risk Assessment for Project Planning and Delivery" (TRAPPD) initiative considers risk in terms of project delivery (i.e., on schedule, on budget) for infrastructure replacements and upgrades of state owned culverts and bridges. TRAPPD provides a numeric comparison using existing data that asset managers can view online and adjust expectations for asset condition and project delivery in real time, prior to inclusion of a project into a work plan. The New England Environmental Finance Center is conducting a pilot study in the Town of Scarborough, Maine to test the tool's applicability to provide transportation asset replacement information at the municipal level. The pilot study components are: a) processing municipal culvert data to fit the Maine DOT framework, b) analyzing how the results inform and augment municipal capital planning and spending, c) developing a process that will allow the lessons learned to be transferred to other municipalities, and d) developing estimates of the value of the service and the usefulness of the tool to municipalities.

Sensor Development/Adaptation to Improve Healthcare: A Partnership Between the University of Maine and St. Joseph's Hospital (SJH)
Industry sector: Healthcare
PI: John F. Vetelino (UM Electrical and Computer Engineering)
Co-PIs: Nuri Emanetoglu (UM Electrical and Computer Engineering), David Koffman,M.D., FACP(St. Joseph's Hospital)
Collaborators: Ali Abedi (UM Electrical and Computer Engineering), Jason Harkins (Maine Business School), Leonard Kaye (UM Social Work), James Moreira (UMM Arts & Letters), Mauricio Pereira da Cunha (UM Electrical and Computer Engineering), Steven Quackenbush (UMF Psychology), Rosemary Smith (UMaine Electrical and Computer Engineering/FIRST), William Wood (St. Joseph's Hosptial)

The goal of this project is to develop a partnership between UMS researchers and Saint Joseph Hospital (SJH) to develop, adapt and commercialize sensors to detect and monitor diseases and medical conditions to improve public healthcare. The partnership was inaugurated with a pilot project focused on motion sensors for use with elderly populations. This project involved collaborations with SJH physicians and caregivers in concert with UM, UMM and UMF faculty and students. Concurrently with this project collaborations between Dartmouth College and UM are ongoing to develop a biosensor to detect biomarkers associated with pancreatic cancer. Proposals to NSF and/or NIH are anticipated as a result of these partnerships and collaborations.

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RRF Graduate Assistantships

An Interdisciplinary Approach to Explore Risks Associated with Winter Ticks
Industry sector: Education
PI: Sandra De Urioste-Stone (School of Forest Resources)
Co-PIs: Pauline Kamath (School of Food and Agriculture), Kristin Peet (Penobscot Indian Nation), Peter Pekins (University of New Hampshire)
Graduate student: James Elliot

This is an interdisciplinary project that analyzes the actual risk of winter tick disease transmission carried by moose vs. the perceived risk by key stakeholder groups. So far, biological data collection and analysis have begun, and a literature review has been completed. Also, by collaborating with the Penobscot Nation, an online questionnaire has been developed and has begun to be distributed to Native American populations in Maine. Graduate student James Elliot (School of Forest Resources) is conducting research and collaborating closely with project partners in preparation for conferences scheduled for 2019.

James Elliot works with DNA samples in the Wildlife Disease Genetics Lab

Visible and infrared imaging spectroscopy for high-resolution mapping and health assessment of Maine's forest and agriculture resources
Industry sector: Forestry and Agriculture
PI: Peter R. Nelson (UMFK Biological Sciences and Environmental Studies)
Co-PIs: Daniel Hayes (UM School of Forest Resources Barbara Wheatland Geospatial Lab)
Graduate student: Catherine Chan

This project funds a graduate student to fly and interpret data from unmanned aerial vehicles for agricultural and forestry purposes. Flights with the Visible and Near-Infrared (VNIR) sensor have already been conducted at experimental agricultural fields in Aroostook County. This research is central to pending project proposals with NASA and has already been implemented in a Maine Economic Improvement Fund supported project conducted by a UMFK student in Alaska. Additionally, this project has partnered with a UMFK business major to provide paid access to this technology for agricultural and forestry users through a fee-for-service model.

RRF Undergraduate Assistantships

Beyond the Tides
Industry sector: Education
PI: Susannah Gordon-Messer (USM)
Undergraduate student: Zach Ouelette

Beyond the Tides is a student-developed, location-based, augmented reality (AR) game that educates Mainers on effects of rising sea levels. Players take on specific roles (ex. business executive, environmental researcher) and are asked to make environmental, economic and social decisions. As the game progresses, the player is shown the effects of their decisions on both the environment and the greater community. The game is being developed using TaleBlazer, an AR coding platform. Several locations along Portland's Back Cove walking loop have been mapped with current and future predicted water levels. These locations with then become decision points for players in the game as they walk along the path. The game will be play tested with USM and local high school students during the spring semester.

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Interdisciplinary Research for Decision Making about Dams in Maine
Industry sector: Education
PI: Bridie McGreavy (UM Communication and Journalism)
Co-PI: Darren Ranco (UM Anthropology), Tyler Quiring (George J. Mitchell Center for Sustainability Solutions)
Undergraduate students: Brawley Benson and Nolan Altvater

Nolan Altvater working on media documentation on the Penobscot River

The goal of this project is to advance research that analyzes stakeholder needs for information, perceptions about dams, and news media coverage to support decision making about dams in Maine and New England. So far, Dr. McGreavy and her undergraduate assistants have made substantial progress analyzing newspaper articles about dams in Maine. One of their findings was that the Penobscot Nation is often represented in news media for their spiritual connections to the Penobscot River, but not for how they take a cultural approach to their innovative and extensive scientific monitoring program. Student Brawley Benson won a first place award for his media analysis at the UMaine Student Research Symposium, and Nolan Altvater has been helping to lead a media documentation project to raise awareness about the Penobscot Nation's role in river monitoring and restoration.

RRF Interdisciplinary Undergraduate Research Collaborative

MAgApp: The Maine Agriculture Apps Project
Industry sector: Forestry and Agriculture
PI: Joline Blais (UM New Media)
Undergraduate students: Eliza Bennett (UM New Media & Art), Jack Lampinen (UM New Media & Media Studies), Tate Yoder (UM New Media & Maine Studies), Darius Haskell (UMPI Math)
Collaborators: Bill Giordana (SYRA Education Director), Larry Feinstein (UMPI Biology), Stephanie Burnett (Horticulture), Ali Abedi (UM Assistant VP for Research and Director of CUGR)

The Maine Agriculture Apps Project (MAg Apps) is developing a mobile app and dashboard that enables farmers to monitor production and environmental data from greenhouses and year-round farm buildings. The MAgApp pilot project will help convey the usefulness and adoption of low cost environmental sensors that are helping to conserve energy and increase production capacity, especially for small Maine food businesses. This is the first step towards field-ready, data-driven decision making tools and a keystone of future rural economic development. Undergraduate research assistants are working directly with farmers in the field and a cross-disciplinary team of faculty advisers. So far, the team has collected data, completed the User Experience Design, tested the mobile app prototype and developed a partnership with Student Life and CITL to host the America East Conference Hackathon at UMaine.

Joline Blais and Stephanie Burnett in the Roger Clapp Greenhouse

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Select FY 2019 RRF funded projects underway

2019 RRF Graduate Assistantship

Detecting changes in zooplankton following the recovery of river herring in the Penobscot
Industry sector: Aquaculture and Marine Sciences
PI: Rachel Lasley-Rasher (USM Biological Sciences)
Collaborators: Karen Wilson, University of Southern Maine, Department of Environmental Science and Policy; Damian Brady, UMaine, School of Marine Sciences

River herring populations have declined dramatically and remained low for over a century after dams were built that blocked access to their spawning habitat. The primary goal of this project is to determine how and if diet selectivity has changed, explore how alewife alter zooplankton communities through selective feeding, and predict community changes as recovery progresses and extend these results to other dam removal projects.

2019 RRF Undergraduate Assistantships

Expansion and Testing of a Habitat Selection Model for a Globally Threatened Bird Species on Industrial Forestland
Industry sector: Environmental Technologies
PI: Neil Thompson (UMFK Forestry)
Collaborators: Amber Roth, UMaine School of Forest Resources; Carol Foss, New Hampshire Audubon; Patricia Wohner, Cuckoo Conservation Initiative; Jason Johnston, UMPI Biology/Environmental Science and Sustainability/Agriculture Science & Agribusiness

The Rusty Blackbird is a threatened species that was recently listed as a Special Concern in Maine. To predict their nesting habitat in northern New Hampshire, a habitat selection model was developed. In this project, that model will be extended throughout western and northern Maine using geographic information system (GIS) technology and field observations. This will allow recommendations to be made for habitat management, hopefully leading to intensive forestry practices that can produce high quality nesting habitats for the Rusty Blackbird.

Coldwater selection for fast growth of American oysters in Downeast Maine
Industry sector: Aquaculture and Marine Sciences
PI: Brian Beal (UMM)
Collaborators: Heather Leslie, UM Darling Marine Center

The goal of this project is to produce a fast-growing, disease-resistant American oyster that will grow to commercial size in 2-3 years in the cold waters of eastern Maine, finally allowing this region to profit from the rapidly growing industry. Building on previous work in rearing juvenile oysters, an undergraduate student will help conduct research to examine the growth rates of those selected juveniles over a one-year period. This will help in understanding which conditions lead to fast growth and survival of juvenile oysters in cold water.

2019 RRF Interdisciplinary Graduate Research Collaborative (IGRC)

An interdisciplinary approach to building data literacy in wildlife survey technologies

PI: Cynthia Loftin (Department of Wildlife Ecology)

This project's objectives are to:

1) build interdisciplinary data literacy through development, application, and evaluation of new technologies for rapid assessment of wildlife populations during time-critical windows,

2) engage students in team science, and

3) transfer this technology to collaborating stakeholders.

An interdisciplinary team of students will collaborate with biologists, ecologists, remote sensing specialists, and computer scientists to evaluate and improve survey methods, image collection and interpretation protocols, and tools to enhance data management efficiency and workflow with machine learning and artificial intelligence.

Collaborators: Dr. Cynthia S. Loftin, Associate Professor, Wildlife, Fisheries, and Conservation Biology, and Unit Leader, USGS-Maine Cooperative Fish and Wildlife Research Unit
Dr. Kate Beard Tisdale, Professor, School of Computing and Information Science
Mr. Anthony Guay, Remote Sensing Specialist, School of Forest Resources
Dr. Daniel Hayes, Assistant Professor, School of Forest Resources
Dr. Roy Turner, Associate Professor, School of Computing and Information Science
Dr. Tora Johnson, Associate Professor, GIS Director, University of Maine-Machias
Dr. Aly McKnight, visiting Assistant Professor, Wildlife and Fisheries Management, Unity College
Mr. Mark Koneff, Chief, Branch of Migratory Bird Surveys, US Fish and Wildlife Service (USFWS), Migratory Bird Management, Orono

Additional Key Project Collaborators:
USFWS: Maine Coastal Islands Refuge, Mr. Brian Benedict, Refuge Manager, Linda Welch, Sara Williams, Wildlife Biologists; Caleb Spiegel, USFWS, Division of Migratory Birds, Hadley MA
Maine Department of Inland Fisheries and Wildlife: Ms. Danielle D'Auria, Waterbird Biologist

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RRF Planning Grants

Arctic Futures Workshop in South Greenland – June 2019
RRF is supporting a unique opportunity for UMaine, USM, and UMaine School of Law researchers and scholars who conduct Arctic research, or hope to in the future, to participate in a one-week workshop in South Greenland called "Arctic Futures." Attendees will actively participate in writing a report addressing the use of South Greenland as a case study for Arctic research, with an emphasis on problem-solving for local South Greenland and synergies with Maine. The workshop provides a venue for participants in a broad range of specialties to collaborate with Greenland citizens and representatives to learn about and work together on topics of mutual interest. The collaborative nature of this endeavor sets up opportunities for collaborative proposals to the National Science Foundation's "Navigating the New Arctic" funding program and other similar mechanisms.
<u>Paricipants include:</u>
Maine Law School: Jeffrey Thaler (Visiting Associate Professor of Law), Charles Norchi (Benjamin Thompson Professor of Law)
USM: Firooza Pavri (Director of the Muskie School of Public Service; Professor of Geography), Vinton Valentine (Director of USM GIS), Jan Piribeck (Professor of Digital Art and Foundations), Matthew Bampton (Professor of Geography)
UMaine: Kristin Schild (Research Assistant Professor School of Earth and Climate Sciences and Climate Change Institute), Kathleen Bell (Professor of Economics), Neal Pettigrew (Professor of Oceanography), Robert Northington (Lecturer/Post-doctoral Research Associate of Ecology), Erin Roche (Crop Insurance Education Program Manager, Cooperative Extension), Yong Chen (Professor of Fisheries Sciences), Alice Kelley (Instructor of Earth and Climate Sciences, Research Associate Professor Climate Change Institute), Paul Mayewski (Distinguished Maine Professor of Earth and Climate Sciences and Director of Climate Change Institute), Jasmine Saros (Professor of Paleolimnology and Lake Ecology), Lee Karp Boss (Associate Professor of Marine Sciences)

Planning for Wraparound Services that Support the Growth of Maine's Craft Beer Industry
Industry sector: Forestry and Agriculture
PI: Terry Shehata (USM, Economic Development Office)
Collaborators: Jake Ward & Renee Kelly, UM Office of Innovation and Economic Development, Sean Sullivan Executive Director of the Maine Brewers' Guild; Luci Benedict USM Director of the Quality Collaboratory; Maggie Vishneau Senior Policy Associate for Research & Organizational Develop, USM Cutler Institute; Ross Hickey USM Asst Prov for Research Integrity; Ryan Wallace Director of the USM Center for Business and Economic Research; Sarah Goan USM Data Innovation Project; Andrew Crawley UMaine School of Economics; Jason Bolton UMaine Cooperative Extension.

The University of Southern Maine (USM) and the University of Maine (UMaine), in partnership with the Maine Brewers' Guild, propose to undertake a 6-month planning effort to develop a comprehensive implementation plan for providing wraparound services to the craft beer industry by leveraging the resources of the University of Maine System and outside service providers. The development of the implementation plan is necessary to help the industry address the challenges it is facing in anticipation of continuing growth in output and employment by 2020. The success of this planning effort will serve as a model for developing industry sector-based tailored services.

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2019 RRF Seed Grants

Medical Laboratory Technician (MLT) Practicum Intensive Week Pilot
Industry sector: Education
PI: Judith Clukey (University of Maine at Augusta)
Co-PI: Leigh Belair (University of Maine at Presque Isle)
External collaborators: MaineGeneral Medical Center, Nordx Labs, ALI Labs, Pen Bay Medical Center, Waldo General Hospital, Central Maine Medical Center, Southern Maine Medical Center

RRF funding will support equipment upgrades for the Medical Laboratory Technology (MLT) of Maine program, which was created as a collaborative effort between UMPI and UMA. The program is challenged by limited clinical sites that have the capacity to train students in microbiology and blood banking. This issue combined with staff shortages has led to less participation from hospitals in lab training. Judith Clukey plans to address this by establishing intensive week-long trainings for MLT students that will minimize clinical time and technical instruction commitment from affiliate sites while continuing to develop well-trained lab professionals.

MLT training at UMA and UMPI

A Platform Using a New Cyber Physical System and UAV to Detect Temporal and Spatial Variation for Precision Agriculture
Industry sector: Forestry and Agriculture / Precision Manufacturing
PI: Yongjiang Zhang (UM School of Biology and Ecology)
Co-PIs: Hongzhi Guo (University of Southern Maine), Matthew Wallhead (UM School of Food and Agriculture)
External collaborators: Jasper Wyman & Son, Wild Blueberry Commission of Maine, Cherryfield Foods Inc.

This project proposes the development of a platform that will allow farmers to use their resources more efficiently. A Cyber Physical System (CPS) will be made to monitor temporal variation in the water status of wild blueberries, and Unmanned Aerial Vehicle (UAV) sensors will be used to detect spatial variation across the farm, which produces data for scientists studying plant-environment interactions. The team plans to expand the platform to include fertility and pest management, and also to develop an automated AI system that can analyze and report crop-environment interactions.

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II. Infrastructure Support to the Business Development Enterprise Initiative

RRF has provided funding to increase UMS capacity to meet strategic outcomes in the areas of business partnerships, technology transfer and commercialization leading to economic development. This impact has been particularly significant since the completion of the Commercialization Working Group (CWG), which finished its work in late 2017. The findings from the Working Group helped shape commercialization activities that would not have been possible without the Research Reinvestment Fund.

External and internal stakeholder feedback from focus groups conducted by the Commercialization Working Group highlighted the following challenges:

- Maine business and industry partners called for improved *communication and marketing of services, improved service delivery, and a wider array of services*
- The faculty highlighted the need for *clear policies, additional resources, and aligned incentives* supportive of commercialization and innovation. Current challenges include:
  - inconsistent understanding of the importance of public-private partnership to the land-grant mission;
  - inconsistent understanding of the resources the university has in place to support commercialization;
  - inconsistency in the recognition of knowledge transfer activities in the incentive structures (e.g., promotion and tenure criteria);
  - insufficient resources (e.g., release time, monetary rewards, human resources) to support faculty engagement in commercialization activities;
  - insufficient marketing of UMaine R&D resources to potential industry or agency partners.

Innovation and Economic Development Council (IEDC)

One outcome of the CWG was the establishment of the Innovation and Economic Development Council to advise the UMaine and UMM president, to build a campus culture that supports commercialization activities, and to prioritize and implement initiatives that enhance and increase technology commercialization, industry engagement and economic development. The inaugural meeting of IEDC occurred in January 2018. The group is chaired by UMaine Provost Jeff Hecker and IEDC membership includes UMaine, UMS, and Graduate School of Business representation. IEDC has established priority areas with associated short- and long-term goals based on the report completed by CWG.

The IEDC was charged with addressing the following tasks listed below in its first year. The activities are in priority order:

1. Develop a vision for economic development for the university
2. Develop an action plan to implement the recommended IP policy and practice changes
3. Develop a plan for integrating information about commercialization and economic development into new faculty orientation, and chairs and directors training curricula
4. Develop a plan for marketing UMaine's research and economic development resources to potential business, industry and community partners
5. Develop a plan for revamping the university's web presence so that information about innovation, economic development, industry-university partnerships and commercialization are more visible and easily identified via search
6. Develop recommendations for increasing incentives for faculty and staff to engage in commercialization activities and move university intellectual property to "market"
7. Develop recommendations for reviewing promotion and tenure criteria in key disciplinary areas to ensure that commercialization related activity is recognized.

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IEDC Working Groups:

To systematically address the activities above, the IEDC has established working groups

1. **Culture**
   a. Develop a vision for economic development for the university
   Status: A summit was held in January 2018 to outline short-term and longer-range goals to enhance commercialization. A subcommittee of IEDC created a draft vision statement for commercialization at the University of Maine and UMS.

2. **Policy**
   a. Develop an action plan to implement the recommended IP policy and practice changes
   Status: A revised IP policy that reflects current law and trends has been presented to UMaine Faculty Senate and additional changes are in progress to incorporate their input.
   b. Develop recommendations for reviewing promotion and tenure criteria in key disciplinary areas to ensure that commercialization related activity is recognized.
   Status: Review will follow implementation of IP policy.

3. **Organizational Structure**
   a. Identify and enable existing staff to efficiently support commercialization (including RRF funded staff); engage contractors and plan for new employees where needed to expand capacity
   Status: Business incubation staff and RRF-funded staff form the key team members supporting faculty/staff/student teams in the commercialization process through the MIRTA accelerator and I-Corps program (see below for more detail). Contractors are being used to perform technology and market analyses to assist in the development of commercialization plans.
   b. Operationalize an independent research foundation to enhance business development and commercialization.
   Status: The IEDC is further evaluating the role of the University of Maine R&D Foundation.

4. **External Engagement**
   a. Revamp and enhance the process and options for companies to engage in sponsored research; provide tools and training to faculty
   Status: Implementation of Wellspring Sophia software to provide a central solution to manage customer data, contacts, project financials and intellectual property is in process (see below for more detail). In addition, the University of Maine hired a Forest Industry Business Development Manager as a primary point of contact for this specific sector. The goal is to test this position as a model for engaging companies in sectors important to the state where UMS has significant research resources.
   b. Create materials and systems for marketing research capacity
   Status: Draft of a new website for the Office of Innovation & Economic Development, which will serve as a portal for businesses to find and access the many R&D resources of the University of Maine System, is complete and in testing. The website will link to the Wellspring Sophia software, making it easier for faculty and staff to create, track and manage industry projects.

5. **Internal Resources**
   a. Provide training and programs (such as the RRF accelerator) to enable faculty to engage in commercialization
   Status: Within the last fifteen months the Office of Innovation and Economic Development launched three new programs: a new workshop series, the RRF MIRTA accelerator, and I-Corps site program to provide varying levels of training for faculty, staff and students (see below for more detail).
   b. Adopt administrative tools and systems to enhance service to stakeholders
   Status: The Wellspring Sophia software makes it easier for faculty and staff to create, track and manage industry projects. Having better data in a customer relationship management (CRM) program is expected to yield better marketing of UMaine technologies and R&D services, and increase the overall capacity for systematic engagement with external partners around Maine and beyond.
   c. Advise the development and administration of institutional funding mechanisms (such as RRF

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grants) to accelerate commercialization, build the project pipeline and increase collaboration among campuses and with industry partners.

Status: Extensive interaction is happening between multiple campuses. A new project of USM and UMaine is underway that involves working with the craft brewing industry to identify their needs, inventory UMS assets and develop new resources where there may be gaps. This project can serve as a model for collaboration among campuses to support industry sectors.

Innovation & Commercialization Initiatives

The Office of Innovation and Economic Development (OIED) has been working on several initiatives to grow and accelerate innovation, industry engagement and commercialization activities at UMaine and throughout UMS. These initiatives involve growing the pipeline of faculty, staff and students engaged in industry work and commercialization by providing them with the tools and training they need as well as accelerating and supporting their projects so that they can better engage industry partners and commercialize new innovations. Several of the current and future, planned activities come from priorities identified by the Innovation and Economic Development Council from the results of the Commercialization Working Group (CWG).

Innovation & Commercialization Culture
As a result of RRF and its staffing support, the Office of Innovation and Economic Development, working with the Vice President for Research & Dean of Graduate Studies Office, provided formal professional development and training to faculty and staff. OIED launched an Introduction to Commercialization workshop, with a more extensive series of workshops that began in February 2019. These workshops form the basis of a new certification program for faculty, staff and graduate students to include in their CVs. The longer-term goal is to offer these workshops online in addition to in-person opportunities for faculty and staff across UMS. In addition, OIED worked with the Graduate School to hold a one-day workshop for graduate students interested in private sector or entrepreneurial career paths. A one-day workshop for undergraduate and graduate students is planned for April 2019 on the basics of transforming an invention into an entrepreneurial venture.

MIRTA (Maine Innovation, Research and Technology Accelerator)
In response to the need for more commercialization support, the Office of Innovation and Economic Development created the MIRTA Accelerator to move RRF-funded projects significantly closer to commercialization. The goal of the accelerator is to have each participating team develop a realistic commercialization plan by validating their hypotheses about their innovation's market opportunity. Each team has been eligible for up to $25,000 for commercialization activities and another $10,000 in release time for faculty and staff from RRF funding. MIRTA directly addresses the needs faculty and staff identified in the focus groups by:
- providing commercialization training and professional development for faculty, staff and students;
- building additional internal programmatic resources to support faculty and staff commercialization activities;
- developing relationships with key advisors and private sector partners to accelerate speed to market;
- providing internal and external recognition for engagement in commercialization;
- leveraging additional external financial resources for further research and development; and
- providing financial support for release time to focus on commercialization activities.

The success of this program depends upon the support that the Office of Innovation and Economic Development RRF-funded staff provides. The staff offers learning sessions on a variety of commercialization topics relevant to their projects, meets weekly with each of the four teams to coach, sets milestones, assigns "homework," and reviews progress. In addition, outside of these meetings, the staff provides guidance and feedback on grant proposals, presentations, financial projections and many other faculty and staff needs as they advance their projects. The staff also manages intellectual property, identifies and manages connections with external advisors, and makes connections with potential customers or partners.

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While the second MIRTA cohort is participating in the accelerator now, results from the first cohort have been extremely positive: two teams have created start-up companies that are participating in the Office of Innovation and Economic Development's Top Gun program, with plans to apply for Small Business Innovation Research (SBIR) or Small Business Technology Transfer (STTR) grants to further their work; one team has a private sector partner funding prototypes for use in field trials in their facilities; one team has a direct license to a private sector partner imminent, which will also include ongoing research funding; and the final team has received ongoing funding from their private sector partner and is making proof of concept prototypes for targeted applications.

Hari Palani, presenting at MIRTA demo day in Spring 2019

The second cohort is comprised of the following teams:
1. Next-Gen Orthopedic Biomaterial - Dr. Michael Mason's team is developing a nanocellulose composite orthopedic implant that promotes the growth of strong natural bone while safely dissolving over time, eliminating the need for costly and permanent metallic foreign devices.
2. Bio-Based Insulative Protective Packaging - Dr. Mehdi Tajvidi's team is developing a biodegradable wood-based technology that produces a foam-like matrix to protect fragile items and insulate them from extreme temperatures.
3. Half-Shell Oyster Sorter - Dr. Stoll's team is building a cost- and scale-appropriate oyster sorter to support the long-term success of the small-scale aquaculture sector in Maine and around the world.
4. Midlina - Dr. Nicholas Giudice's team has developed a multimodal software solution for providing blind and visually-impaired (BVI) people with access to digital graphical information.

See Appendix C for a description of all nine teams from the first and second cohort, including a list of industry partners, additional funding and status updates.

I-Corps
The Office of Innovation and Economic Development recently used RRF funding and activities to successfully apply for designation of the University of Maine as a National Science Foundation I-Corps site. NSF selects university programs, such as UMaine's Foster Center for Innovation, that have a demonstrated track record of moving entrepreneurial ventures out of labs to act as I-Corps "sites" to further increase the number of scientists and engineers exposed to commercialization opportunities.

NSF sponsors I-Corps to foster innovation and entrepreneurship by providing faculty, staff and students with the tools and guidance needed to identify the market opportunity for their STEM-based research. The NSF I-Corp site designation includes $150,930 of funding over three years to provide modest stipends to each participating team for prototyping and market research.

In the program, the teams of faculty, students and entrepreneurial mentors will undergo training to refine and identify high potential market applications for their research. The I-Corps program is envisioned as a pre-accelerator to help teams enter the University's MIRTA Accelerator having already validated a customer need. The success of the I-Corps proposal was directly tied to the pipeline of projects created by RRF and the ongoing RRF-funded staff and financial support that the I-Corps teams receive after completion of the program.

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UMaine's first NSF I-Corps workshop was held on February 8th at the Foster Center for Innovation. Six teams working on innovative technologies with potential for commercialization were selected to be part of the first cohort. The teams include faculty and students from business, biomedical engineering, food science, mathematics and human development. The program runs for six weeks, during which teams conduct customer interviews to validate that their solution solves a problem for the intended customer segment. The teams meet on a weekly basis for one-on-one coaching sessions with the Foster Center team. The goal for the first calendar year of this program is to have 10 teams, so we are well on our way to meeting and exceeding this goal. There are two additional cohorts planned for this calendar year – one in the summer and another in the fall.

Development of Accelerated Commercialization Pathways
MIRTA and I-Corps represent two important elements of a pathway for accelerating projects through the commercialization process. The combination of commercialization training, RRF awards, and other ongoing entrepreneurial training creates a stronger pipeline leading to increased industry R&D projects, commercialization and economic development. Because RRF required funded projects to have a direct relationship to the Maine economy, it has facilitated stronger private sector partnerships and led to innovations with the potential to impact the state through research, development and commercialization.

In addition to MIRTA, teams may also move from the local I-Corps site into the national NSF I-Corps program, or startups resulting from MIRTA can participate in our community-based Top Gun business accelerator offered in partnership with Portland-based Maine Center for Entrepreneurs. This pathway builds upon existing OIED business development and start-up supports including licensing, business incubation and entrepreneurship support (see figure below), with the goal of increased licensing, industry collaborations, and jobs created and retained.

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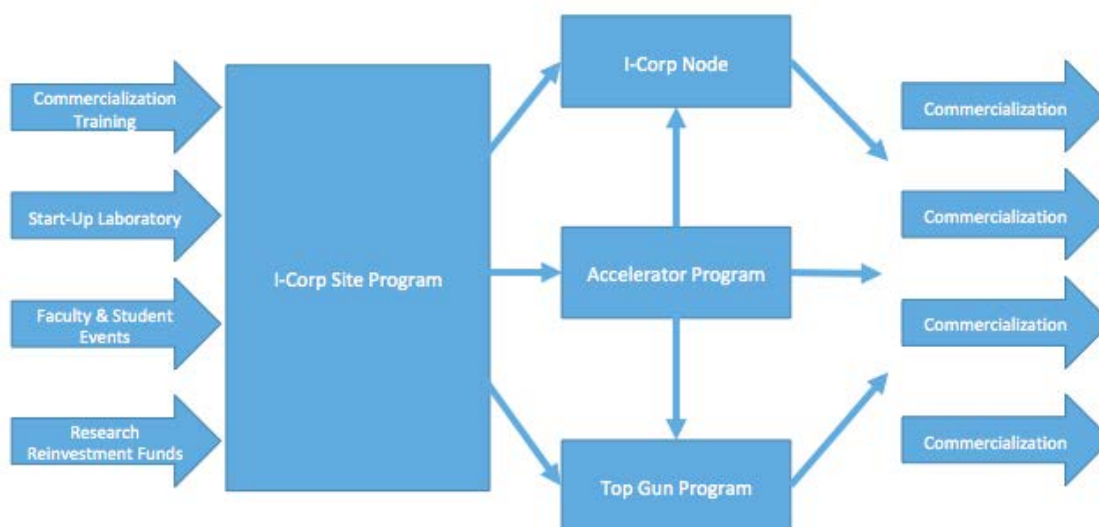
Support for USM and other UMS campuses

As part of RRF and the One University initiative, the Office of Innovation and Economic Development has been tasked with expanding technology transfer and commercialization capacity throughout UMS and expanding industry engagement and partnerships. UMaine and the University of Southern Maine entered into a memorandum of understanding for shared business development services and commercialization initiatives between the campuses.

- OIED assumed responsibility for USM intellectual property management, patent licensing, industrial contracting and activities related to increasing and enhancing commercialization at USM. This partnership generated efficiencies by eliminating a ½ FTE and made additional services and resources available to USM.
- OIED conducts outreach with a number of USM faculty to promote commercialization of their work and to facilitate the next stages of product development.
- OIED is assisting with USM's MEIF-funded internship programs by providing its Innovate for Maine model and training for their interns working with industry partners on innovation projects.
- OIED has engaged in innovation and outreach visits to University of Maine at Farmington and University of Maine at Presque Isle.

Business Development & Industry Engagement

As noted above, one of the biggest needs expressed by both the private sector and internal stakeholders is more communication and marketing of the University of Maine and the UMS campuses resources for innovation and commercialization.

- With the recommendations of the Commercialization Working Group, the Office of Innovation and Economic Development has used RRF funding for staffing to focus on marketing and communication of industry partnerships and R&D resources. A new communication plan and draft website has been created.
- Through the MOU with UMS and USM, the Office of Innovation & Economic Development is facilitating industry engagement projects with USM faculty and staff. Recently, USM and OIED staff have created a plan to assess the needs of the craft brewing industry in Maine, identify UMS resources that can address those needs and identify areas where new resources could support the industry. The intention is that this model of UMS entities working together could be applied to multiple industry sectors important to Maine, such as data science and biotech.

Operational Efficiencies

Recommendations and findings from the CWG focus groups indicated a need for more commercialization capacity and operational efficiency. In 2018, the Office of Innovation and Economic Development purchased Wellspring Sophia software. Many universities use this software to manage business engagement, intellectual property and licensing, and company-funded R&D projects. The software interfaces with the university enterprise management software and the general ledger (GL). This new implementation will shorten response time for both external private sector and internal university constituents. Having better data in a customer relationship management (CRM) program is expected to yield better marketing of UMaine technologies and R&D services, and increase the overall capacity for systematic engagement with external partners around Maine and beyond.

Creating Policy & Procedures to Facilitate and Incentivize Commercialization

The Office of Innovation and Economic Development, UMS Human Resources and UMS Counsel examined all University of Maine and University of Maine System policies relating to commercialization activities. The purpose was first ensuring compliance, and then to use policy to facilitate and incentivize commercialization and industry collaboration. Updates to the System policy governing patents and copyrights that will bring the UMS policy up to date with recent case law are underway. OIED also devised a "start-up checklist" for employees considering new company formation. This tool helps UMS faculty and staff who are considering a start-up company to identify and work through potential conflicts of interest and other topics encountered when starting a business as a faculty or staff member.

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New Technologies, Licensing and Commercialization Outcomes

UMaine saw continued growth in industry projects in FY18. Licensing revenue for FY18 was a record high of $552,833.

Number of Maine Projects since FY16

The University of Maine System continues to build on existing industry engagement mechanisms including company funded R&D and product development contracts. These projects provide companies with access to UMS faculty, staff and facilities. Projects with formal contracts with companies totaled for each fiscal year:

- FY16: 517 total projects (233 Maine projects)
- FY17: 557 total projects (271 Maine projects)
- FY18: 518 total projects (228 Maine projects)
- FY19 YTD: 344 total projects (131 Maine projects)

License Revenue

License revenue to date in FY19 exceeds $140,000. License revenue for FY18 was $552,833. UMaine's technology pipeline has been filling up over the last 10 years, and many new technologies take an average of 10 years from lab invention to marketable technology. UMaine technology transfer manages more than 125 active commercialization projects that range from initial patent application, ongoing R&D, early prototypes and field trials, initial market trials, company startup and formation to licenses with mature companies.

Invention Disclosures and Patents

- In FY18, 19 notifications of new inventions were received and evaluated for technical readiness, commercialization potential and patentability.
- Six new U.S. patents were issued; five for UMaine inventors and one for a USM inventor
- Six new provisional patent applications were filed
- Ten non-provisional U.S. or PCT applications were filed

Conclusion

The Research Reinvestment Fund, in combination with the work of the Commercialization Working Group and Innovation and Economic Development Council, has led to significant improvements in the University of Maine System's infrastructure to support business development and commercialization. The strides that have been made in the last three years will have long-lasting impacts on the System's capacity to support industry and to accelerate the commercialization process in a way that will foster the growth of the Maine economy.

See appendices for commercialization updates on RRF-funded projects:
Appendix C: Maine Innovation, Research & Technology Accelerator Teams
Appendix D: Commercialization Progress of Select RRF Funded Grants

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III. Infrastructure Support to the Research Enterprise Initiative

RRF has been instrumental for UMaine gaining ground in national ranking, where according to the HERD survey, in FY 16 it reported $79.2M in research expenditures and ranked 160, in FY 17 it had reached $99.5M and ranked 155, and in FY 18 we surpassed the $100M research expenditure mark by reaching $106.7M, which has just been reported to NSF and which we expect to result in UMaine gaining several more points in national ranking. Such progress is consistent with the University's goal of reaching R1 Carnegie classification status and continued investment in R&D by the UMS through such programs as RRF will help us to achieve this goal.

RRF represents a significant investment in bolstering the UMS Research Enterprise infrastructure through staff positions in the Office of Research Administration (ORA) and the Office of Research Development (ORD).

The Office of Research Administration (ORA) is a University-wide office authorized to submit proposals and receive awards from external sources on behalf of the Board of Trustees of the University of Maine System. ORA is also the fiduciary for the University of Maine on grant-related matters, manages and administers extramural grants and contracts for UMaine, UMM, and UMFK, with discussions underway to provide similar services to UMA.

The following ORA positions are supported by RRF and help to bolster capacity for the university to process grant proposals and awards:

> Grant & Contract Administrator: Provides guidance on proposal preparation, which includes review of proposal budget and budget justification, full proposal for completeness and compliance with sponsor requirements and University policies, and submission of final proposal to sponsor.

> Post Award Staff Associate: Provides post award support by creating project accounts and inputting budgets; coordinates, submits and processes post-award requests to sponsoring agencies on behalf of Principal Investigators (PIs); monitors and coordinates the submission of project reports and deliverables required by the terms of the award and the administrative closeout of the project when the award expires.

> Administrative Specialist: Supports the pre and post award services by electronically filing proposal and award documents, monitors office emails for incoming proposals, awards and amendments, communicates and follows up with faculty.

The Office of Research Development (ORD) provides proposal writing services to faculty with a particular emphasis on interdisciplinary/multi-institutional, large dollar grants and early career faculty outreach and support designed to enhance new researchers' ability to compete for extramural funds, while also protecting the university's investment in new talent. Additional services to faculty include funding opportunity searches and alerts, project management of proposal writing teams, delivery of a variety of grant writing workshops, and management of internal funding programs, including RRF.

In FY 2018, ORD staff provided technical assistance to faculty and researchers in the development of 56 proposals to sponsors requesting a total of $52,286,889 and conducted 38 separate training sessions providing professional development opportunities to 330 faculty, staff, and students.

ORD recently organized the proposal development process of the $20M NSF EPSCoR RII – Track 1 submission (in collaboration with Bigelow Laboratory for Ocean Sciences, USM, UMM, and others); supported 12 separate NSF Early Career Development (CAREER) submissions requesting a total of $7.2M; and were key contributors to UMaine's first NSF National Research Traineeship (NRT) award that will train cohorts of graduate students who will become the next generation of environmental conservation leaders (more information on this and other awards are included below).

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The following ORD positions are supported by RRF and bolster faculty proposal development support to enable the university to compete for large center grants, increase proposal activity, and diversify funding targets for faculty to pursue.

> Large Center Development Associate: Coordinates interdisciplinary and inter-institutional grant writing teams in pursuit of multi-year, multi-million dollar proposals that take 6-12 months to develop. Creates technical and non-technical content and organizes all aspects of the proposal.

> Proposal Development Associate: Raises awareness of funding opportunities aligned with university strengths and provides proposal writing services to faculty pursuing external funding opportunities from federal, state, and private foundation sources.

> Research Development Specialist: Focuses on early career faculty development including orienting research active faculty to available research support services, creation and delivery of grant writing training offerings, and proposal development/editing services.

It is noteworthy to mention that the number of awards received over $1M have increased significantly over the last year. ORA and ORD staff have played a key role in supporting university faculty in pursuit of high dollar value awards.

- − Number of $1M+ awards received July-Dec 2017 (FY18) = 3
- − Number of $1M+ awards received July-Dec 2018 (FY19) = 10

Amount	PI	Sponsor	Project Title
$5,800,000	Dr. Hemant Pendse	US Dept of Defense/Defense Logistics Agency	Woody Biomass Conversion to Liquid Hydrocarbon Fuels
$2,570,600	Dr. Habib Dagher	US Dept of Transportation	University Transportation Center
$1,017,006	Dr. Steve Shaler	USDA	Forest Based Products
$1,250,000	Dr. Susan McKay	National Science Foundation	Integrating Computing into Science Teaching and Learning in Grades 6-8: A Diverse Partnership to Develop an Evidence-Guided Model to Serve Rural Communities
$3,000,000	Dr. Habib Dagher	US Dept of Energy	New England Aqua Ventus I
$1,576,688	Dr. Allison Gardner	National Science Foundation	CNH-L: Coupled dynamics of tourism and mosquito-borne disease transmission in the Americas
$2,998,314	Dr. Sandra De Urioste Stone	National Science Foundation	NRT: Enhancing conservation science and practice: An interdisciplinary program

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University Transportation Center
RRF funding is helping to support matching fund requirements for part of this award.

The DOT is awarding as much as $14.2 million over five years to establish a Transportation Infrastructure Durability Center (TIDC), which aims to save taxpayer dollars by extending the life of assets such as bridges, roads, and rail. UMaine is leading the coalition that includes the University of Rhode Island, the University of Connecticut, the University of Massachusetts at Lowell, the University of Vermont and Western New England University. The TIDC will work with state DOTs to identify new materials and technologies to maximize the return on investment in infrastructure, while training 280 student researchers.

Integrating Computing into Science Teaching and Learning in Grades 6-8: A Diverse Partnership to Develop an Evidence-Guided Model to Serve Rural Communities
Project began as 2016 Seed Grant "Revolutionizing Computing Across the University of Maine System"

The National Science Foundation awarded $1.25 million to the Maine Center for Research in STEM Education for an exploratory study with a goal of developing test activities that integrate computer science into middle school science instruction. Dr. Susan McKay, Director of the UMaine RiSE Center, leads the collaborative effort of thirty teachers from 10 Maine schools in response to the Maine Computer Science Task Force's recommendation to expand computer science instruction at the middle-school level statewide.

New England Aqua Ventus I
Project was supported by a 2018 RRF Seed Grant "Maine-Based Construction and Assembly of Aqua Ventus Floating Hull"

The Advance Structures and Composites Lab leads this project which will help Maine become a leader in a technology that will change the future of energy. The objective is to put a two-turbine, 12-megawatt project off the coast of Monhegan Island. It is the first project of this type that uses concrete for the floating platforms.

NRT: Enhancing conservation science and practice: An interdisciplinary program
RRF supported staff from ORD provided proposal writing support on the initial submission and subsequent resubmission that attracted UMaine's first National Research Traineeship (NRT) award from NSF.

Dr. Sandra De Urioste Stone leads an interdisciplinary team of faculty to develop a new graduate education model for the next generation of conservation science leaders. The team plans to train over 20 NSF-funded graduate students from forest resources, wildlife conservation, communications, and environmental sciences to develop interdisciplinary communication, collaboration, and professional skills that will help them prepare to solve environmental and conversation issues.

Q2 FY 2019 awards received over $1M

Amount	PI	Sponsor	Project Title
$1,955,519	Dr. Eric Gallandt	US Dept. of Agriculture	Integrating seed- and seedling-focused weed management in organic vegetable systems
$4,000,000	Dr. Kody Varahramyan	National Science Foundation	Maine EPSCoR: The Nexus of Coastal Marine Social-Environmental Systems and Sustainable Ecological Aquaculture Year 5
$6,418,000	Dr. Habib Dagher	Consortium Management Group (CMG) /US Dept. of Defense	Design Development of Prototype Engineered Energy Efficient and Low Logistic Burden Materials and Processes IV

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Appendix A: RRF Advisory Board Members

Name	Title	Organization
Brian Beal	Professor of Marine Ecology	University of Maine at Machias
Martha Bentley	Director of Innovation Infrastructure	Maine Technology Institute (MTI)
Seth Berry	Vice President for International Business Development	Kennebec River Biosciences
Jason Charland (Operations Committee)	Director of Research Development	University of Maine
Doug Gardner	Professor of Forest Operations, Bioproducts and Bioenergy	University of Maine
Kody Varahramyan (Operations Committee)	Vice President for Research and Dean of the Graduate School	University of Maine
Mike Kinnison	Professor of Evolutionary Applications, School of Biology and Ecology	University of Maine
Jennifer Baker (Operations Committee)	Senior Officer for Finance and Administration	University of Maine
Kris Sahonchik	Director, Cutler Institute for Health and Social Policy	University of Southern Maine
Terry Shehata	Senior Policy Associate: Research and Economic Development/MEIF Coordinator	University of Southern Maine
Rebecca Van Beneden	Director of the School of Marine Sciences	University of Maine
James Ward (Operations Committee)	Vice President of Innovation and Economic Development	University of Maine

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Appendix B: FY 2019 Funded RRF Projects

The University of Maine System (UMS) Research Reinvestment Fund (RRF) Advisory Board is pleased to announce the winners of the FY 2019 funding competitions. The objective of the RRF is to strengthen research and development activities that are tied to Maine businesses and to industries that are critical to the future of Maine, including providing internal grant funding to UMS research teams to stimulate such activity.

In FY 2019, a total of 65 applications were received for the established RRF competitive grant programs which resulted in 29 new awards (5 planning grants; 6 seed grants; 14 student awards, and 4 accelerator grants).

RRF Planning Grants provide funding for 6 month projects that allow research teams comprised of UMS researchers and/or external partners to form and develop plans to advance and develop research, development, and commercialization projects.

RRF Seed Grants provide funding for 12 month projects that generate pilot data, proof of concept testing, and target specific follow-on grant opportunities to leverage the investment of RRF funds by attracting additional funding to the University. Seed grant teams are comprised of UMS researchers and external partners. Funding preference is given to projects that are able to demonstrate the likelihood of near-term commercialization and/or workforce development output.

RRF Student Awards provide funding for UMS faculty/staff led research, development, and commercialization projects that involve UMS students as major contributors to the execution of the project. There are four separate student award programs supported by RRF: 1. Interdisciplinary Graduate Research Collaborative (IGRC); 2. Interdisciplinary Undergraduate Research Collaboratives (IURC); 3. Graduate Student Assistantships; and 4. Undergraduate Student Assistantships.

RRF Accelerator Grants are also known as the Maine Innovation, Research and Technology Accelerator (MIRTA). Teams receive funding and participate in a 16 week intensive program designed to advance research projects along the path from discovery to becoming commercial products with public benefit.

A listing of the new FY 2019 RRF awards follows and questions about the program can be directed to Jason Charland, UMaine Director of Research Development, jason.charland@maine.edu.

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<h1 style="text-align:center">FY 2019 RRF Planning Grants (5 awards)</h1>

Planning for Wraparound Services that Support the Growth of Maine's Craft Beer Industry

- *PI: Terry Shehata, Economic Development Officer, University of Southern Maine*
- *Collaborators: Jake Ward & Renee Kelly, UM Office of Innovation and Economic Development, Sean Sullivan Executive Director of the Maine Brewers' Guild; Luci Benedict USM Director of the Quality Collaboratory; Maggie Vishneau Senior Policy Associate for Research & Organizational Develop, USM Cutler Institute; Ross Hickey USM Asst Prov for Research Integrity; Ryan Wallace Director of the USM Center for Business and Economic Research; Sarah Goan USM Data Innovation Project; Andrew Crawley UMaine School of Economics; Jason Bolton UMaine Cooperative Extension.*

USM and UMaine, in partnership with the Maine Brewers' Guild, propose to undertake a 6-month effort to develop a comprehensive implementation plan for providing wraparound services that support the growth of the craft beer industry. The development of the implementation plan is necessary to help the industry address challenges in anticipation of continuing growth in output and employment by 2020. The success of this planning effort could serve as a model for developing industry sector-based tailored services.

Pilot project for development of Maine Medical Arts (MEMA) MA degree

- *PI: Owen Smith, UMaine Innovative Media Research & Commercialization Center*
- *Collaborators: Patrick McFarlane, Northern Light Health Care; Lewis Mehl-Madrona, MD, University of New England, Susan Smith, UMaine Intermedia Programs.*

This project proposes the development of a pilot Maine Medical Arts (MEMA) MA degree focused on Arts and Medicine. This unusually innovative graduate degree can address both Maine's shortage of medical professionals and high rates of social and health issues such as addiction, food insecurity, and children in poverty. This project has strong potential to succeed because it draws on multiple disciplines that will ultimately complement, challenge, and inspire the imaginations of practitioners and patients alike.

Planning for the future: UMM's Marine Science Field Station

- *PI: Brian Beal, University of Maine at Machias*
- *Collaborators: Heather Leslie, Darling Marine Center, Rebecca Van Beneden UM School of Marine Sciences, and Down East Institute (DEI)*

The University of Maine at Machias, the University of Maine and the nonprofit Downeast Institute, have developed the Marine Science Field Station (MSFS) in Beals, Maine. This grant funds a two-day planning workshop at MSFS to bring together a dozen senior marine scientists with experience working at both large and small marine field stations and local community members to help our leadership team develop a 5-year strategic plan to manage and operate the field station in a way that maximizes scientific discovery, undergraduate and graduate research, and helps create new economic opportunities in eastern coastal Maine.

MBS Professional Development Center Initiative

- *PI: Niclas Erhardt, Maine Business School*
- *Collaborators: Andy Egan, Head of Campus, University of Maine at Machias and Jason Bolton UM Cooperative Extension.*

In order to meet the business needs of the Maine business community and the educational needs of students, the Maine Business School proposes the establishment of the MBS Professional Development Center. The mission of the Center will be fourfold: 1) to provide business consulting services to Maine-based organizations; 2) to offer workforce development opportunities for companies and employees; 3) to provide student internships and internship

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consulting to businesses, and 4) to offer integrated classroom-business learning in form of corporate classrooms. In meeting the needs of both the students and Maine's business community, the Center will be supporting economic growth on campus and throughout the state of Maine.

Arctic Futures Workshop in South Greenland – June 2019
RRF is supporting a unique opportunity for UMaine, USM, and UMaine School of Law researchers and scholars who have been engaged in Arctic research or hope to be in the future to participate in a one-week workshop in South Greenland called "Arctic Futures." Attendees will actively participate in the writing of a report addressing the use of South Greenland as a case study for Arctic research, with an emphasis on problem-solving for local South Greenland and synergies with Maine. The workshop provides a venue for participants in a broad range of specialties to collaborate with Greenland citizens and representatives to learn about and work together on topics of mutual interest. The collaborative nature of this endeavor sets up opportunities for collaborative proposals to the National Science Foundation's "Navigating the New Arctic" funding program and other similar mechanisms.
Maine Law School: Jeffrey Thaler (Visiting Associate Professor of Law), Charles Norchi (Benjamin Thompson Professor of Law)
USM: Firooza Pavri (Director of the Muskie School of Public Service; Professor of Geography), Vinton Valentine (Director of USM GIS), Jan Piribeck (Professor of Digital Art and Foundations), Matthew Bampton (Professor of Geography)
UMaine: Kristin Schild (Research Assistant Professor School of Earth and Climate Sciences and Climate Change Institute), Kathleen Bell (Professor of Economics), Neal Pettigrew (Professor of Oceanography), Robert Northington (Lecturer/Post-doctoral Research Associate of Ecology), Erin Roche (Crop Insurance Education Program Manager, Cooperative Extension), Yong Chen (Professor of Fisheries Sciences), Alice Kelley (Instructor of Earth and Climate Sciences, Research Associate Professor Climate Change Institute), Paul Mayewski (Distinguished Maine Professor of Earth and Climate Sciences and Director of Climate Change Institute), Jasmine Saros (Professor of Paleolimnology and Lake Ecology), Lee Karp Boss (Associate Professor of Marine Sciences)

RRF Seed Grant Projects (6 awards)

Medical Laboratory Technology (MLT) Practicum Intensive Week Pilot

- *PI: Judith Clukey, University of Maine at Augusta*
- *Collaborators: Leigh Belair, University of Maine at Presque Isle; MaineGeneral Medical Center, Nordx Labs, ALI Labs, Pen Bay Medical Center, Waldo General Hospital, Central Maine Medical Center, Southern Maine Medical Center*

This project proposes using RRF funds for the Medical Laboratory Technology (MLT) of Maine program, which was created as a collaborative effort between UMPI and UMA. The program is challenged by limited clinical sites that have the capacity to train students in microbiology and blood banking. This issue combined with staff shortages has led to less participation from hospitals in lab training. Judith Clukey plans to address this by establishing intensive week-long trainings for MLT students that will minimize clinical time and technical instruction commitment from affiliate sites while continuing to develop well-trained lab professionals.

A Platform Using a New Cyber Physical System and UAV to Detect Temporal and Spatial Variation for Precision Agriculture

- *PI: Yongjiang Zhang, UMaine School of Biology and Ecology*
- *Collaborators: Hongzhi Guo, University of Southern Maine, Matthew Wallhead UMaine School of Food and Agriculture; Jasper Wyman & Son, Wild Blueberry Commission of Maine, and Cherryfield Foods Inc.*

This project proposes the development of a platform that will allow farmers to use their resources more efficiently. A Cyber Physical System (CPS) will be made to monitor temporal variation in the water status of wild blueberries,

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and Unmanned Aerial Vehicle (UAV) sensors will be used to detect spatial variation across the farm, which produces data also useful to scientists studying plant-environment interactions. Dr. Zhang plans to expand the proposed platform to include fertility and pest management, and also to develop an automated AI system that can analyze and report crop-environment interactions.

Nutrient Removal from Recirculating Aquaculture System Water

- *PI: Jean MacRae, UMaine Civil and Environmental Engineering*
- *Collaborators: Deborah Bouchard UM Aquaculture Research Institute, Hunter Swisher, Phospholutions, LLC, and David Noyes, Nordic Aquafarms.*

This project aims to establish a collaboration with the Aquaculture Research Institute, Phospholutions, and Nordic Aquafarms to build a recirculating aquaculture system (RAS) in Maine. The RAS will improve biosecurity and growth efficiency by reducing water consumption and pollutant discharge from aquaculture systems. The team will conduct laboratory experiments to determine the specifics involved with phosphorus removal and impacts of operational changes on water characteristics.

Transforming diploid potato breeding by enhancing potato haploid induction

- *PI: Ek Han Tan, UMaine School of Biology and Ecology*
- *Collaborators: Gregory Porter, UM School of Food and Agriculture and Kathy Haynes, US Department of Agriculture*

Adopting a new, commercially viable variety of potato requires a complicated process that can take as long as two decades. Considering a rapidly changing climate, Dr. Tan feels that Maine needs a more efficient way of breeding new potato varieties. Diploid breeding is a simpler method that many potato breeders in the U.S. have begun to adopt, and this project proposes using RRF funds to implement diploid breeding at UMaine's potato-breeding program, which currently uses conventional methods. Dr. Kathy Haynes, a collaborator in this project, is providing access to her diploid breeding lines in Maryland, which will allow Dr. Tan to establish preliminary data in an effort to secure external funding.

Development and Application of 3D Printing for the Manufacture of Boat Parts

- *PI: James Anderson, UM Advance Structures and Composites Center*
- *Collaborators: Douglas Gardner UM School of Forest Resources, Hinckley Yachts, and Back Cove Yachts.*

A disproportionate amount of the cost of building a boat goes to the dozens of smaller parts, such as doors, hatches, and ducts. Each piece requires one or two molds and a substantial amount of labor. If these parts were 3D-printed instead, significant resources could be saved for work on larger boat parts. The two main barriers to adopting this method are a lack of knowledge on the durability of printed materials as well as which plastics and printers should be used, and how they should be set up for operation.

Development of a Low Cost Environmental Observing Buoy for Aquaculture Site Prospecting

- *PI: Heather Leslie, UM Darling Marine Center*
- *Collaborators: Neal Pettigrew, UM Physical Oceanography Group, Damian Brady, UM School of Marine Sciences, and Joshua Girgis & Chris Davis, Maine Aquaculture Innovation Center.*

In light of the rapidly growing aquaculture industry in Maine, this project will address aquaculturists' need for better water quality data. The team will develop a sensor package for a buoy that will be more practical and affordable than the expensive buoys that are commercially available today. Consultation with aquaculturists over the last five years have determined which parameters the sensor will need to be able to measure, such as water temperature and salinity. After the development of the sensor package and buoy, commercialization will be pursued.

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FY 2019 RRF Student Awards (14 awards, 4 different tracks)

RRF Interdisciplinary Graduate Research Collaborative (1 award)

An interdisciplinary approach to building data literacy in wildlife survey technologies

- *PI: Cynthia Loftin, UM Wildlife Ecology and USGS Maine Cooperative Fish and Wildlife Unit*
- *Collaborators: Kate Beard Tisdale, UM School of Computing and Information Science, Anthony Guay & Dan Hayes, UM School of Forest Resources, Roy Turner, UM School of Computing and Information Science, Tora Johnson, GIS Director, University of Maine-Machias, Aly McKnight Wildlife and Fisheries Management, Unity College; Mark Koneff, Chief, Branch of Migratory Bird Surveys, US Fish and Wildlife Service (USFWS); Brian Benedict, Maine Coastal Islands Refuge, Linda Welch & Sara Williams, USFWS Wildlife Biologists; Caleb Speigel, USFWS, Division of Migratory Birds; and Danielle D'Auria, Waterbird Biologist, Maine Department of Inland Fisheries and Wildlife.*

This project's objectives are to 1) build interdisciplinary data literacy through development, application, and evaluation of new technologies for rapid assessment of wildlife populations during time-critical windows, 2) engage students in team science, and 3) transfer this technology to collaborating stakeholders. An interdisciplinary team of students will collaborate with biologists, ecologists, remote sensing specialists, and computer scientists to evaluate and improve survey methods, image collection and interpretation protocols, and tools to enhance data management efficiency and workflow with machine learning and artificial intelligence.

RRF Interdisciplinary Undergraduate Research Collaboratives (4 awards)

Making Maine's Local Food System Sustainable: Opportunities to Address Hunger and Reduce Waste through a Multi-Site, Interdisciplinary Team

- *PI: Deborah Saber, UM School of Nursing*
- *Collaborators: Jean MacRae, UM Civil and Environmental Engineering; Balu Nayak, UM School of Food and Agriculture; Travis Blackmer, UM School of Economics; Linda Silka, UM Mitchell Center for Sustainability Solutions; Cindy Isenhour, UM Anthropology; UMPI; USM, UMA; UMF, and UMFK.*

This project is a continuation of an IURC-I program that focuses on food loss, food waste, and barriers to establishing a circular food system and environmental sustainability while addressing food insecurity. Through this IURC-II program, college-educated Millennials who are engaged in projects and research have the opportunity to join an interdisciplinary team that aims to discuss problems, conduct research, develop solutions, participate in decision-making processes, and expand a youthful workforce in growing work sectors in Maine.

The Western Passage student research collaborative: Considering physical, biological, and social dynamics of a tidally energetic system in Eastern Maine

- *PI: Kristina Cammen, UM School of Marine Sciences*
- *Collaborators: Gayle Zydlewski, Maine Sea Grant, Jessica Jansujwicz, UM Mitchell Center for Sustainability Solutions; Lauren Ross, UM Civil and Environmental Engineering; Tora Johnson, UMM Marine Biology; and Gabriella Marafino, UM School of Marine Sciences*

The objectives of this project are 1) to evaluate the utility of available water current data for building a three-dimensional turbulence model of the Western Passage region, 2) to describe the frequency of occurrence and interactions among multiple trophic levels of marine species in Western Passage, and 3) to document local ecological knowledge of Western Passage and identify remaining data gaps and regulatory and social implications.
Science and Workforce Development for Sustainable Aquaculture in Maine

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- *PI: Heather Leslie, UM, Darling Marine Center*
- *Collaborators: Brian Beal, UMM Marine Sciences Field Station; Rachel Lasley-Rasher, USM Biological Sciences, Theo Willis & Karen Wilson, USM Environmental Science & Policy; Jeremy Rich, Damian Brady & Joshua Stoll, UM School of Marine Sciences*

As part of an effort to ensure Maine's aquaculture potential is met, this project aims to help train the next generation of aquaculture scientists and professionals through research experience. Six complementary projects are involved, examples of which are developing a sustainable system for scallop spat collection, understanding community perspectives and benefits of coastal marine aquaculture, and the development and testing of a freshwater recirculating aquaculture system**.**

Biophysical and social dimensions of tick-borne disease risk in Maine's public parks and natural areas

- *PI: Allison Gardner, UM School of Biology and Ecology*
- *Collaborators: Sandra De Urioste-Stone, UM School of Forest Resources, Sean Birkel, UM Climate Change Institute; Danielle Levesque, UM School of Biology and Ecology.*

Climate change is expected to cause an increase in the amount of ticks infected with Lyme disease, which will increase people's chances of exposure to the illness. This is not only a public health concern, but also a potential for losses in Maine's nature-based tourism industry. This project aims to deepen our understanding of the natural and human drivers of tick-borne disease transmission and potential interactions among climate, wildlife, and visitation. Work will be done through field studies, Acadia visitor surveys, and the production of a tick and Lyme disease awareness document for public outreach.

RRF Undergraduate Assistantship Awards (4 awards)

RADAR Stethoscope for Non-Contact Heart Beat Detection

- *PI: Nuri Emanetoglu, UM Electrical and Computer Engineering*
- *Collaborators: Herbert Aumann, UM Electrical and Computer Engineering; and Robert Bowie, M.D., Medical Director Bangor Fire EMS*

This project proposes the development of a prototype for a Doppler radar non-contact stethoscope for use in situations where a medical professional must listen to a heart, but direct skin contact is dangerous or impossible. The undergraduate student selected for this project will the various parts of the stethoscope, and once 10 models are created, they will be provided to health care practitioners for testing.

Expansion and Testing of a Habitat Selection Model for a Globally Threatened Bird Species on Industrial Forestland

- *PI: Neil Thompson, Forestry, University of Maine at Fort Kent*
- *Collaborators: Amber Roth, UM School of Forest Resources; Carol Foss, New Hampshire Audubon; Patricia Wohner, Cuckoo Conservation Initiative; Jason Johnston, UMPI*

The Rusty Blackbird is a threatened species that was recently listed as a Special Concern in Maine. To predict their nesting habitat in northern New Hampshire, a habitat selection model was developed. In this project, that model will be extended throughout western and northern Maine using geographic information system (GIS) technology and field observations. This will allow recommendations to be made for habitat management, hopefully leading to intensive forestry practices that can produce high quality nesting habitats for the Rusty Blackbird.

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Coldwater selection for fast growth of American oysters in Downeast Maine

- *PI: Brian Beal, Director of the Marine Science Field Station, University of Maine at Machias*
- *Collaborator: Heather Leslie, UM Darling Marine Center*

The goal of this project is to produce a fast-growing, disease-resistant American oyster that will grow to commercial size in 2-3 years in the cold waters of eastern Maine, finally allowing this region to profit from the rapidly growing industry. Building on Dr. Beal's previous work in rearing juvenile oysters, in this project an undergraduate student will help conduct research to examine the growth rates of those selected juveniles over a one-year period. This will help in understanding which conditions lead to fast growth and survival of juvenile oysters in cold water.

Nutritional quality and the physiological drivers of growth variation in eastern oysters

- *PI: Paul Rawson, UMaine School of Marine Sciences*
- *Collaborators: Eric Moran, co-owner, Bagaduce River Oyster Co.*

The eastern oyster is an important species supporting the current growth of Maine's aquaculture industry, but there is a high degree of variance in growth among individuals within available stocks. This project's goal is to test the hypothesis that individual oyster growth is maximized among the ones with highest growth during non-bloom periods, when more of the nutrition in the river is detritus-based. To accomplish this, Dr. Rawson plans to measure the individual growth of tagged oysters on a bi-weekly basis from March to October and compare those measurements with water quality aspects such as temperature, salinity, and turbidity.

RRF Graduate Assistantship Awards (5 awards)

Detecting changes in zooplankton following the recovery of river herring in the Penobscot

- PI: Rachel Lasley-Rasher, University of Southern Maine Biological Sciences
- *Collaborators*: Karen Wilson, USM Environmental Science and Policy; Damian Brady, UMaine School of Marine Sciences

River herring populations have declined dramatically and remained low for over a century after dams were built that blocked access to their spawning habitat. The primary goal of this project is to determine how and if diet selectivity has changed, explore how alewife alter zooplankton communities through selective feeding, and predict community changes as recovery progresses and extend these results to other dam removal projects.

Graduate Support to Enhance Collaborative Research with Maine's Lobster Industry

- PI: Damian Brady (UMaine School of Marine Sciences)
- *Collaborators:* Richard Wahle UMaine Lobster Institute, Deborah Bouchard UMaine Aquaculture Research Institute, Annie Tselikis & Patrice McCarron Maine Lobstermen's Association., Andrew Goode UMaine SMS Ph.D. student and lobsterman, Phillip Dostie Bates College, Environmental Geochemical Lab, Matthew Jadud Bates College, Digital & Computer Sciences

This project's goal is to increase the profitability of Maine's lobster industry by improving conditions that are causing "shrink," or the mortality of lobster from capture to kitchen. Current shrink rates are at about 3-7%, which if improved by even a few percent could increase profit by millions of dollars. To accomplish this, Dr. Brady plans to monitor water quality at critical points along the lobster supply chain and then work to mitigate stress points that are identified.

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Food Waste to Biogas: Optimizing Energy Recovery

- *PI: Jean MacRae (UMaine Civil and Environmental Engineering)*
- *Collaborators: Clayton "Mac" Richardson, Lewiston Auburn Water Pollution Control Authority (LAWPCA)*

To address the need to shift to renewable sources of energy as well as the large amounts of produce grown in the U.S. that is wasted, this project proposes the extraction of energy from food waste through anaerobic digestion. Researchers at UMaine will work with the Lewiston-Auburn Water Pollution Control Authority (LAWPCA) to conduct laboratory tests to determine the specifics on this energy-extraction process. If successful, this effort will allow farmers and communities to recover economic value from food waste throughout the state.

Graduate Assistantship: Predicting the Effects of Climate Change on the Range and Distribution of Small Mammals in Maine

- *PI: Danielle Levesque, UMaine School of Biology and Ecology*
- *Collaborators: Jason Johnston, Wildlife Ecology, and University of Maine at Presque Isle*

Recent changes in environmental conditions have brought to the forefront the importance of understanding the relationship between environmental temperatures, energetics, and performance in animals as species ranges shift in response to warming temperatures. This project will support a graduate student to study some small mammals in a laboratory setting to ultimately model heat and energy balance budgets at the edge of the species' range distributions.

Understanding the role of policy interventions in shaping market entrepreneurship in New England Fisheries

- *PI: Joshua Stoll, UMaine School of Marine Sciences*
- *Collaborators: Patricia Pinto da Silva, Social Scientist, Northeast Fisheries Science Center; Dave Love, Johns Hopkins University*

Catch shares are an increasingly common tool used in fisheries management. Under fisheries managed as catch shares, the total allowable harvest is allocated to individuals (or firms) based on their catch history and these individuals are free to buy, sell, or trade their allotment. There are two primary questions that are driving this research project: (1) What role are catch shares in New England playing in seafood distribution strategies; and (2) What market strategies are fishermen in New England utilizing to distribute their catch?

RRF Accelerator Grants (Cohort 2)
Maine Innovation Research and Technology Accelerator (MIRTA) (4 awards)

Customer Discovery and Market Validation of Midlina - A multimodal software solution that will provide blind and visually-impaired (BVI) people with access to graphical information

- *PI: Nicholas Giudice, UMaine School of Computing and Information Science*

Gaining access to graphical information (such as maps, graphs, and diagrams) is one of the biggest challenges for blind and visually-impaired (BVI) people. To address this major unmet and immediate need in the field of blindness accessibility, we have invented an innovative multimodal software solution that will enable BVI people with independent information access to combined textual and graphical information in digital media via commercial off-the-shelf smartphones and tablets. Through this project we plan to continue our customer discovery process with the goal of understanding product-market fit and to identify our target market for commercialization.

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Nanocellulose based Composites for Orthopedic Fixation Devices

- *PI: Mike Mason, UMaine Chemical and Biological Engineering*

The targeted market for the proposed technology is that of orthopedic fixation devices, or devices used to hold bones together after surgery or trauma. Currently, this market is valued at ~$40.2 billion and predicted to grow to $61 billion by 2021. Biomaterials within this field currently possess significant flaws, creating a suboptimal performance in a multitude of scenarios and presenting vast opportunities within the market for a novel biomaterial solution. Over the past few years, we have explored the use of cellulose nanofiber (CNF), a green, renewable, value-added product, as the material to usher in this new age of biomedical structural materials. Research has led to promising results, proving advantages over current technology and developing proof of concepts that have garnered the attention of influential stakeholders within the market. We look to further IP and prototype development, along with increasing market analysis and stakeholder discovery.

Commercialization of Molded Wood Flour-Cellulose Nanomaterial Products

- *PI: Mehdi Tajvidi, UMaine School of Forest Resources*

We propose commercialization of molded products that can be fabricated from wood flour and lignocellulosic nanomaterials, originated from Maine's abundant fiber resource. The main advantage of the proposed product, compared with its plastic counterparts, is biodegradability and environmentally-benign end-of-life disposal. Moreover, both major components are made from Maine's renewable resources. The target market is home and office accessories including desk organizers, pencil cups, etc. as well as children's toys (e.g. toy building blocks). Briefly, various formulations based on wood flour, CNF, LCNF, Fiberlean and other additives are blended and then casted into 3D printed molds that are designed for specific geometries. Typical products include desk organizers and pen cups as well as toy building blocks. Coloring pigments are added into the mixture to achieve colorful products. The wet shaped products will be dried in an oven under light pressure to avoid warpage. The prototypes will be used for commercialization efforts and a start-up company will be formed to produce the developed products.

New Gear for New Growers: Commercializing a Low-cost Oyster Sorter for Small-Scale and Diversified Business Enterprises

- *PI: Josh Stoll, UMaine School of Marine Sciences*

Aquaculture represents a major economic opportunity for coastal communities in the United States and has the potential to be a way for fishermen to diversify their employment. Small-scale aquaculture businesses are the fastest growing subset of farms in Maine. In 2017 the Maine Department of Marine Resources issued more than 400 limited purpose aquaculture permits to over 100 independent businesses. For small-scale aquaculture businesses like these to be profitable in the long-term there is a need for cost- and scale-appropriate tools that facilitates efficient operations. However, this equipment largely does not exist in the marketplace at this point. Acknowledging this issue, we propose to commercialize a small, low-cost oyster sorter that we have been developing (and tested with farmers in the summer of 2018). We will focus on the oyster sorter because: (1) we have an existing prototype; (2) oyster farming is rapidly expanding in Maine and more broadly; and (3) sorting is an essential part of oyster husbandry, but it an extremely time-consuming process if it is not mechanized. In the long-term, this equipment could be packaged as part of a suite of scale-appropriate gear for aquaculture start-up companies and small-scale farmers.

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Appendix C: Maine Innovation, Research & Technology Accelerator Teams

Spring 2018 Cohort

Beverage (Wine and Beer) Spoilage Detector
Near real-time instrument for detection of microorganisms to avoid ruined product.
PI: Laurie Connell, School of Marine Sciences, with Connell Lab staff Corey Hirn and Leslie Astbury
RRF: 2015 Seed Grant and 2018 Seed Grant
Other funding: MTI seed grants, industry contracts
IP: Patent application in process
Industry partners: Beacon Analytics, Saco, Maine; Constellation, NY
Current Status: Preparing for customer trials and license is planned with industry partners

Low-Cost Geoinformatics for Forests
Near real-time mapping of forest characteristics for improved forest management.
PI: Erin Simons-Legaard, Kasey Legaard, Aaron Weiskittel, all from School of Forest Resources and staff from UMaine Advanced Computing Group
RRF: 2016 Seed Grant
IP: Provisional patent application in development
Current status: Plan to license directly to the end user with the first research collaboration and license likely to happen early in 2019

Microfluidics Platform Technology for Biomedical Applications
Lower cost and environmentally-friendly point of care diagnostics
PI: Caitlin Howell, biological engineering, with staff Matt Talbot, and students Amber Boutiette and Bailey Corliss
RRF: 2016 Seed Grant
Other funding: Industry contracts
IP: Patent application in process
Industry Partners: Sappi, Westbrook, Maine
Current Status: Ongoing research collaboration with Sappi, high potential applications for first markets identified, license to already identified existing Maine companies

Early Diagnosis and Treatment of Peripheral Neuropathy
Device to detect neuropathy much earlier than current methods.
PI: Kristy Townsend, School of Biology & Ecology; Rosemary Smith, electrical engineering; students Magdalena Blaszkiewicz and Michael Small
RRF: Round 1 & Round 2 Undergraduate Assistantship
IP: Patent application in process
Industry relationships: Mount Desert Island Biological Laboratory, Bar Harbor, Maine
Current Status: Start-up company formed (Neuright) and participating in Top Gun program

Bee Hive Activity Monitoring System
Monitoring system that is an early warning tool against colony collapse disorder.
PI: Nuri Emanetoglu, electrical engineering; Herbert Aumann, electrical engineering; Frank Drummond, School of Biology & Ecology; student Berkay Payal.
RRF: Round 1 Undergraduate Assistantship
Other funding: National Science Foundation
IP: Provisional patent application in process
Industry relationships: State of Maine apiarist
Current status: Start-up company (Healthy Hives) in process and participating in Top Gun program

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Fall 2019 Cohort

Customer Discovery and Market Validation of Midlina
A multimodal software solution that will provide blind and visually-impaired (BVI) people with access to graphical information
PI: Nicholas Giudice, UM School of Computing and Information Science
RRF: n/a
Other funding: NSF I-Corps, Maine Technology Institute, NSF SBIR
IP: Know-how identified and license planned to start-up company
Industry relationships: partnerships with a variety of organizations that support visually-impaired people
Current status: Start-up formed (UNAR Labs) and awarded a $225,000 NSF SBIR commercialization grant

Nanocellulose based Composites for Orthopedic Fixation Devices
PI: Mike Mason, UM Chemical and Biological Engineering
RRF: 2016 Graduate Assistant Award, 2017 Seed Grant
Other funding: Industry-sponsored project, MTI grant pending
IP: Patent application pending and another application planned
Industry relationships: Maine-based orthopedic surgeons
Current status: Possible start-up and potential commercialization partner identified

Commercialization of Molded Wood Flour-Cellulose Nanomaterial Products
PI: Mehdi Tajvidi, UM School of Forest Resources
RRF: 2015 & 2017 Seed Grant
Other funding: MTI application pending
IP: Patent application pending and another application planned
Industry relationships: Lignetics, Strong, Maine
Current status: Potential start-up to further develop technology, then license to manufacturing partners

New Gear for New Growers:
Commercializing a Low-cost Oyster Sorter for Small-Scale and Diversified Business Enterprises
PI: Josh Stoll, UM School of Marine Sciences
RRF: n/a
Other funding: EPSCoR funding, MTI application pending
IP: Copyright of sorter designs
Industry relationships: multiple small-scale
Current status: Possible start-up to commercialize sorter and develop additional services

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Appendix D: Commercialization Progress of Select RRF Funded Grants

UMaine OIED worked closely with the majority of RRF seed grant applicants and recipients. This work includes implementing intellectual property protection, developing commercial development plans, identification of commercial partners and leveraging additional investment funding from other sources in an effort to accelerate and advance commercial development.

The following are examples that are progressing towards commercialization and leveraging RRF for industry engagement and business development.

Forest Products & Agriculture

2017 Seed Grant: Cross-laminated timber demonstration building design and cost analysis
PI: James Beaupre
Engagement: Led to engagement with multiple land owners and municipalities; facilitated 2018 announcements by two companies to build CLT manufacturing facilities in Maine. Planning is underway for a Maine-based demonstration building to utilize manufactured CLT panels.
Advancement: Seed grant was used as match for a 2017-2020 $455,000 grant from the U.S. Economic Development Administration to create a Mass Timber Commercialization Center. UMaine continues to improve business attraction packages for CLT and other forest products in collaboration with Maine communities and regional economic development leaders.

Biotechnology

2017 Seed Grant: Variable and high porosity nanocellulose solid forms for biomedical applications
PI: Michael Mason (UMaine Department of Chemical and Biological Engineering)
Engagement: UMaine School of Forest Resources and private equity investment.
Advancement: Executive-level discussions began in December 2018 with investment firm specializing in biomedical engineering applications (facilitated by MIRTA participation) on non-CNF material applications, with expectation of evaluation and sponsored research in CNF devices. From MIRTA accelerator work, planning to form a start-up company to further develop the technology.

2015 Seed Grant: (relates to above): Development of additively manufactured highly porous implantable devices that promote post-surgical wound healing and a biological transcutaneous seal: Testing of implant material and internal pore geometry in a porcine model
PI: James Weber (Food and Agriculture, UMaine)
Engagement: Stryker Orthopedic
Additional Investment: Stryker Orthopedic in-kind funding
Advancement: No update

2017 Seed Grant: Cellulose Nanofibers: A novel adjuvant for veterinary and medical applications
PI: Deborah Bouchard (UMaine, Aquaculture Research Institute)
Engagement: Benchmark Animal Health
Advancement: Currently under evaluation by Benchmark for a license option and funded research.

2016 Seed Grant: Liquid-infused paper substrates for new biomedical applications
PI: Caitlin Howell (Biomedical Engineering, UMaine)
Engagement: SLIPS Tech, Sharklet Technologies, SAPPI Fine Paper North America, IDEXX
Advancement: SAPPI sponsorship research; patentability and commercial assessment pending; RRF Accelerator participant. Participated in MIRTA accelerator, received funding from the Maine Technology Institute to develop

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first market application of the technology.

Healthcare

2017 Seed Grant: Development of Intrac™: A weight bearing and fitness tracking system for assistive devices
PI: Vincent Caccese (UMaine, Department of Mechanical Engineering)
Engagement: UMaine School of Social Work and Center for Community Inclusion and Disability Studies, USM Lewiston, Occupational Therapy Programs, Mobility Technologies
Advancement: Product line expansion for UMaine licensee and SBIR awardee Mobility Technologies.

2017 Seed Grant (relates to above): Eco-Sno co-design project
PI: Elizabeth DePoy (UMaine School of Social Work and Center for Community Inclusion and Disability Studies)
Engagement: UMF, Outdoor Recreation Business Administration, UMaine School of Social Work and Center for Community Inclusion and Disability Studies, UMaine Center on Aging. Mobility Technologies.
Advancement: Product line expansion for UMaine licensee and SBIR awardee Mobility Technologies.

2018 Seed Grant: Augmented reality respiratory simulators for combined visual and haptic medical training in low-resource settings & 2018 Undergraduate Assistantship: Haptic feedback sensor suite for AR-enhanced simulators
PI: Caitlin Howell (UMaine, Department of Chemical & Biomedical Engineering)
Engagement: Zephyrus Technology, Denham Ward (Maine Medical Center Research Institute)
Advancement: Zephyrus Technology is a tenant in the Foster Center for Innovation at UMaine and is participating in the 2019 cohort of the Top Gun program to accelerate business development.

Composites & Advanced Materials

2017 Seed Grant: Application of low-cost bio filled thermoplastics to 3D printed marine tooling
PI: Douglas Gardner (UMaine, Advanced Structure and Composite Center)
Engagement: UMaine, School of Forest Resources, UMaine, ASCC, Lyman Morse, Hinckley Yachts, Hodgdon Yachts, Sabre, & Thermwood Corporation
Advancement: Used to leverage $300,000 from Oakridge National Laboratory; industry-sponsored projects continuing. In August 2018 the team received a $500,000 Maine Technology Institute award to support the application of the technology to Maine's boat building industry cluster.

2017 Seed Grant: Turning Maine's wood fiber resource into renewable food packaging systems
PI: Mehdi Tajvidi (UMaine School of Forest Resources)
Engagement: UMaine, Department of Chemistry, UMaine ASCC, Synthesis Group Minerals Technologies, UMaine School of Food and Agriculture, USDA Forest Products Lab
Advancement: Leveraged grants from P3Nano, technology of interest to multiple licensees, including opportunities for Maine industry. Discussions underway. Participated in MIRTA accelerator to determine best market applications for packaging. Planning for a start-up to further the development of the technology with the goal of licensing to manufacturers.

2017 Seed Grant: Novel fire resistant low-formaldehyde emitting fiberboard panels made from deadwood or wood residuals and nanocellulose
PI: Mehdi Tajvidi (Forest Resources, UMaine)
Engagement: Early discussions underway with a large global end user, a Maine sawmill and large potential end-user licensees in building products and consumer goods.
Advancement: Patent application filed

2015 Seed Grant: Development of structural wood plastic composite timber for innovative marine applications
PI: Douglas Gardner (Advanced Structures and Composites Center, UMaine)
Engagement: Innovasea
Advancement: Discussions underway to secure material supply agreement between Innovasea and a multi-national

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UMaine license & development partner.

2018 Seed Grant: Maine-based construction and assembly of Aqua Ventus floating hull
PI: Habib Dagher (Advanced Structures and Composites Center, UMaine)
Engagement: Maine Aqua Ventus
Advancement: Leveraged additional $3MM Department of Energy of funding toward the development and deployment of full-scale demonstration project.

Aquaculture

2015 Seed Grant: Energy recovery dehumidification (ERDH) for energy efficient increased drying capacity of high-quality sea vegetables
PI: Peter Van Walsum (Chem & Bio Engineering/Forest Bioproducts Research Institute, UMaine)
Engagement: Nyle Corporation, Brewer Maine
Advancement: Discussions with three Maine sea vegetables companies. Nyle Corporation has expressed interest in developing commercial units for sale to Maine seaweed processors. Pilot prototype unit will be built spring of 2019 by the University of Maine Advanced Manufacturing Center.

2015 Seed Grant: Sustainable bio-conservation technology for aqua-feed production and waste management
PI: Andrei Alyokhin (Biology and Ecology, UMaine)
Engagement: Acadia Harvest, Inc.
Advancement: Additional Investment: Federal Small Business Innovation Research (SBIR) grants Phase I & II ($40,000 to UMaine) from USDA and NSF. Start-up/UMaine incubator tenant. Acadia Harvest is in the process of building an aqua-feed rearing facility to implement this technology in Waldoboro, Maine.

Environmental/Food Technologies

2015 Seed Grant: Prototype development for detection of wine and beer spoilage yeasts
PI: Laurie Connell (Marine Sciences, UMaine)
Engagement: Constellation Brands, NY; Beacon Analytical System, Saco, Maine
Advancement: Additional Investment: Maine Technology Institute ($28,360); Constellation Consortium ($77,082). Partnership (license options) with Saco, ME, company Beacon Analytical Systems for future manufacturing of reagent kits. Participated in the MIRTA RRF Accelerator. Field trials planned for 2019 with Constellation Brands.

Sightlines Annual Facilities Report

Executive Summary

A key metric formally adopted by Trustees – density as measure of the intensity or efficiency of the use of our space – has stabilized in FY2018 against an overall downward trend. This is illustrated on Slide 11 in the slide numbering sequence.

While this is only a single data point and not yet a trend, it does indicate the University's efforts to constrain and reduce its footprint, among other factors, are starting to make a difference. The University's footprint is coming more into line with a size appropriate to the population it serves. Sightlines will elaborate on this.

Beyond density, the Sightlines data continues to reflect a challenging situation in which the condition of the University's facilities as measured by renovation age and net asset value have continued to decline. The University is currently on pace to see more than half of all space not have been meaningfully renovated in more than 50 years by 2023. This is illustrated on Slide 20 in the slide numbering sequence.

The measures of condition or quality of the University's facilities simply are unlikely to improve overall until and unless substantially more investment is made in existing facilities each year. The University has begun to do work with the bond request approved by voters last November.

Additional slides of potential particular interest may include:
● Slide 7 summarizes Sightlines core findings for the year.
● Slide 25 highlights a few projects planned to be completed once the Space Reduction Initiative is implemented.
● Slide 41 shows the continuing positive news about carbon reduction at the University.
● Slide 51 illustrates the ongoing gap between current investment levels and the levels that would be needed to meet Trustee priorities.
● Slide 52 illustrates the long-term trend of deteriorating facility condition.
● Slide 64, shows the positive impact on NAV at UMF through the renovations and removal of buildings enabled by the State bond funding.
● Slides 60-65 show the projected impacts the State bond funded projects will have.
● Slide 70 and onward detail the current status of the facility-related key performance indicators previously adopted by Trustees

03/14/2019

The University of Maine System

FY18 ROPA+

March 2019

Sightlines by the Numbers

Robust membership includes colleges, universities, consortiums and state systems
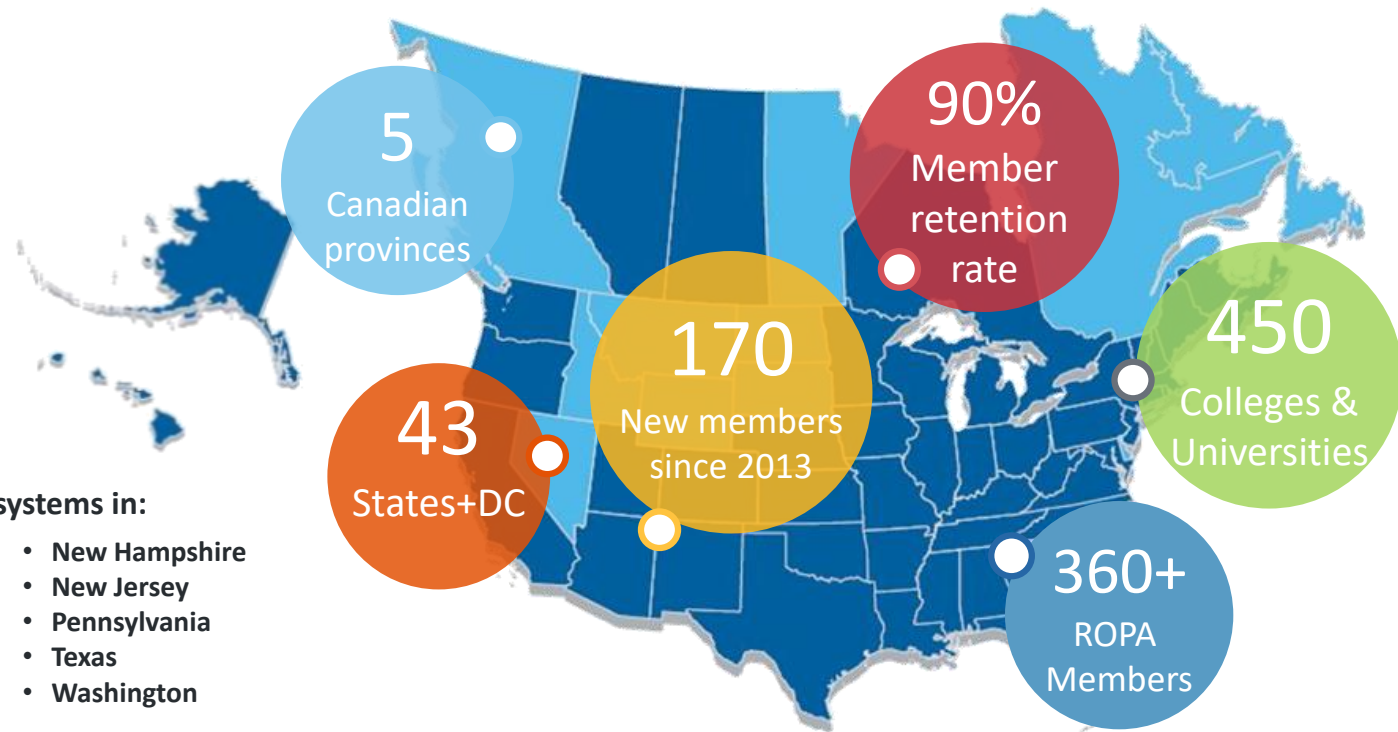
Sightlines has advised state systems in:

- Alaska
- California
- Florida
- Hawaii
- Maine
- Massachusetts
- Minnesota
- Mississippi
- Missouri
- Nebraska
- Ohio
- New Hampshire
- New Jersey
- Pennsylvania
- Texas
- Washington

5 Canadian provinces

90% Member retention rate

450 Colleges & Universities

170 New members since 2013

43 States+DC

360+ ROPA Members

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Vocabulary for Facilities Measurement, Benchmarking & Analysis

Annual Stewardship

The annual investment needed to ensure buildings will properly perform and reach their useful life.

"Keep-Up Costs".

Asset Reinvestment

The accumulation of repair and modernization needs and the definition of resource capacity to correct them.

"Catch-Up Costs"

Operational Effectiveness

The effectiveness of the facilities operating budget, staffing, supervision, and energy management.

Service

The measure of service process, the maintenance quality of space and systems, and the customers opinion of service delivery.

Asset Value Change

Operations Success

Vocabulary for Facilities Measurement, Benchmarking & Analysis

Annual Stewardship	Asset Reinvestment	Operational Effectiveness	Service
Operating Budget Planned Maintenance

Funded Depreciation

"Keep-Up Costs". | State Funding University Revenue Campus Capital Accounts Bonds, Grants, Gifts

"Catch-Up Costs" | Facilities Operating Budget

Staffing and Supervision

Energy Cost and Consumption | Work Order Process Analysis

Campus Inspection

Customer Satisfaction Survey |

Asset Value Change ⟷   **Operations Success** ⟷

Peer System Comparisons

State System Comparisons
Massachusetts State Universities
Mississippi Institutions of Higher Learning
Oregon University System
Pennsylvania State System of Higher Education
University of Alaska System
University of Missouri System
University of New Hampshire System

Comparative Considerations

Size, technical complexity, region, geographic location, and setting are all factors included in the selection of peer institutions

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New in FY18

Data Updates

➢ Reconciled building GSF numbers with AiM inventory

➢ Verified Sightlines staffing metrics (coverage and supervision) in depth with all campuses

➢ Energy tracking/reporting change

Impact to Analysis

➢ Overall GSF numbers increased

➢ NAV shifted to a slightly higher value than previously reported

➢ Sightlines staffing metrics (coverage and supervision) changed, primarily in the maintenance supervision area

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Summary of Findings

➤ Density stabilizes due to a similar enrollment profile and no major changes in GSF across the system.

➤ Total capital investments increase from FY2017 but fail to meet the Sightlines' annual recommended target.

➤ Project selection shifts towards space/programming needs in FY18 rather than envelope/mechanical projects.

➤ Opportunity exists to improve the NAV of the UMS through the recently approved State of Maine bond.

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Space Profile

UMS GSF Declined 2.7% Over the Past 7 Years

System GSF decreased by 253K GSF over time

Total GSF Over Time
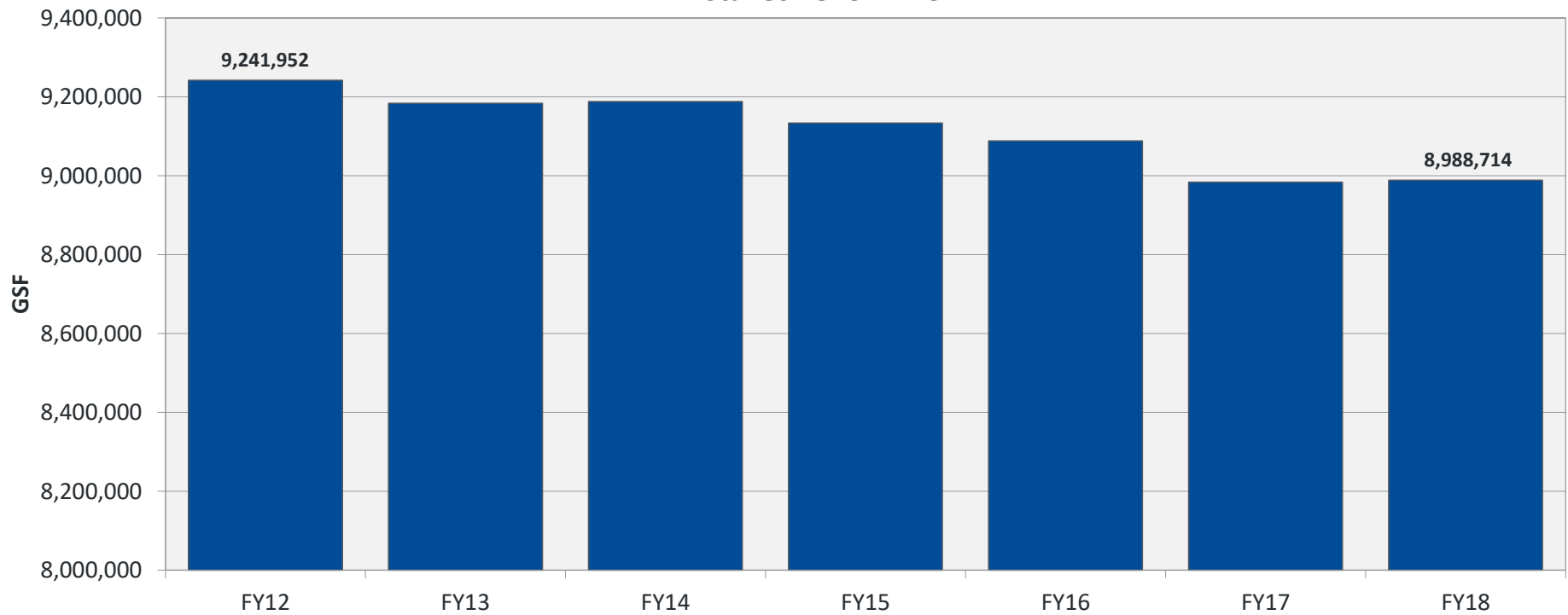
Student Enrollment Stabilizes in FY2018

Student enrollment has decreased 11% since 2006
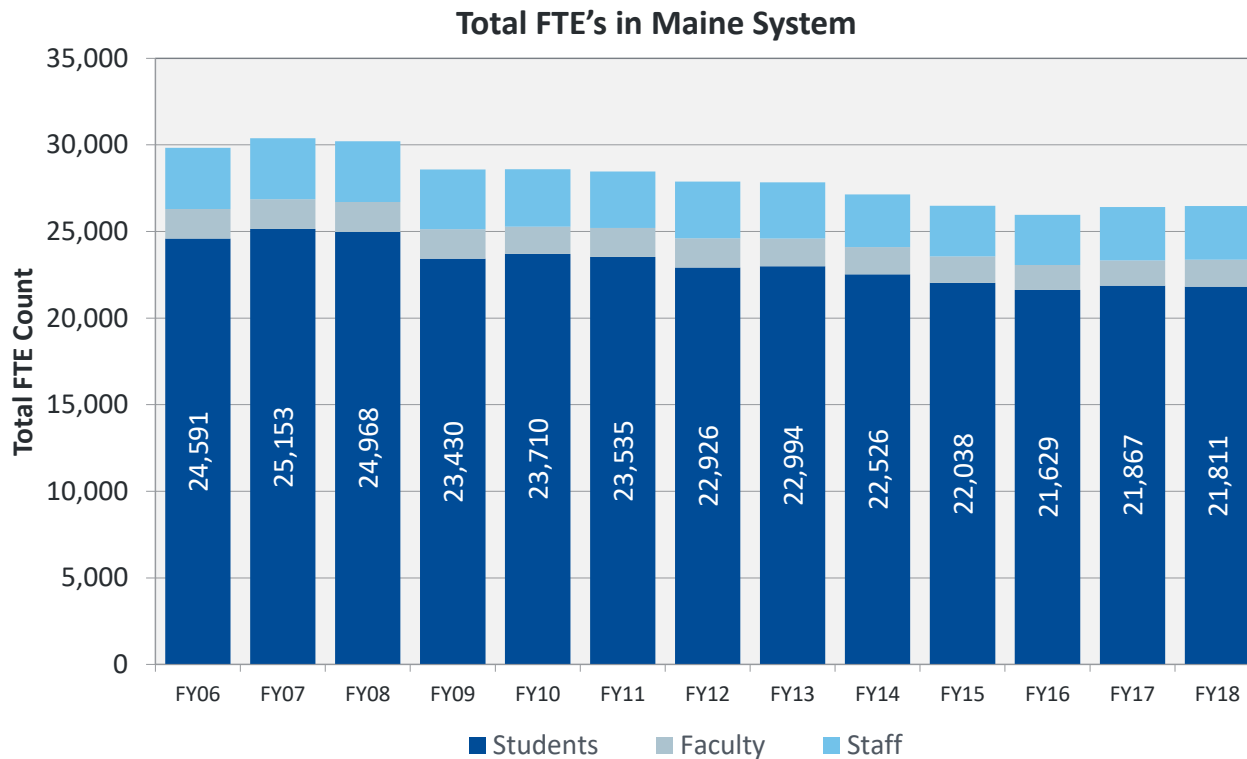
Total FTE's in Maine System

Density: Measures number of users per 100,000 GSF

Users include all student, faculty, and staff FTEs

Measures campus building usage on a daily basis

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Density Across the Maine System

Density remains at 326 users/100K GSF in FY2018
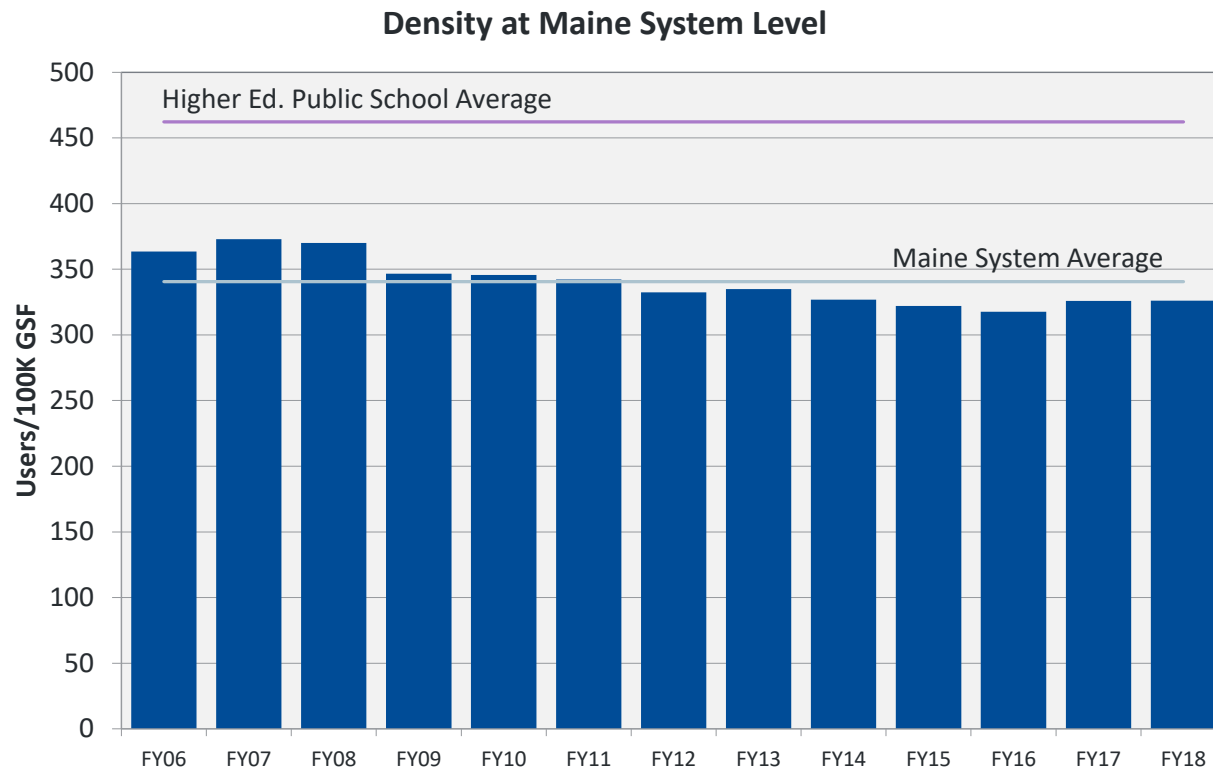
Density at Maine System Level

Higher Ed. Public School Average

Maine System Average

Users/100K GSF

FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18

Density: Measures number of users per 100,000 GSF

Users include all student, faculty, and staff FTEs

Measures campus building usage on a daily basis

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Density Across the System Varies
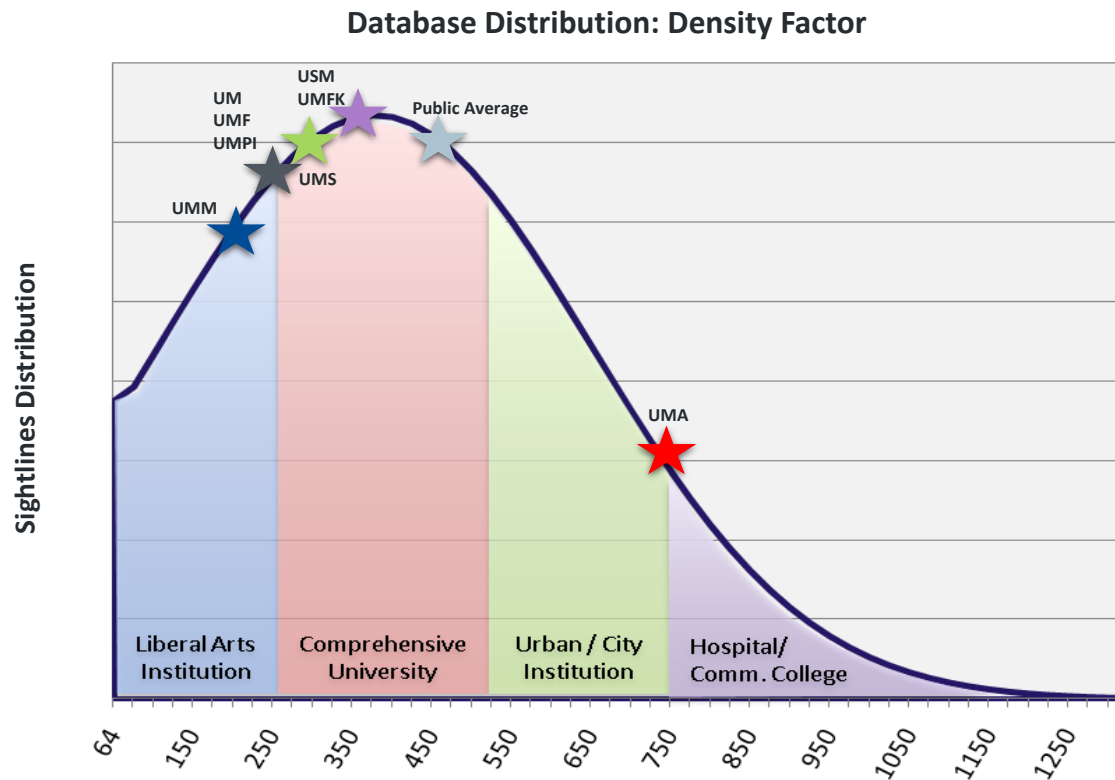
Database Distribution: Density Factor

Sightlines Distribution

UM
UMF
UMPI

USM
UMFK

Public Average

UMS

UMM

UMA

Liberal Arts Institution · Comprehensive University · Urban / City Institution · Hospital/ Comm. College

64 · 150 · 250 · 350 · 450 · 550 · 650 · 750 · 850 · 950 · 1050 · 1150 · 1250

Density: Measures number of users per 100,000 GSF

Users include all student, faculty, and staff FTEs

Measures campus building usage on a daily basis

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National Construction Trending in Higher Education

Funding sources should be allocated based on age and condition of the buildings

% of GSF by Construction & Renovation Year

Pre-War

Post-War

Modern

Complex

Built pre-1951
- Durable construction
- Older but lasts longer

Built 1951 - 1975
- Lower quality
- Needs more repairs & renovation

1975 - 1990
- Quick flash construction
- Low quality components

Built post-1991
- Technically complex
- Higher quality
- More expensive to maintain or repair

% of GSF

25%
20%
15%
10%
5%
0%

1880 1885 1890 1895 1900 1905 1910 1915 1920 1925 1930 1935 1940 1945 1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010 2015 2020

■ Sightlines Database- Construction Age

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Average Construction Age of Post-War Buildings: 53 years old

Funding sources should be allocated based on age and condition of the buildings

% of GSF by Construction & Renovation Year

Pre-War

Post-War

Modern

Complex

Built pre-1951
- Durable construction
- Older but lasts longer

Built 1951 - 1975
- Lower quality
- Needs more repairs & renovation

1975 - 1990
- Quick flash construction
- Low quality components

Built post-1991
- Technically complex
- Higher quality
- More expensive to maintain or repair

Legend: Sightlines Database- Construction Age | UMS Construction Age
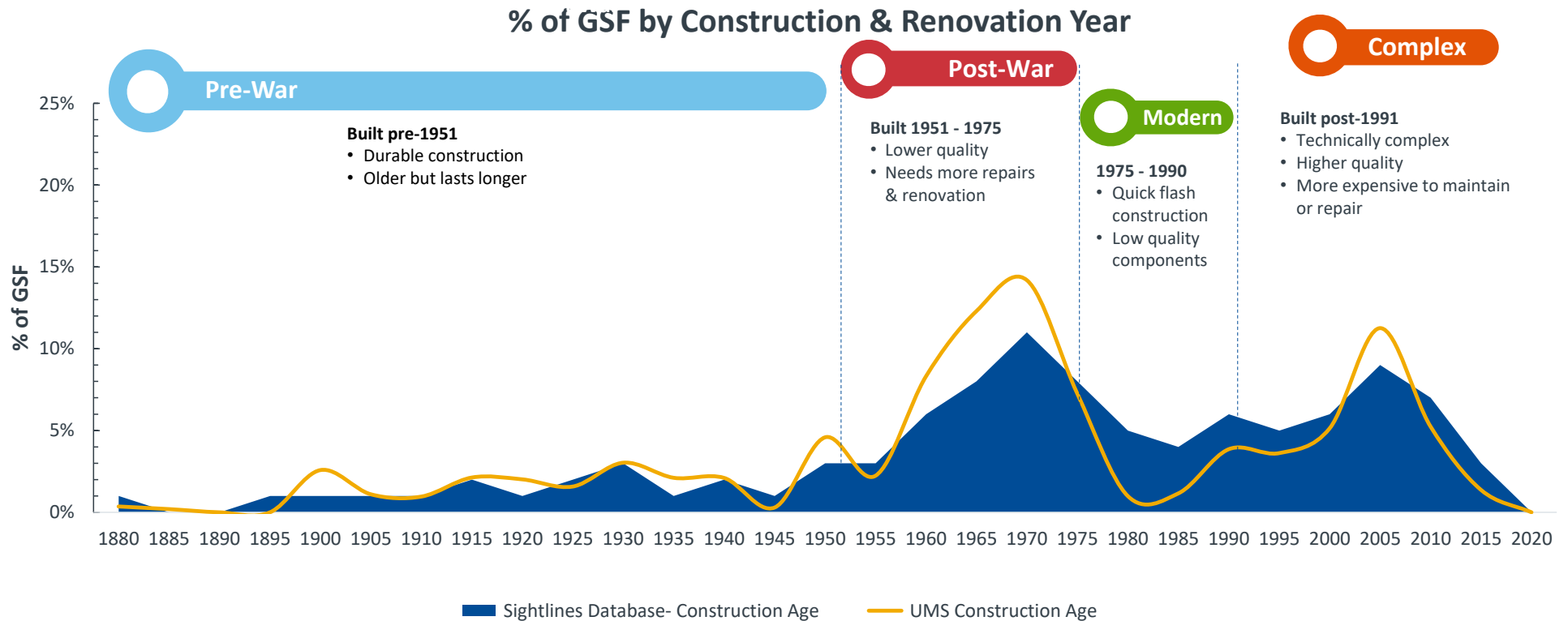
Maine System Continues to Age Over Time

Campus Renovation Age Distribution Over Time

15
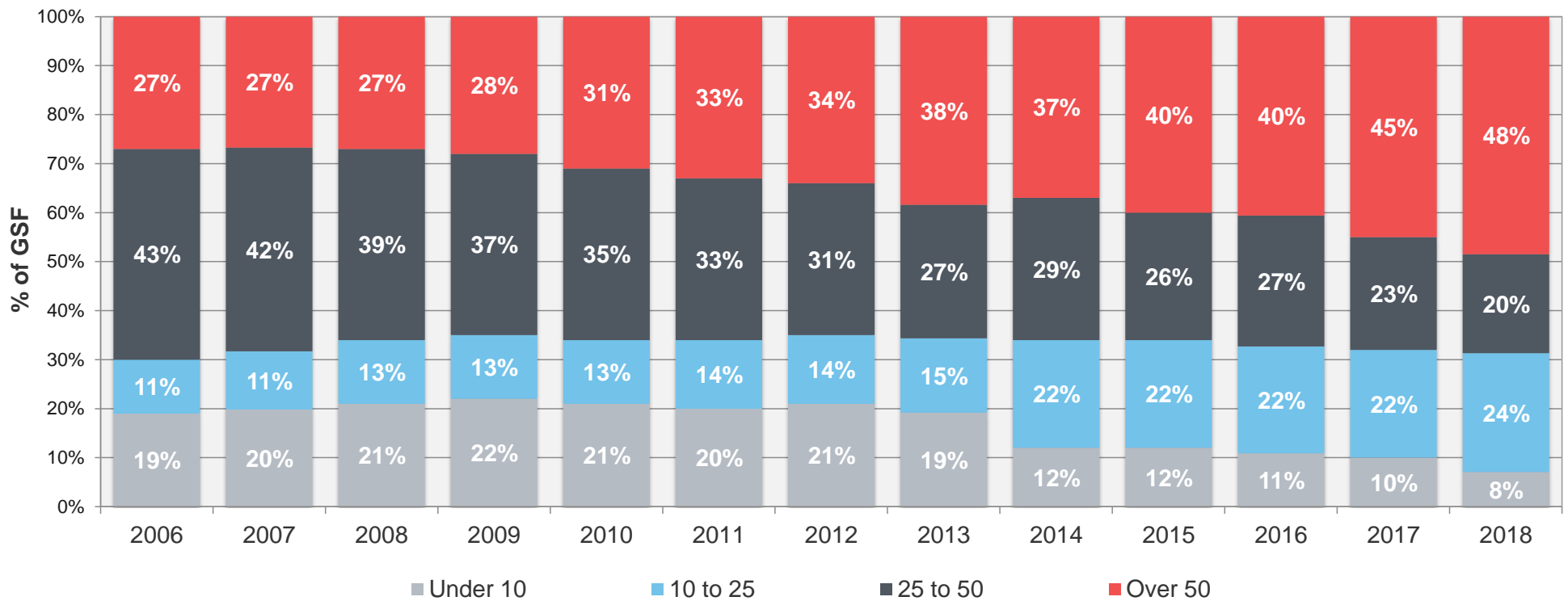
Space Over 50 is Growing

Consistent distribution of high risk space over the years
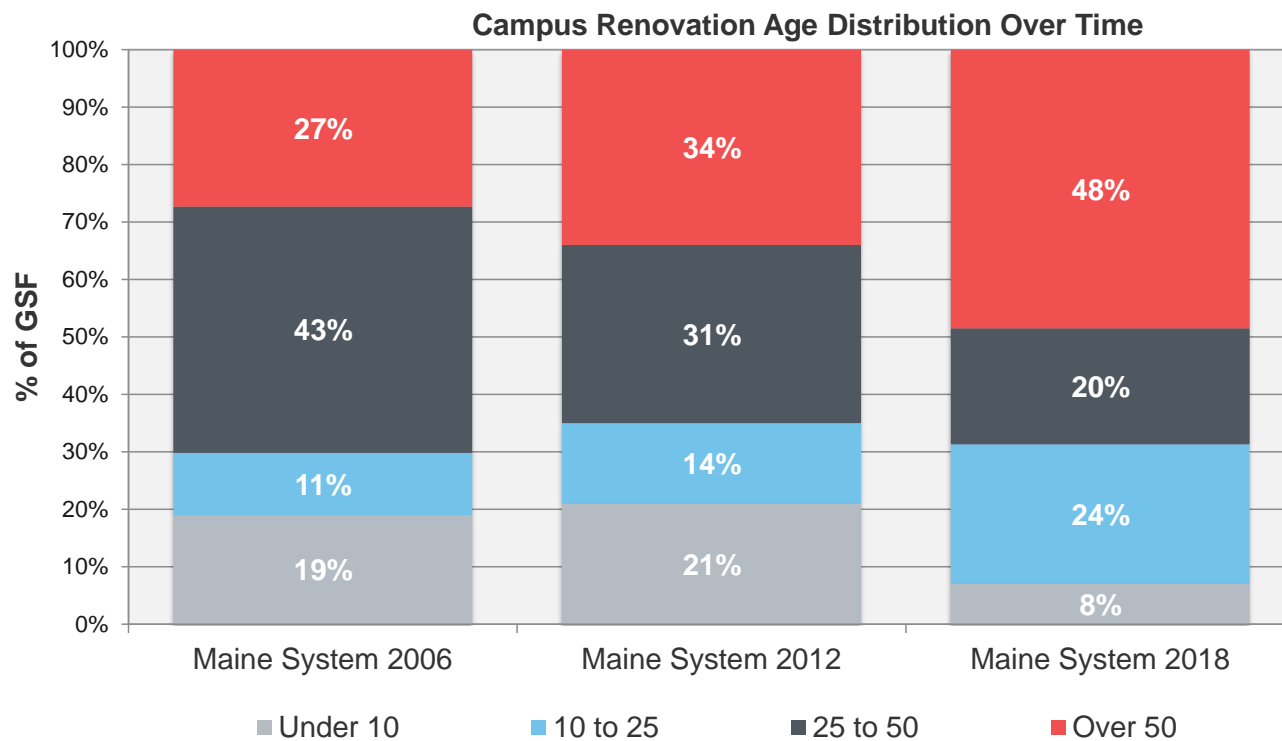
Campus Renovation Age Distribution Over Time

% of GSF

	Maine System 2006	Maine System 2012	Maine System 2018
Over 50	27%	34%	48%
25 to 50	43%	31%	20%
10 to 25	11%	14%	24%
Under 10	19%	21%	8%

Legend: ■ Under 10 ■ 10 to 25 ■ 25 to 50 ■ Over 50

Buildings Over 50

Life cycles of major building components are past due. Failures are possible. Core modernization cycles are missed.

Highest risk

Buildings 25 to 50

Major envelope and mechanical life cycles come due. Functional obsolescence prevalent.

Higher Risk

Buildings 10 to 25

Short life-cycle needs; primarily space renewal.

Medium Risk

Buildings Under 10

Little work. "Honeymoon" period.

Low Risk

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68% of Space Drives Investment Needs at UMS

Campus Renovation Age Distribution Over Time

Buildings Over 50
Life cycles of major building components are past due. Failures are possible. Core modernization cycles are missed.
Highest risk

Buildings 25 to 50
Major envelope and mechanical life cycles come due. Functional obsolescence prevalent.
Higher Risk

Buildings 10 to 25
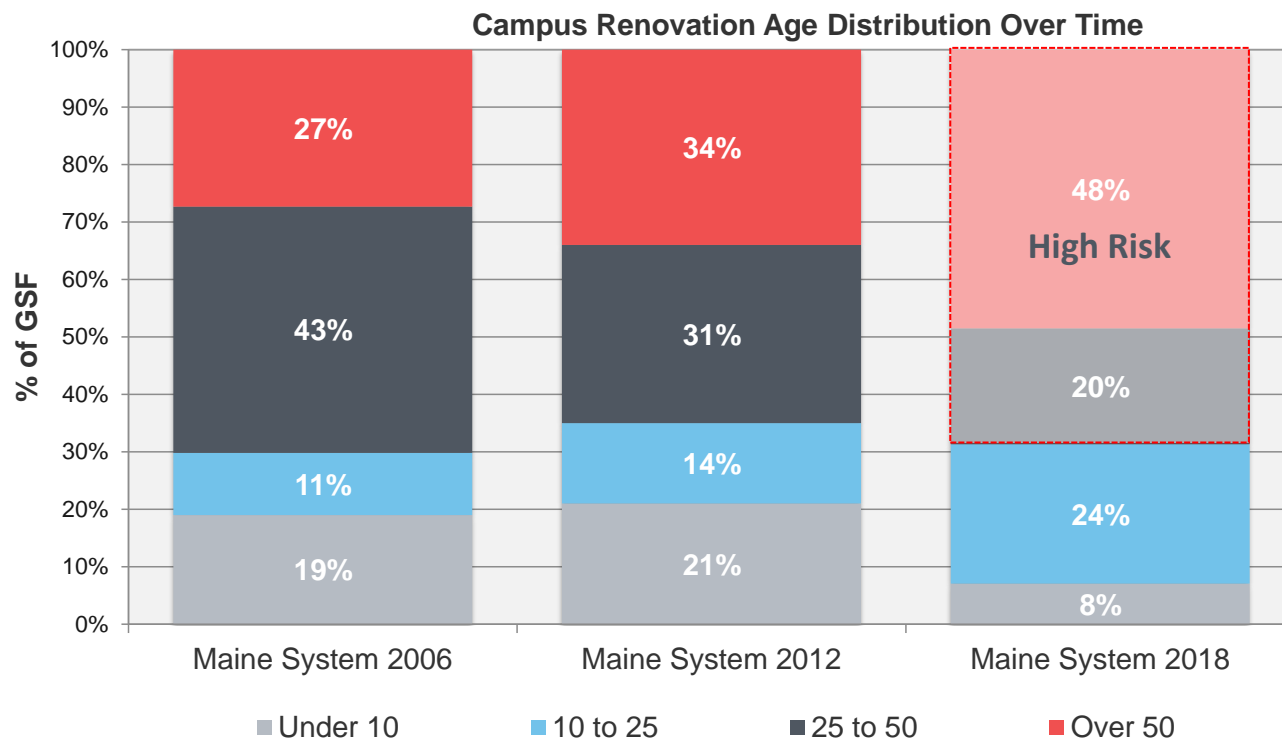Short life-cycle needs; primarily space renewal.
Medium Risk

Buildings Under 10
Little work. "Honeymoon" period.
Low Risk

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High Risk Profile Consistent Across All Campuses

UM, UMM and UMF have the highest risk based on age profile over 25 years old

FY18 Renovation Age Across System

Chart: % of GSF by campus

Campus	Under 10	10 to 25	25 to 50	Over 50
USM	5%	43%	20%	32%
UMA	14%	32%	39%	15%
UMFK	10%	27%	27%	36%
UMPI	5%	21%	42%	32%
UM	9%	16%	16%	59%
UMM	25%	—	27%	48%
UMF	5%	13%	24%	58%

Legend: Under 10, 10 to 25, 25 to 50, Over 50

18

519
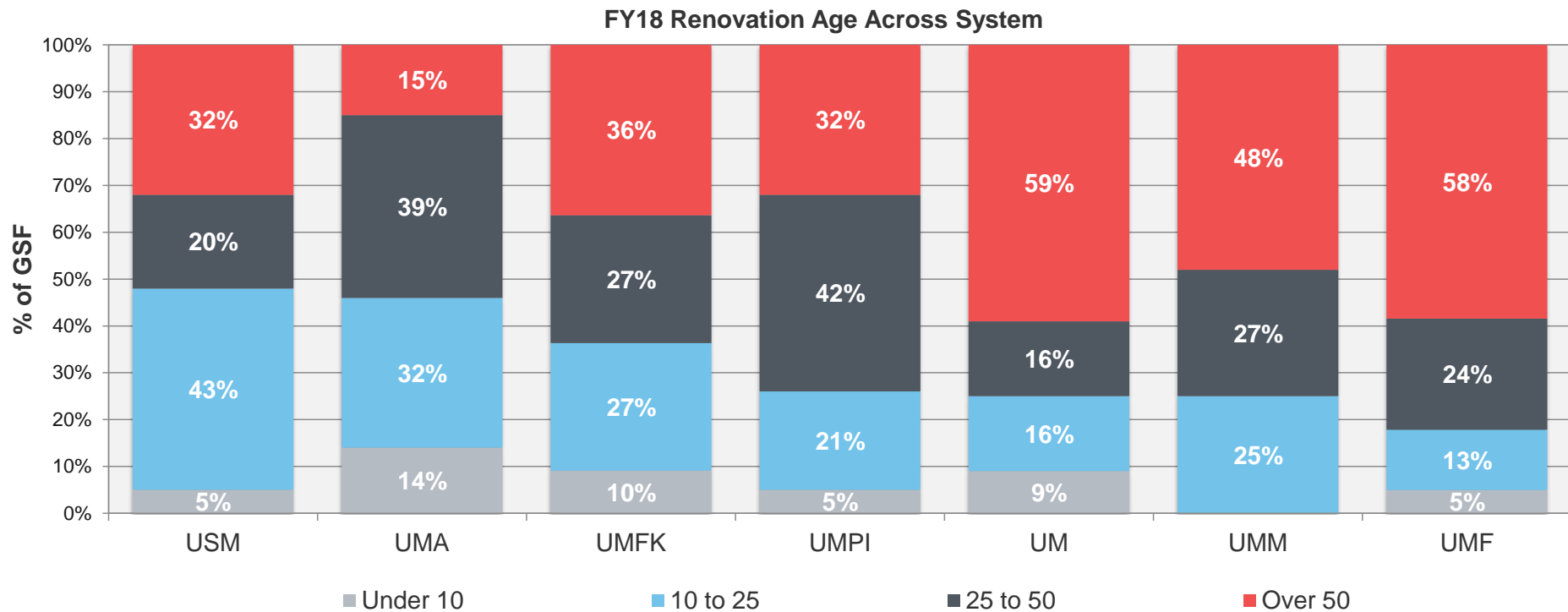
Significant Growth in % of Buildings Over 50 Years Old

Peers in 2018 have the same % of space over 50 as UMS did in 2006

Percent of Space Over 50 vs. Peers
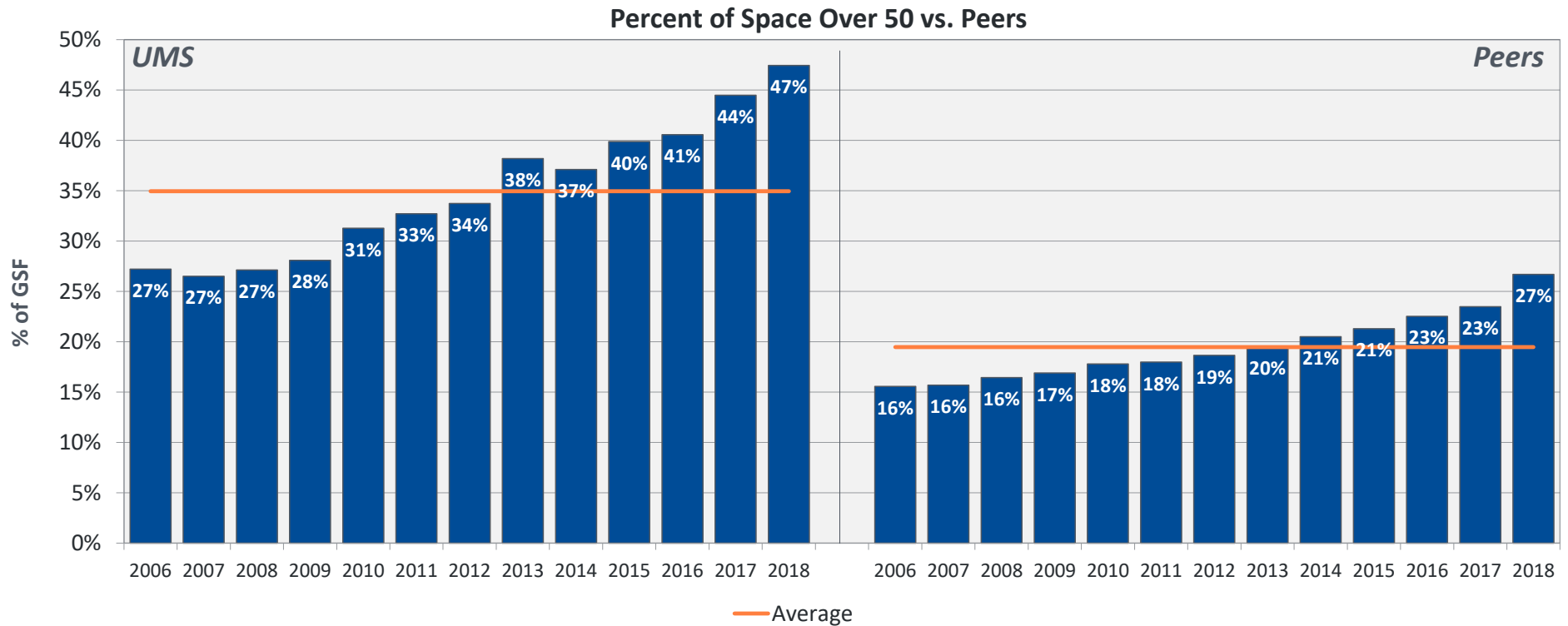
By 2023 55% of Space Will be Over 50 Years Old

Plan now for major life cycle replacements in these buildings

Maine System Percent of Space Over 50

Chart — % of GSF (y-axis from 0% to 60%) by year:

Year	% of GSF
2006	27%
2007	27%
2008	27%
2009	28%
2010	31%
2011	33%
2012	34%
2013	38%
2014	37%
2015	40%
2016	41%
2017	44%
2018	47%
2023	55%

—— Higher Ed. Public School Average   —— Peers

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FY22 is calculated as campus is today, with no changes to the space profile

20

521
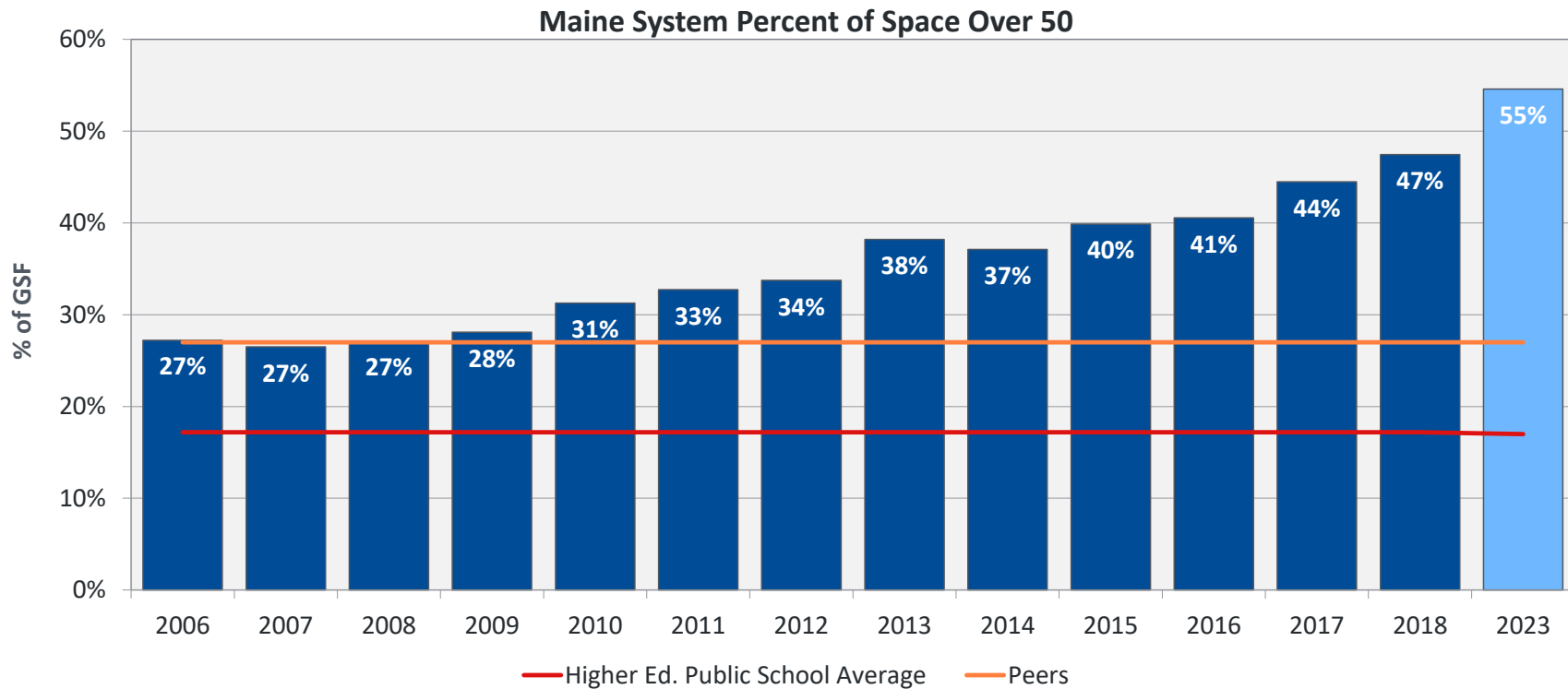
Over 45 Year Old Analysis

Renovation Age

Over 45 Template Distributed to Every Institution

Sample taken from UMS

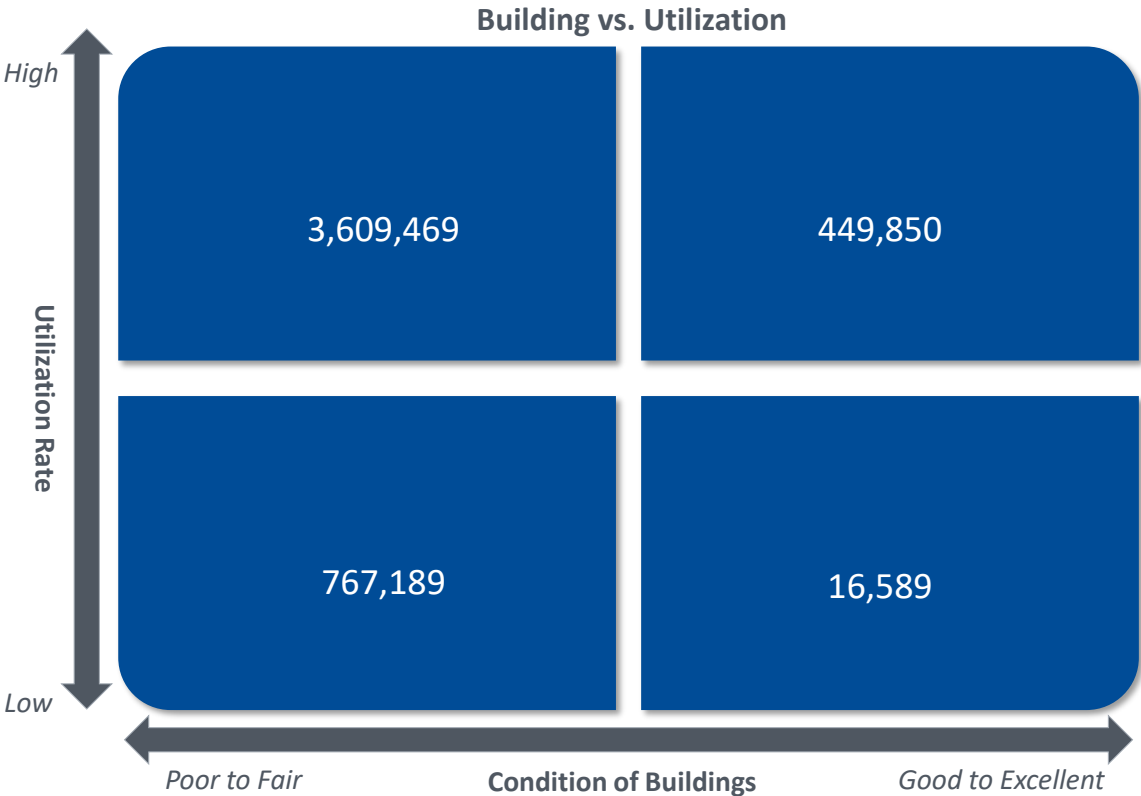| Building Name	GSF	Program Use	Historical Registry Listing	Utilization Rate	Condition	Value to Program	Value to Institution's Mission
Colvin Hall-Aux	12,677	Residence Hall	Yes	1: High	1: Excellent Condition	1: Valuable	1. Supports Institution's Mission
Stodder Hall	56,159	Residence Hall	No	1: High	1: Excellent Condition	1: Valuable	1. Supports Institution's Mission
Eastport Hall	18,680	Academic	No	1: High	1: Excellent Condition	1: Valuable	1. Supports Institution's Mission
Mantor Library	17,062	Academic	No	1: High	1: Excellent Condition	1: Valuable	1. Supports Institution's Mission
Lewiston Hall	26,631	Acad/Admin	No	2: Moderate	1: Excellent Condition	1: Valuable	1. Supports Institution's Mission
Main St-246, Admissions-Art Gallery	8,471	Academic	No	3: Low	1: Excellent Condition	1: Valuable	1. Supports Institution's Mission

The following slides will dig deeper into some of the buildings on this list.

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Total Maine System Findings

Comparing condition with utilization across the system

Building vs. Utilization

High

Utilization Rate

Low

| 3,609,469 | 449,850 |
| 767,189 | 16,589 |

Poor to Fair   **Condition of Buildings**   *Good to Excellent*

23

Candidates for Potential Renovation

Comparing condition with utilization across the system

Building vs. Utilization

	Poor to Fair	Good to Excellent
High	3,609,469 UMPI – Wieden Hall UMF – Olsen Student Center	449,850
Low	767,189	16,589

Utilization Rate

Condition of Buildings

Poor to Fair — *Good to Excellent*

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24
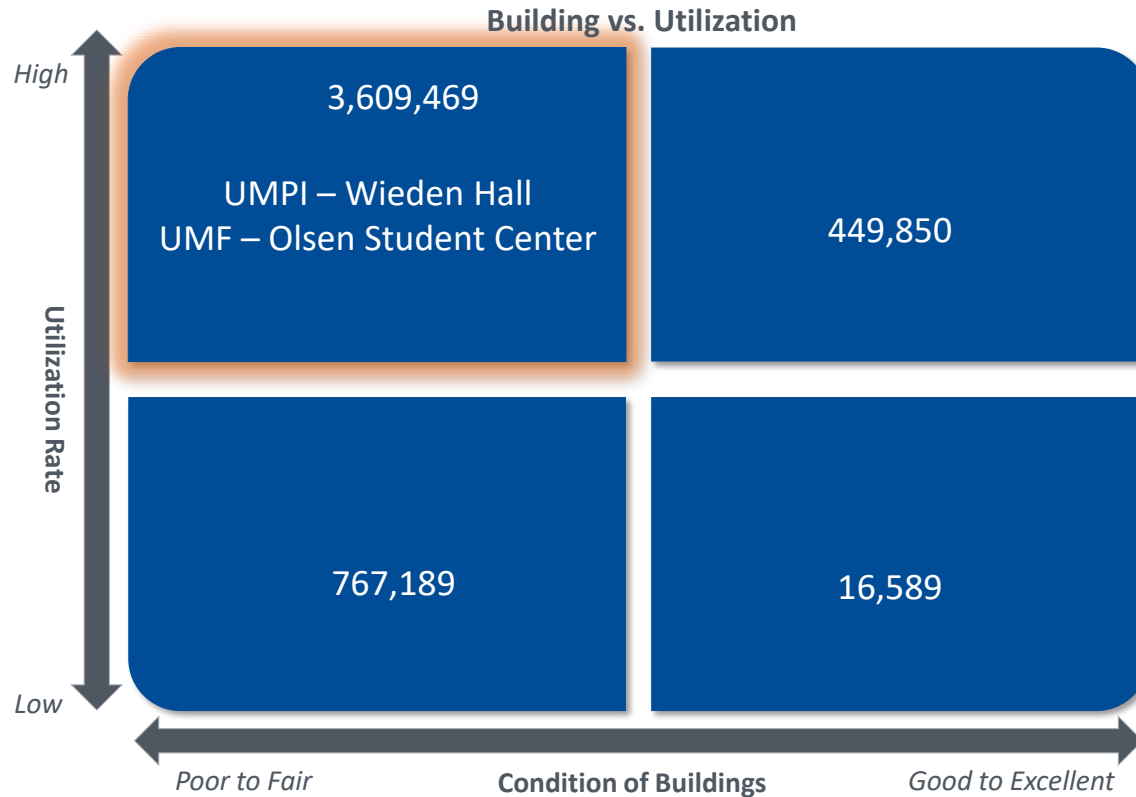
Potential Candidates for Removal

Comparing condition with utilization across the system
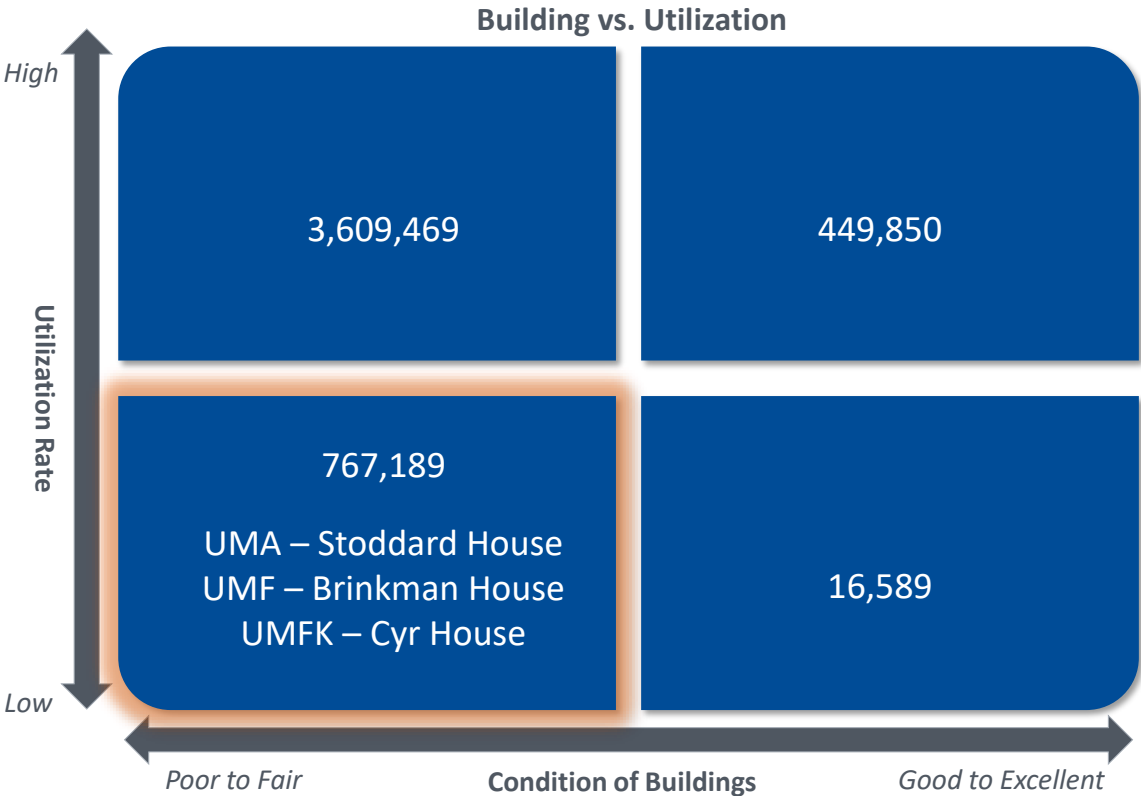
Building vs. Utilization

High

Utilization Rate

3,609,469	449,850
767,189 UMA – Stoddard House UMF – Brinkman House UMFK – Cyr House	16,589

Low

Poor to Fair   **Condition of Buildings**   *Good to Excellent*

25

Board of Trustees Meeting - REPORTS

Low Utilization and Poor Condition Space

Removing historical buildings and storage structures from the equation

Buildings Over 45 with Poor Condition/Low Utilization	Sum of GSF
The University of Maine	456,647
University of Maine at Augusta	17,851
University of Maine at Farmington	60,965
University of Maine at Fort Kent	19,328
University of Maine at Machias	5,000
University of Maine at Presque Isle	793
University of Southern Maine	206,605
Total	**767,189**

Less Historic Buildings

Buildings Over 45 with Poor Condition/Low Utilization	Sum of GSF
The University of Maine	277,186
University of Maine at Augusta	17,851
University of Maine at Farmington	60,965
University of Maine at Fort Kent	19,328
University of Maine at Machias	5,000
University of Maine at Presque Isle	793
University of Southern Maine	196,077
Total	**577,200**

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527

Low Utilization and Poor Condition Space

Removing historical buildings and storage structures from the equation

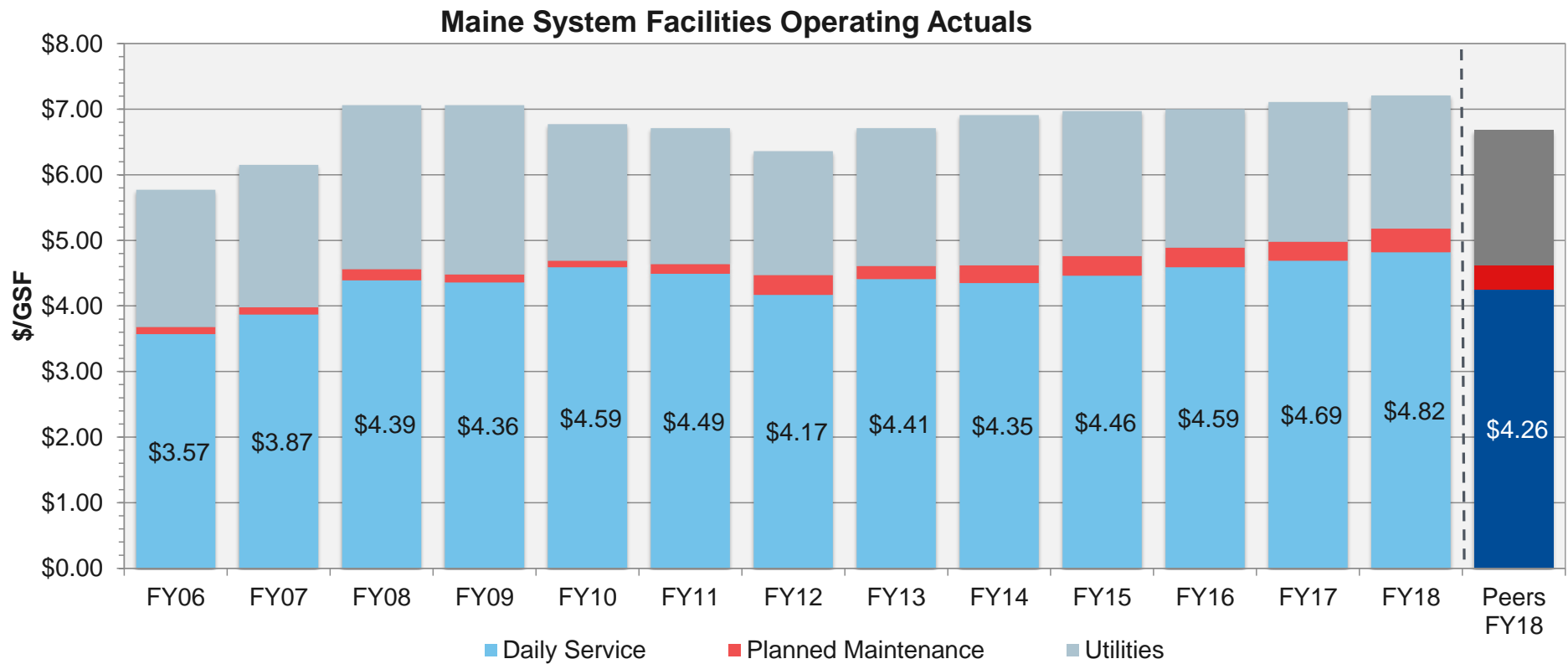| Buildings Over 45 with Poor Condition/Low Utilization	Sum of GSF
The University of Maine	277,186
University of Maine at Augusta	17,851
University of Maine at Farmington	60,965
University of Maine at Fort Kent	19,328
University of Maine at Machias	5,000
University of Maine at Presque Isle	793
University of Southern Maine	196,077
Total	577,200

Less Storage

Buildings Over 45 with Poor Condition/Low Utilization	Sum of GSF
The University of Maine	259,280
University of Maine at Augusta	15,576
University of Maine at Farmington	60,465
University of Maine at Fort Kent	15,964
University of Maine at Machias	5,000
University of Maine at Presque Isle	409
University of Southern Maine	195,889
Total	552,889

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Operations Success

UMS Daily Service Increase in FY18

Maine System Facilities Operating Actuals

Chart: $/GSF (y-axis, $0.00 to $8.00) by fiscal year

Year	Daily Service
FY06	$3.57
FY07	$3.87
FY08	$4.39
FY09	$4.36
FY10	$4.59
FY11	$4.49
FY12	$4.17
FY13	$4.41
FY14	$4.35
FY15	$4.46
FY16	$4.59
FY17	$4.69
FY18	$4.82
Peers FY18	$4.26

Legend: ■ Daily Service ■ Planned Maintenance ■ Utilities

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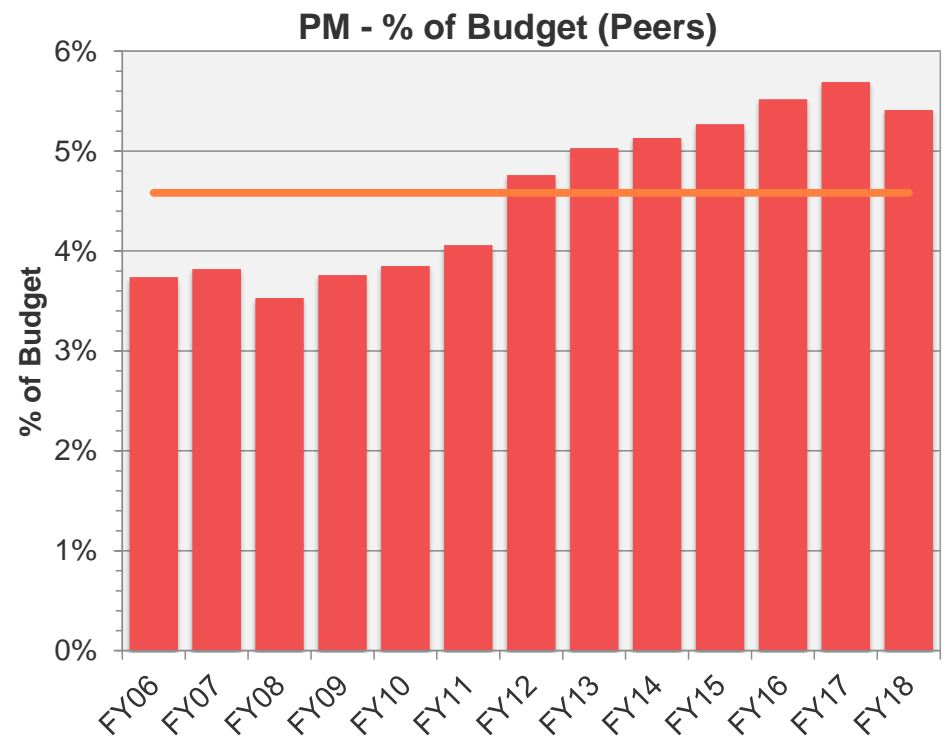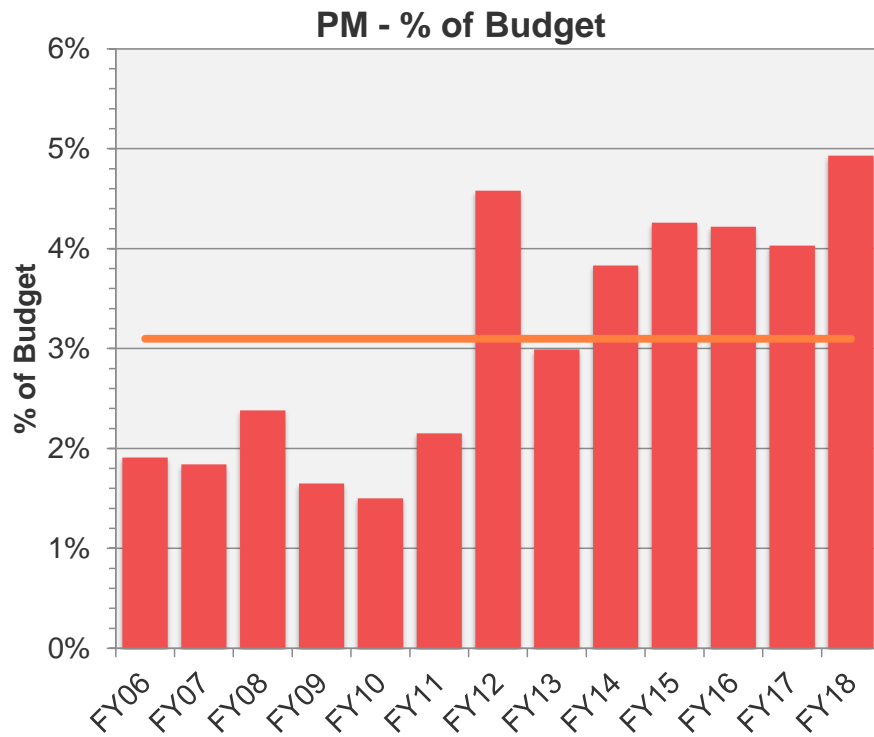
29

530

UMS Planned Maintenance 4.9% of Budget in FY18

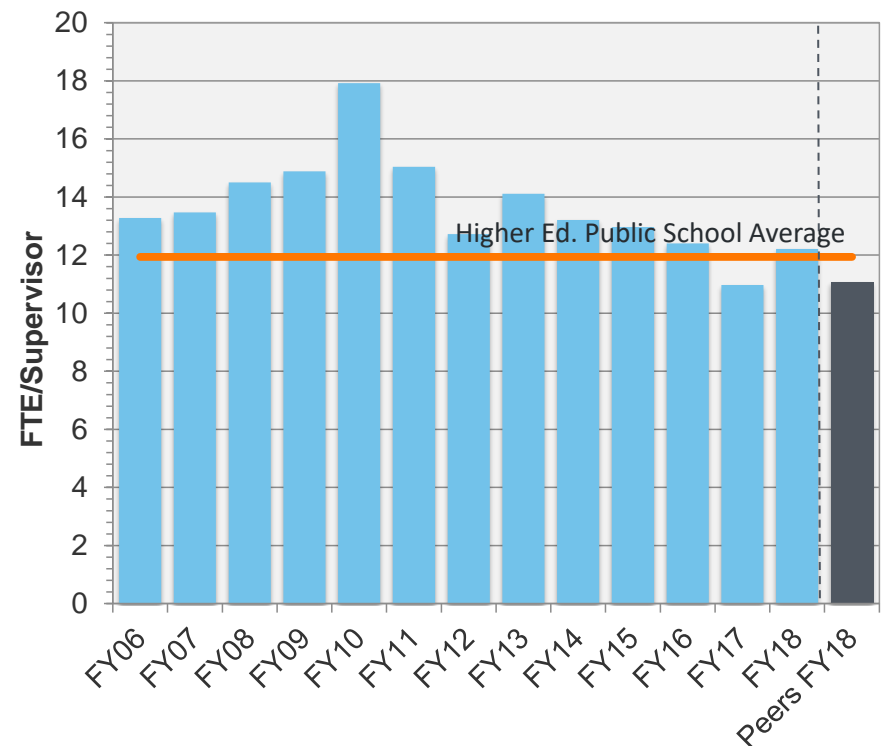Better tracking & improved Planned Maintenance programs drive investment closer to peer levels

PM - % of Budget

PM - % of Budget (Peers)

30

531

Maintenance Operations

Staff covered fewer GSF/FTE, less supervision than peers

Maintenance Staffing

Higher Ed. Public School Average

GSF/FTE

FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18 Peers FY18

Maintenance Supervision

Higher Ed. Public School Average

FTE/Supervisor

FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18 Peers FY18

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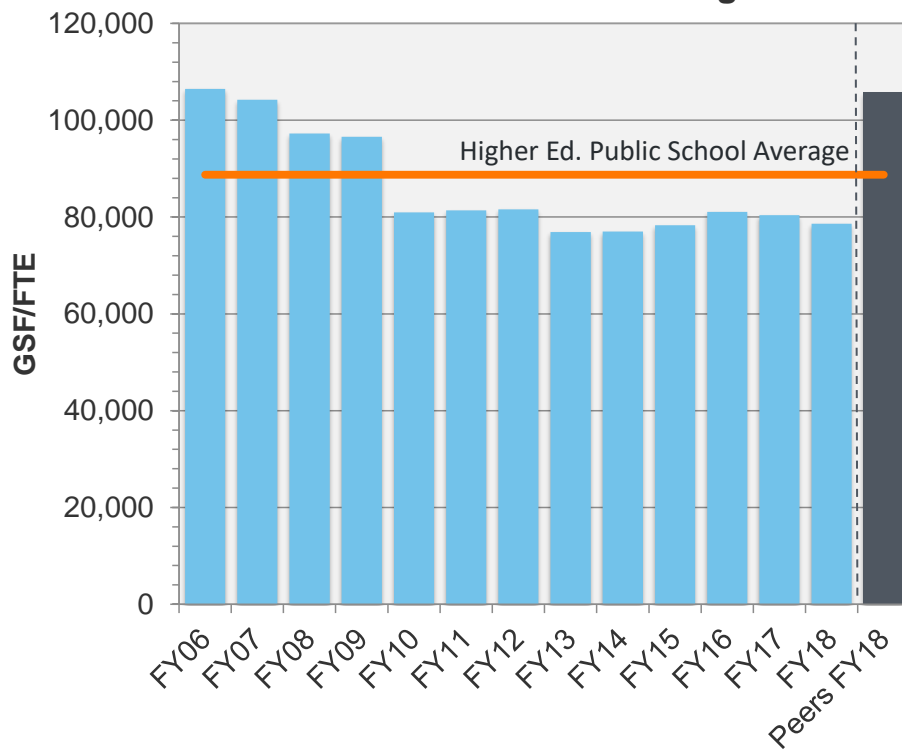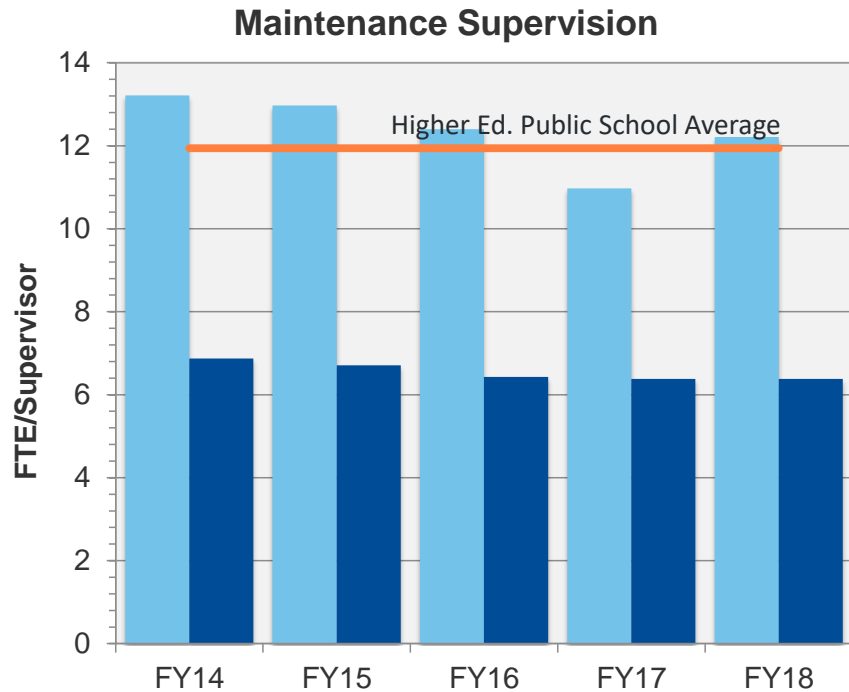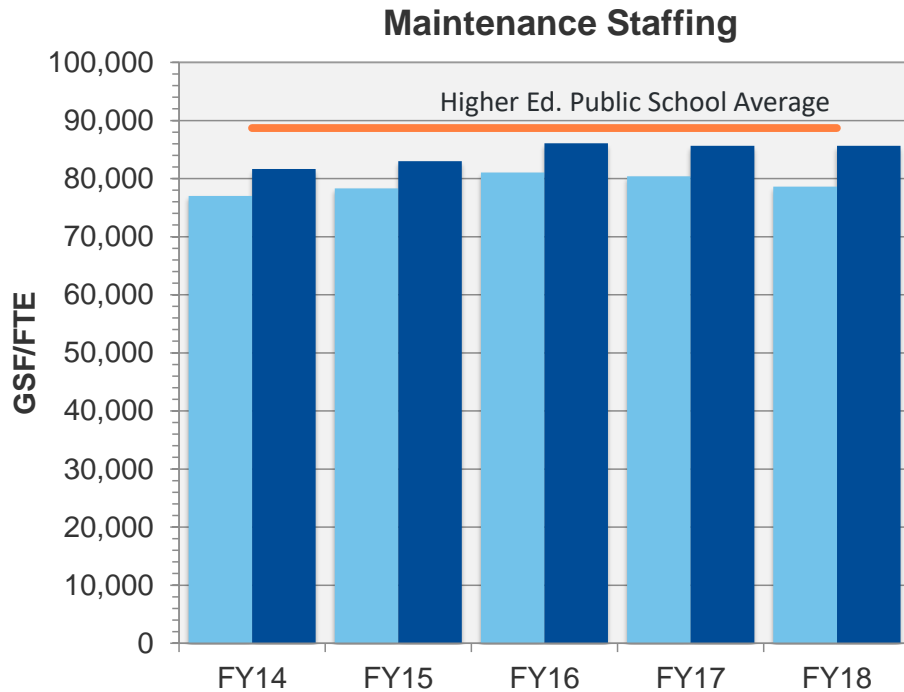
Maintenance – Coverage Decreases, Less Supervision

UMS maintenance workers have similar supervision to public school average

Maintenance Staffing

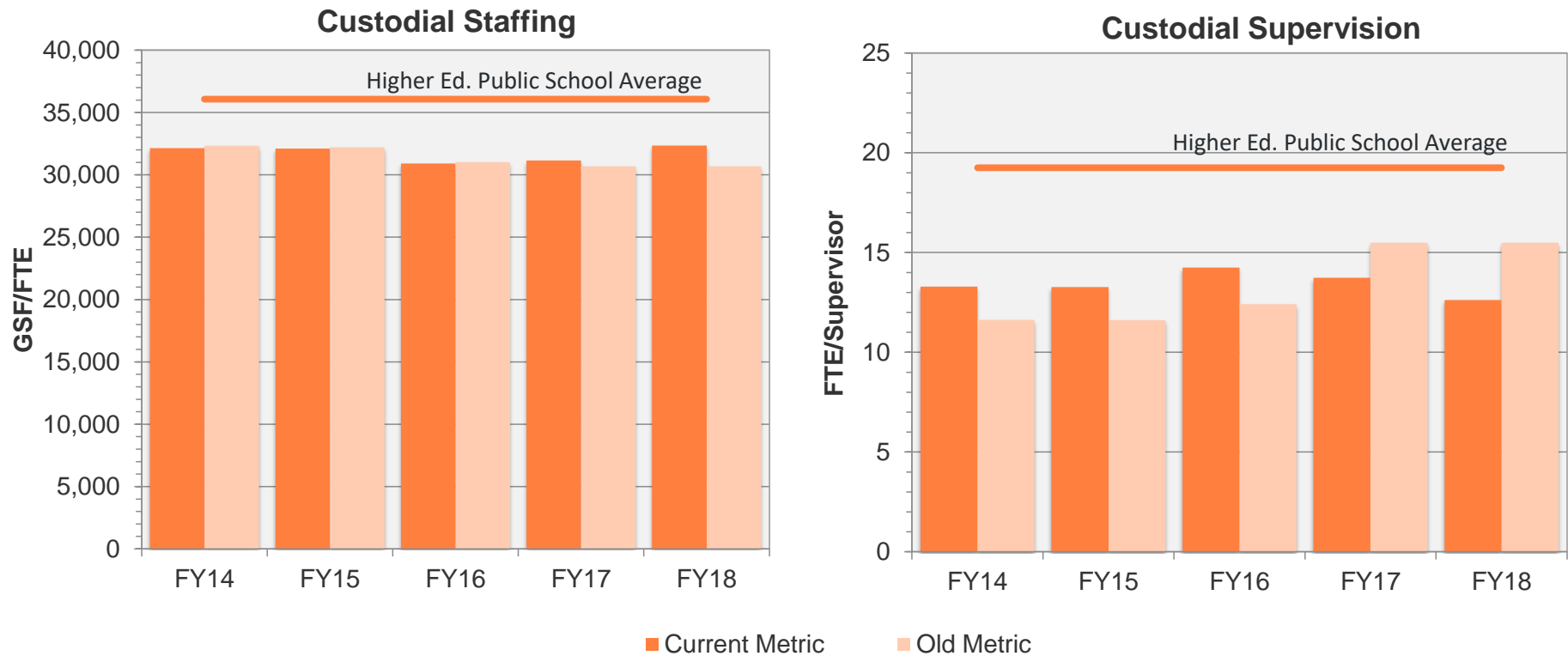Maintenance Supervision

Legend: ■ Current Metric   ■ Old Metric

32

533

Custodial Operations

UMS has more custodial staff than peers and public school average

Custodial Staffing
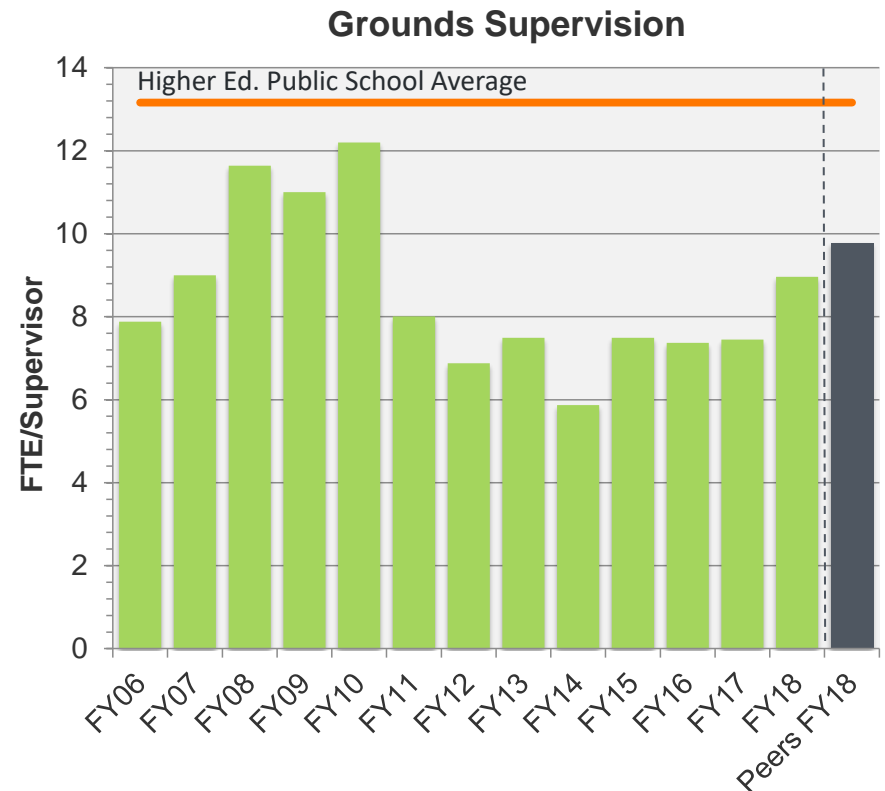

Custodial Supervision

33
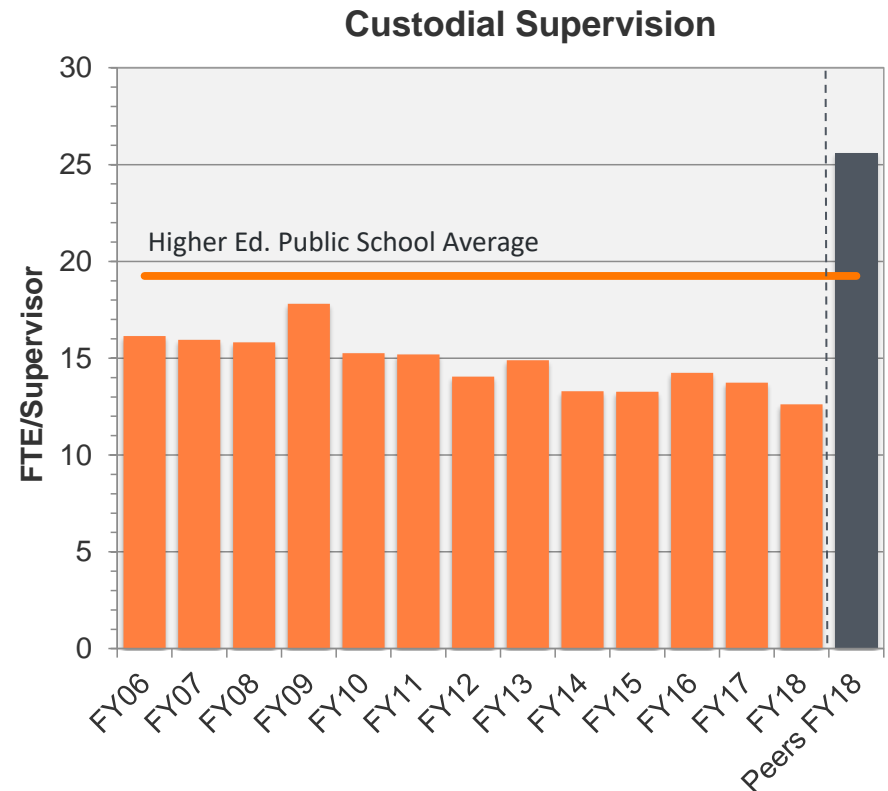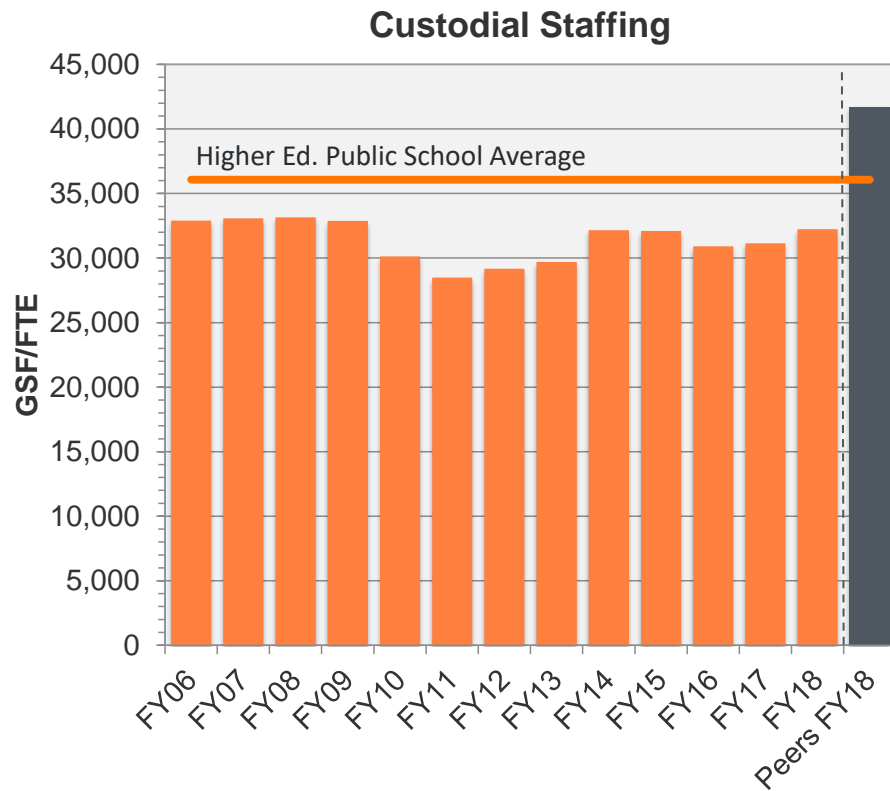
Custodial – Coverage Increases, Supervision Increase

UMS has more custodial staff than public average

Custodial Staffing

Higher Ed. Public School Average

GSF/FTE

FY14   FY15   FY16   FY17   FY18

Custodial Supervision

Higher Ed. Public School Average

FTE/Supervisor

FY14   FY15   FY16   FY17   FY18

■ Current Metric   ■ Old Metric

34

Grounds Operations

Grounds staff responsible for more acres than peers and public school average

Grounds Staffing

Higher Ed. Public School Average

Acre/FTE

FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18 Peers FY18

Grounds Supervision

Higher Ed. Public School Average

FTE/Supervisor

FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18 Peers FY18

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35
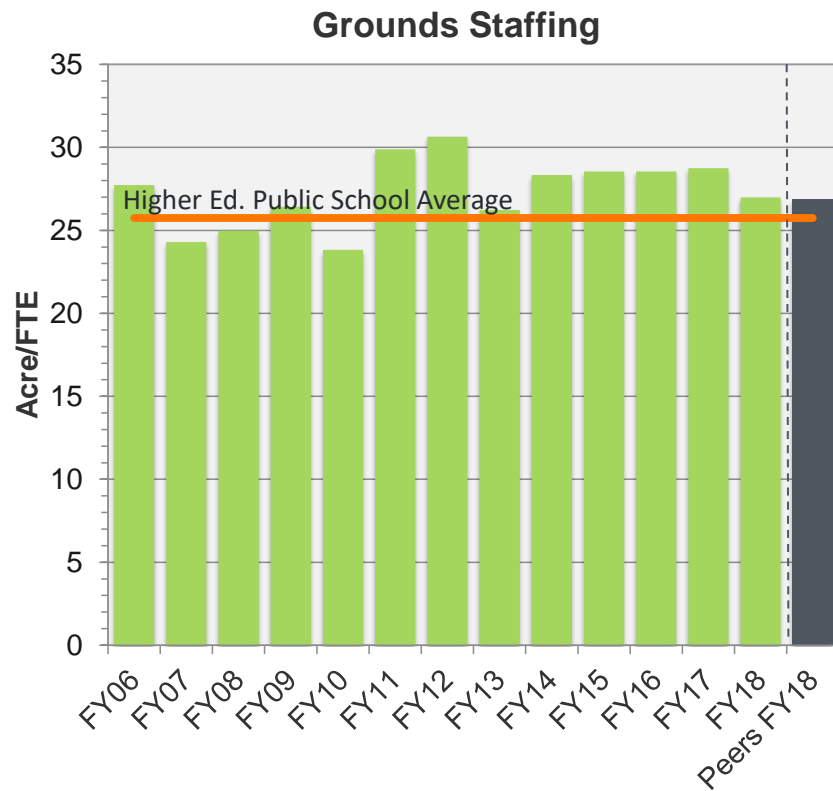
Grounds – Coverage Decreases, More FTEs/Supervisor

Grounds staff responsible for more acres than public school average

Grounds Staffing

Grounds Supervision

- ■ Current Metric ■ Old Metric

36

537
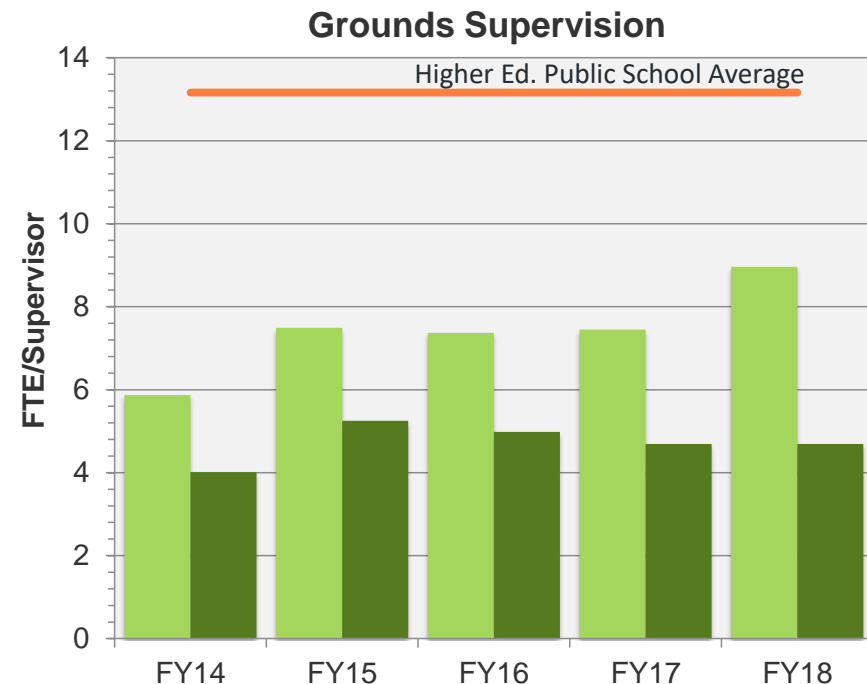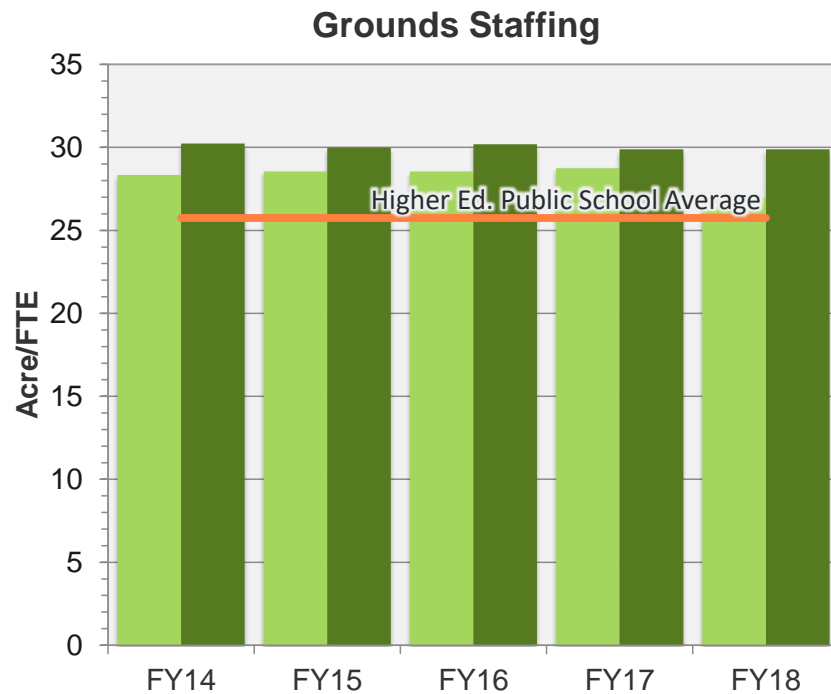
2017 Customer Satisfaction Survey

UMS averaged 72% for customer satisfaction

Survey Score Index

*UMFK data from 2016

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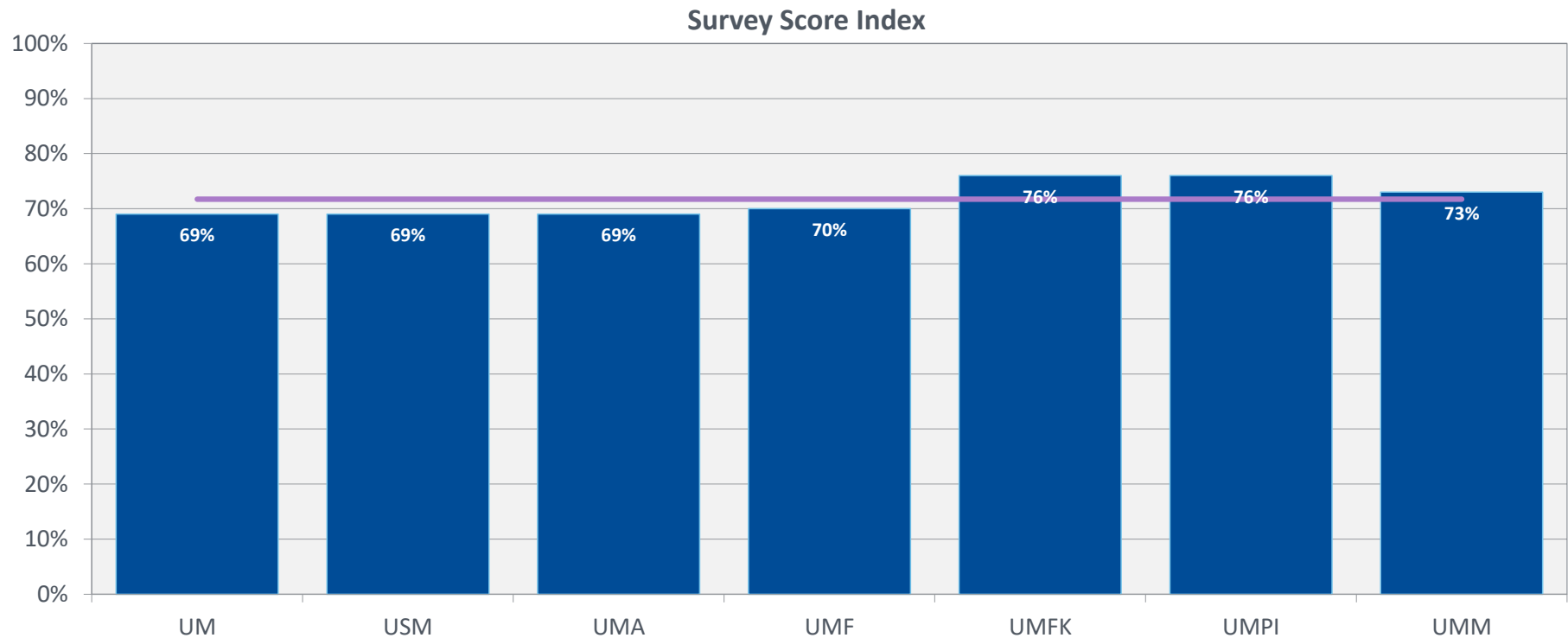
Opportunities with the Work Order System

Improving the scheduling process and feedback loop in the work order system could increase satisfaction

Work Order System "Best Practices"
Schedules are communicated to the customer
Changes in the schedule are communicated to the customer
Customers can access the current status of work requests through a web-based system
Changes to work request status are communicated to customer
Customer satisfaction is surveyed after work request is completed

Summary of Findings

Average Value of Responses

Category	Value
Knowledge/Understanding in process	3.9
Schedule and service levels	3.5
Work meets expectations	4.1
Feedback	2.8
General satisfaction	3.1

539

Total Energy Consumption Increased in FY18

Consumption correlates with Heating Degree Days

*Degree days noted are based on the Orono, Maine location
**Fossil fuels contain all heating fuel sources, including alternative fuel sources
(ie biomass, wood chips, etc.)

39

540
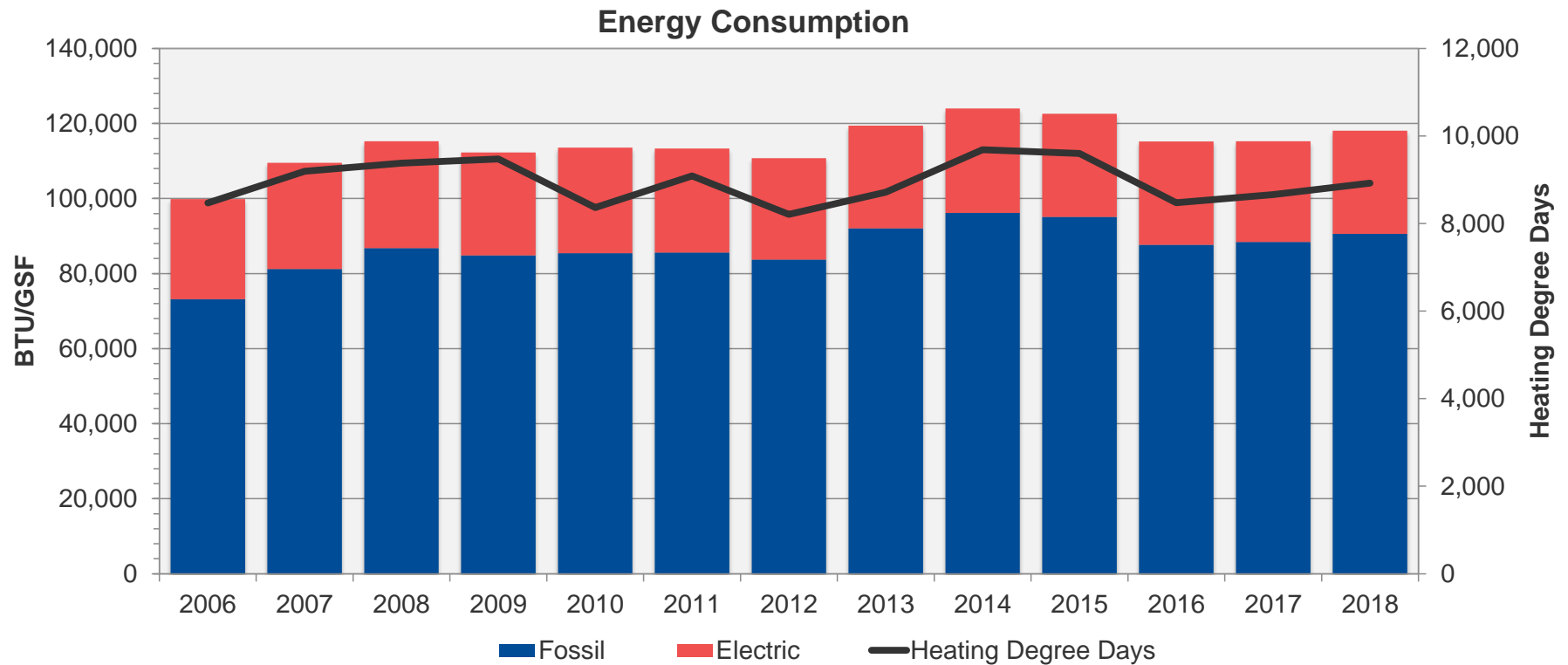
Consumption Decreasing Since 2016 When Normalized for HDD

Graph shows what the consumption would be if each year experienced 2018 degree days

Fossil Consumption – Normalized for Degree Days

*Degree days noted are based on the Orono, Maine location
**Fossil fuels contain all heating fuel sources, including alternative fuel sources
(ie biomass, wood chips, etc.)

40

541
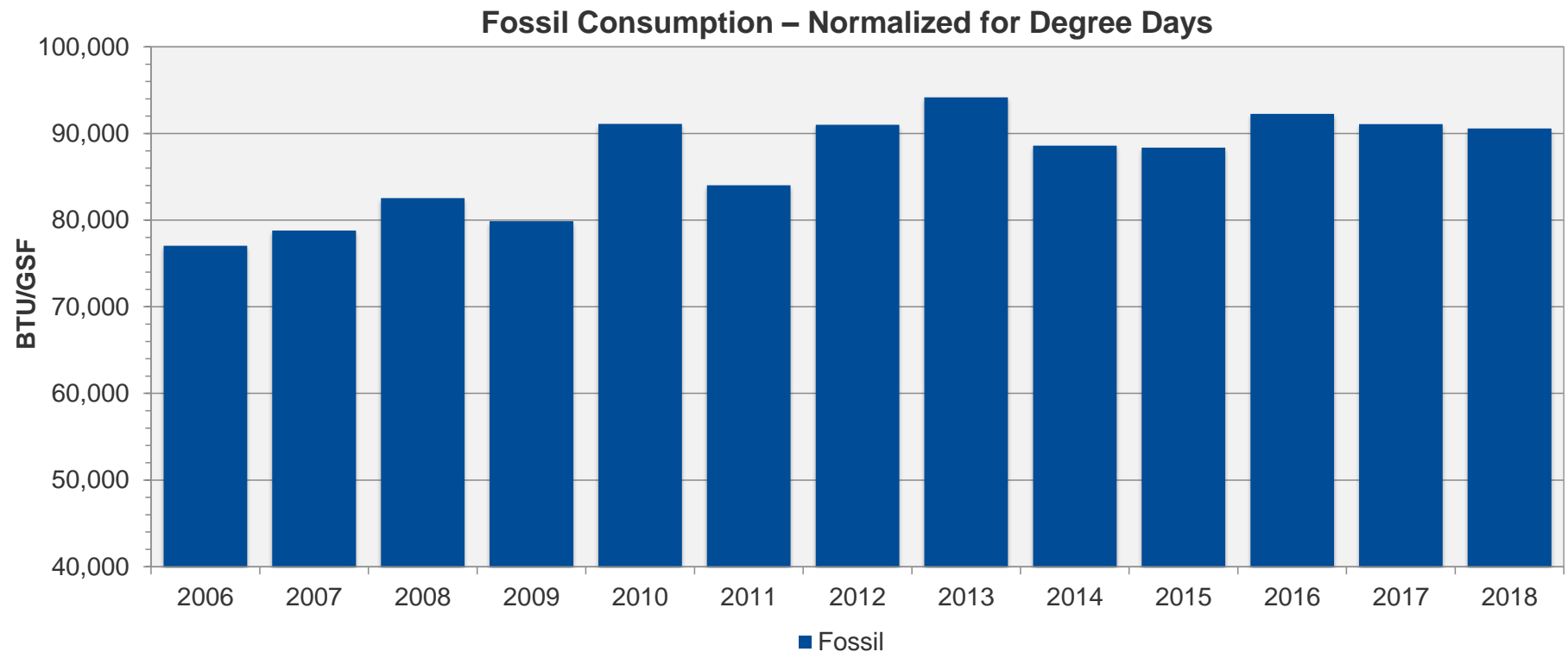
Fuel Mix Continues to Trend Towards Emitting Less Carbon

Fossil Fuel Mix

41

*High intensity fuels include oil #2 and oil #6
**Low intensity fuels include natural gas and propane
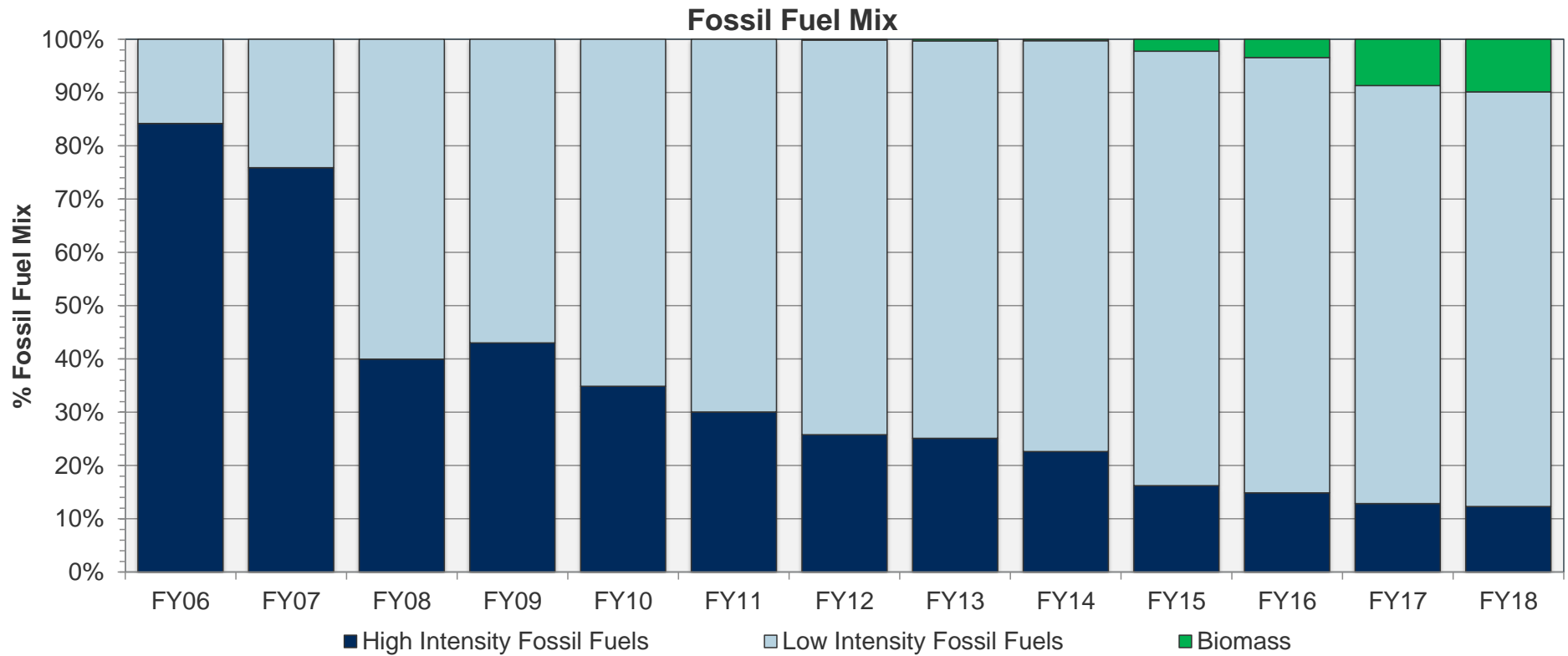
Total Gross Emissions Over Time

Higher consumption in FY18 dictates higher total gross emissions

Maine System Total Gross Emissions
(FY2006-FY2018)

-34%

MTCDE (Thousands) — y-axis: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100

x-axis: 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018

Legend: ■ Scope 1   ■ Scope 2

MTCDE = Metric Tons of Carbon Dioxide Equivalent

42

543
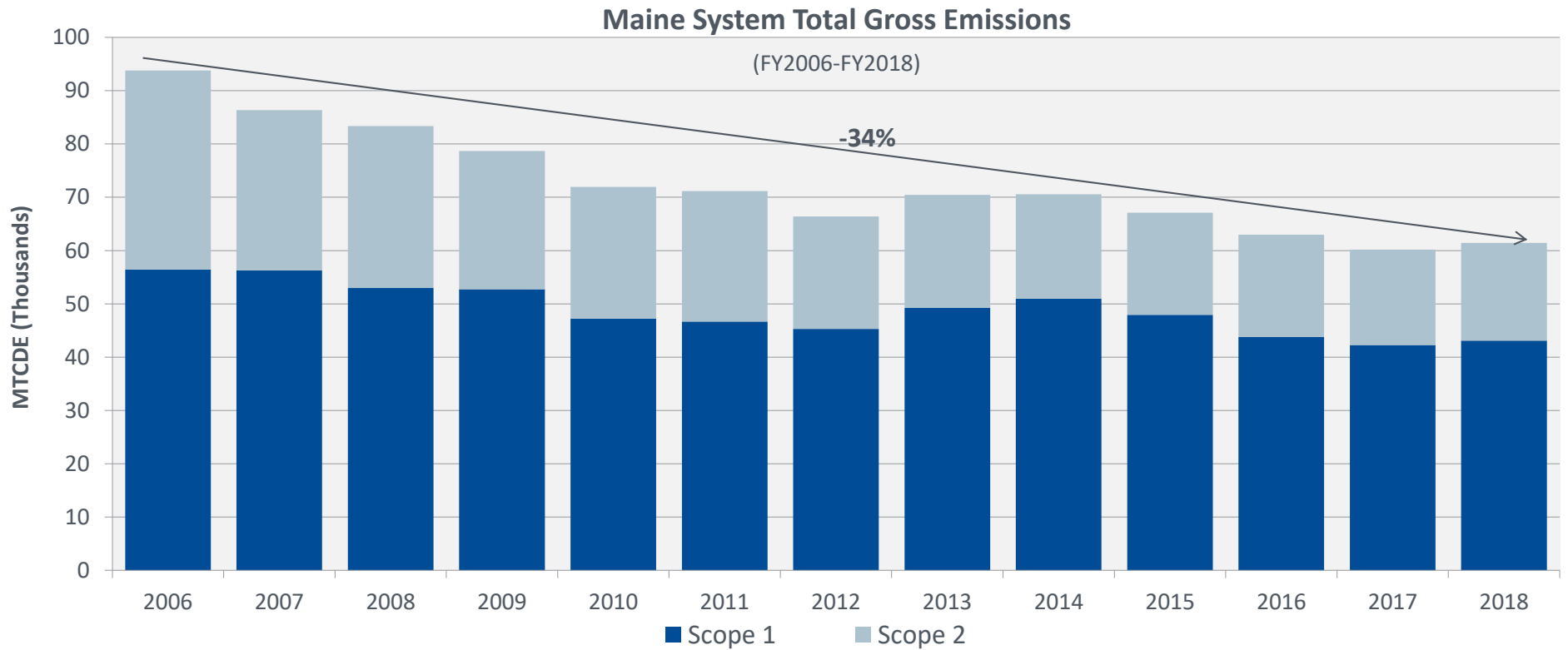
Asset Value Change

Total Capital Investment Increases From 2017

Total Capital Investment

$ in Millions (y-axis: $0.0 to $90.0)

Legend: Existing Space Investment | New Space Investment | Excluded Capital | Average

X-axis: FY06, FY07, FY08, FY09, FY10, FY11, FY12, FY13, FY14, FY15, FY16, FY17, FY18

Examples of Excluded Capital work include: Study/Design fees, IT work, and demolition costs. These are necessary capital costs for Facilities Operations but do not add value/enhance existing buildings.

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Capital Investment Profile Improving Over Time

Total Capital Investment

Chart legend: ■ Existing Space Investment — Average

Annotations on chart: FY06-FY12 Average $23.5M; FY13-FY18 Average $30.0M

Y-axis: $ in Millions

Examples of Excluded Capital work include: Study/Design fees, IT work, and demolition costs. These are necessary capital costs for Facilities Operations but do not add value/enhance existing buildings.

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Investments Focus on Existing Space

FY06-FY11

5%
46%
49%

FY12-FY17

16%
13%
71%

FY18

23%
14%
64%

■ Existing Space　　■ New Space　　■ Excluded Capital
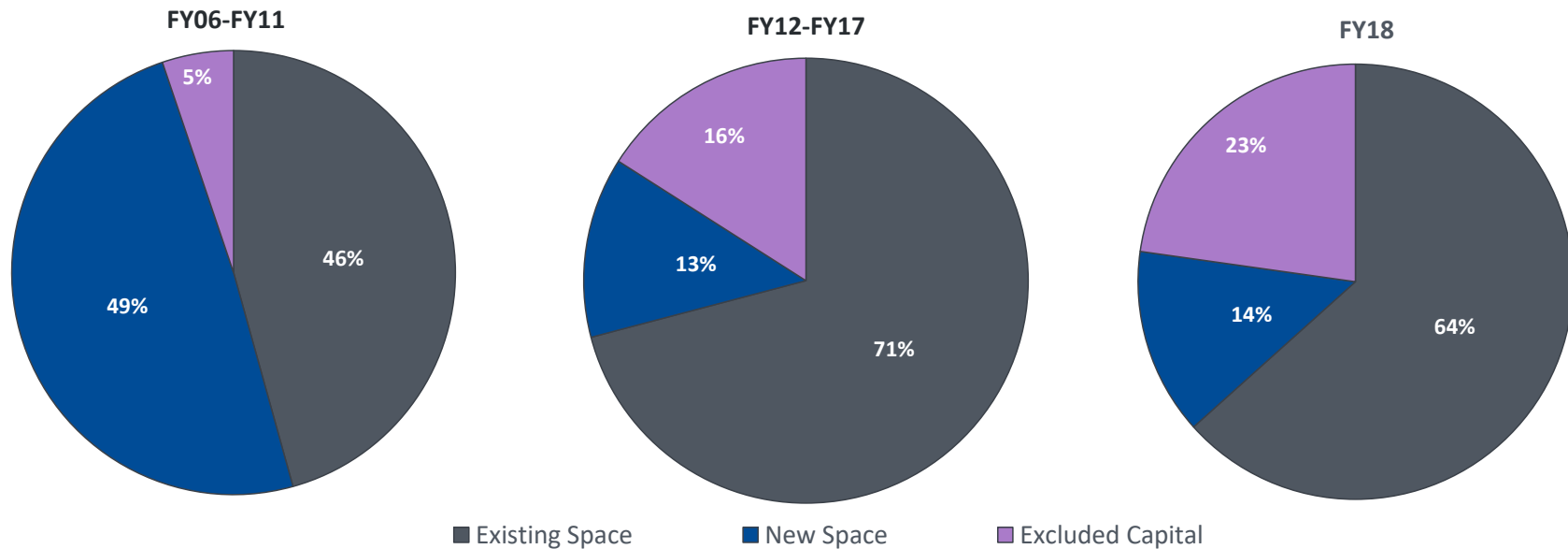
Significant Projects in FY18:
UM – Bears Den Renovation
UMA – Vet Tech & Science Lab Improv
USM – Philippi Envelope Renewal

New Space Projects in FY18:
UM – Plant Animal & Insect Lab

Examples of Excluded Capital work include: Study/Design fees, IT work, and demolition costs. These are necessary capital costs for Facilities Operations but do not add value/enhance existing buildings.

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Gap In Investment Widens

Total Project Spending into Existing Space

Legend: Maine System, Peer Average

Annotations: $1.26, $3.87, $0.57, $3.55

47

548

Project Selection Comparable To Peers

Maine System FY06-18
- 11% Building Envelope
- 32% Building Systems
- 30% Space Renewal
- 9% Safety/Code
- 18% Infrastructure

Peer Systems FY06-18
- 13% Building Envelope
- 28% Building Systems
- 30% Space Renewal
- 8% Safety/Code
- 20% Infrastructure

Legend:
- Building Envelope
- Building Systems
- Space Renewal
- Safety/Code
- Infrastructure

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Investment Shifts Away From Higher ROI Projects

UMS Investment Over Time

Legend: ■ Envelope/Mechanical ■ Space/Programming

Does not include infrastructure investments.

UMS FY18 Annual Investment Target: $37.5M

FY18 Annual Investment Target

Replacement Value: $2.5B

Functional obsolescence drives investment prior to life cycles & discounts the annual investment target

$76.4

$32.0

$28.7

$16.0

$21.5

3% Replacement Value	Life Cycle Need	Annual Investment Target
$76.4M	$60.7M	$37.5M

■ Envelope/Mechanical ■ Space/Program

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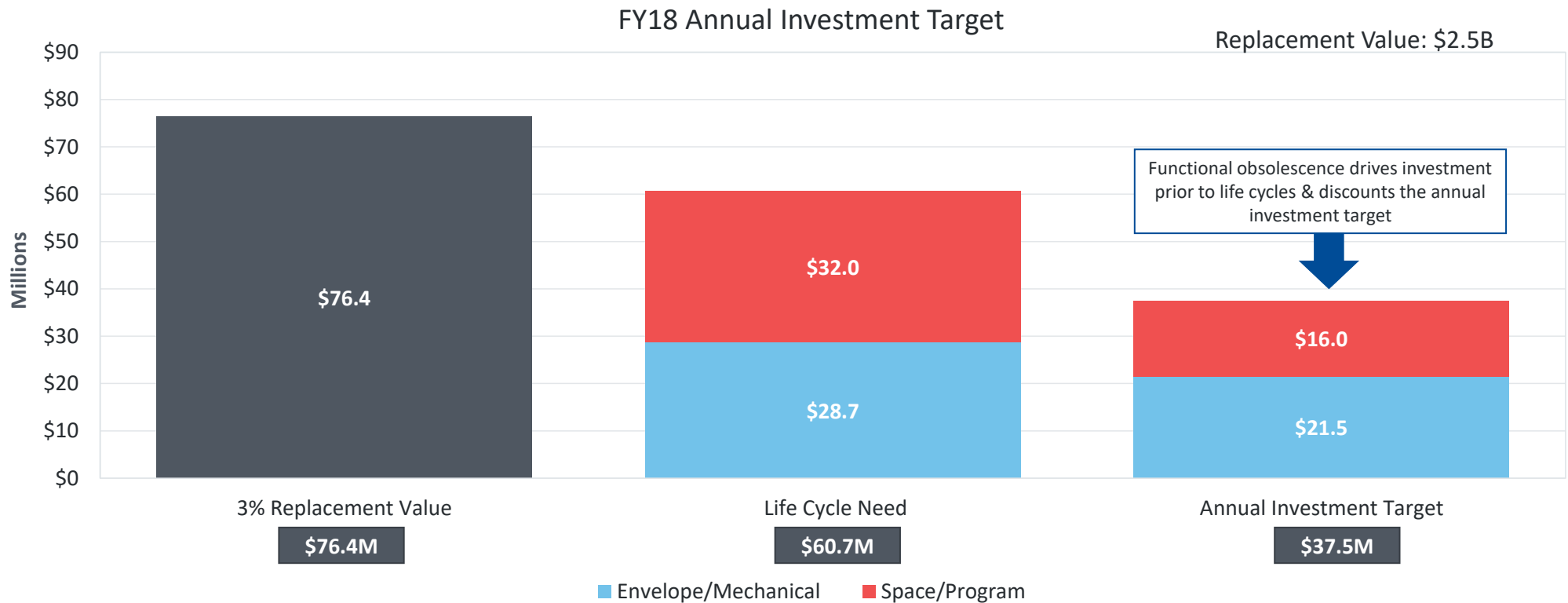
UMS Falls $19M Short of Annual Investment Target in FY18

Deferral to Backlog of Need Continues in FY2018

Historical Capital Investment in Existing Space vs Funding Target

Legend: Annual Stewardship, Asset Reinvestment, Annual Investment Target, Life Cycle Need

Does not include infrastructure, new space or excluded capital spending

51
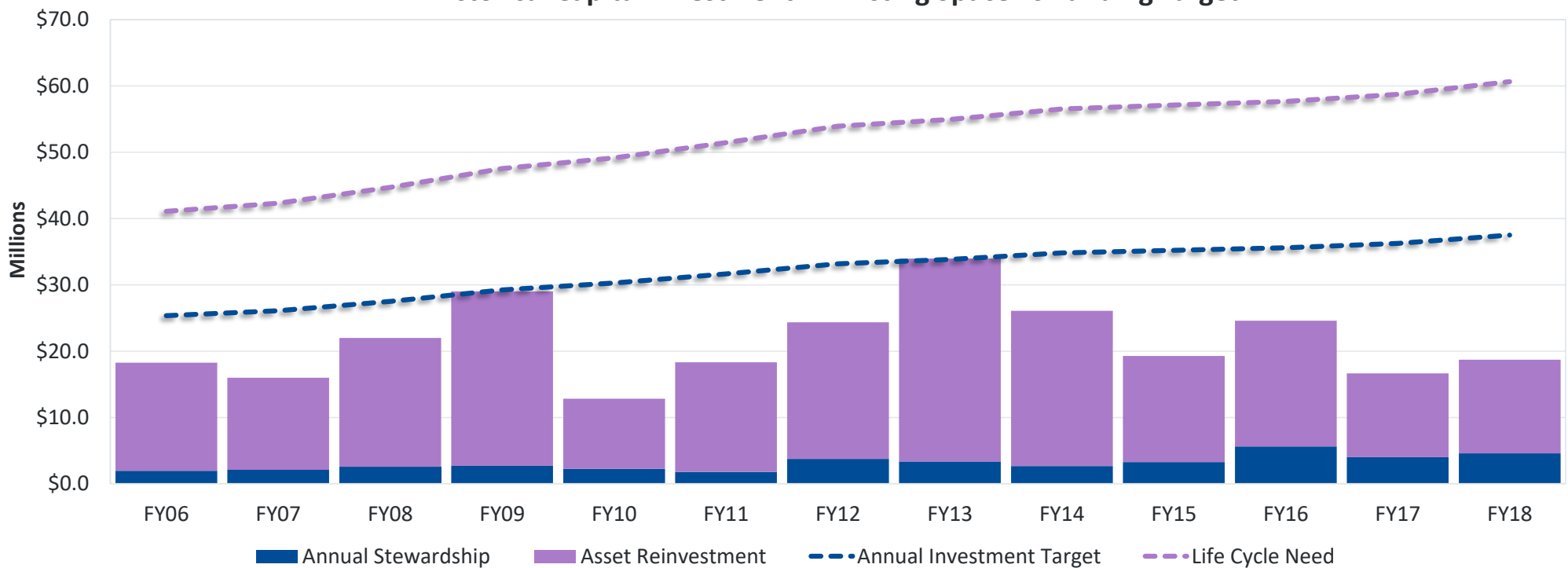
Rate of Deferral Slows But NAV Continues to Decrease

FY18 Net Asset Value
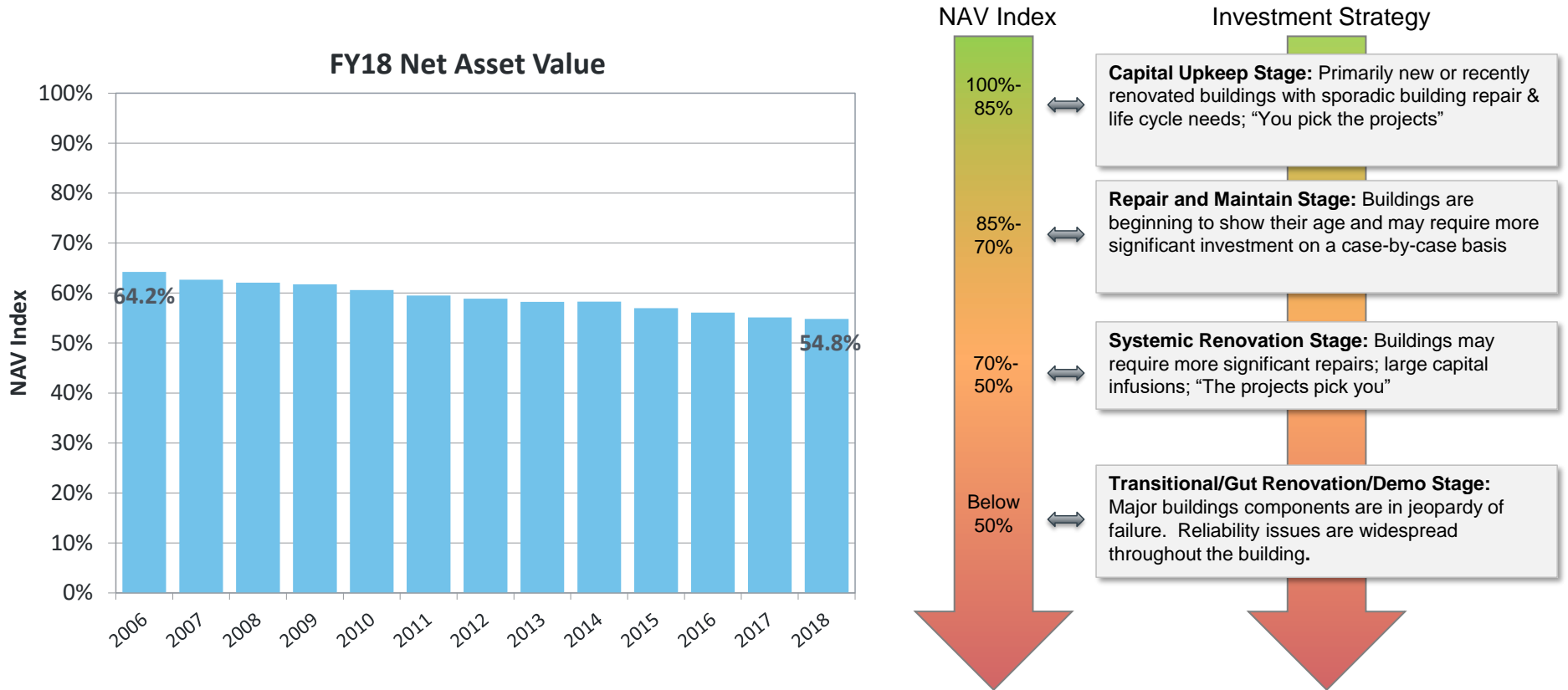

NAV Index   Investment Strategy

NAV Index	Investment Strategy
100%-85%	**Capital Upkeep Stage:** Primarily new or recently renovated buildings with sporadic building repair & life cycle needs; "You pick the projects"
85%-70%	**Repair and Maintain Stage:** Buildings are beginning to show their age and may require more significant investment on a case-by-case basis
70%-50%	**Systemic Renovation Stage:** Buildings may require more significant repairs; large capital infusions; "The projects pick you"
Below 50%	**Transitional/Gut Renovation/Demo Stage:** Major buildings components are in jeopardy of failure. Reliability issues are widespread throughout the building.

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$$\text{Net Asset Value} = \frac{\text{Replacement Value} - \text{Backlog}}{\text{Replacement Value}}$$

FY18 Net Asset Value By Campus

FY18 Net Asset Value

NAV Index — Investment Strategy

Capital Upkeep Stage: Primarily new or recently renovated buildings with sporadic building repair & life cycle needs; "You pick the projects"
(100%-85%)

Repair and Maintain Stage: Buildings are beginning to show their age and may require more significant investment on a case-by-case basis
(85%-70%)

Systemic Renovation Stage: Buildings may require more significant repairs; large capital infusions; "The projects pick you"
(70%-50%)

Transitional/Gut Renovation/Demo Stage: Major buildings components are in jeopardy of failure. Reliability issues are widespread throughout the building.
(Below 50%)

Campus bars: UMA, UMFK, UMF, UMM, UMPI, USM, UM

$$\text{Net Asset Value} = \frac{\text{Replacement Value} - \text{Backlog}}{\text{Replacement Value}}$$

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ROPA+ Prediction

ROPA+ Prediction Overview

Regionalized costs based on comprehensive database of building systems
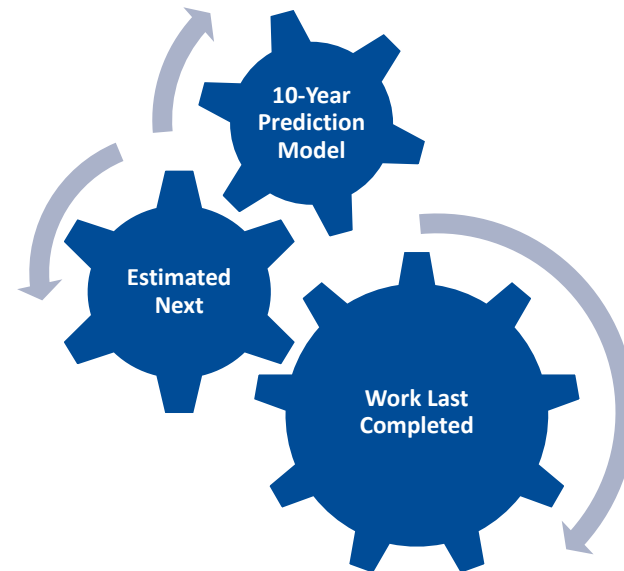
6 Subsystems

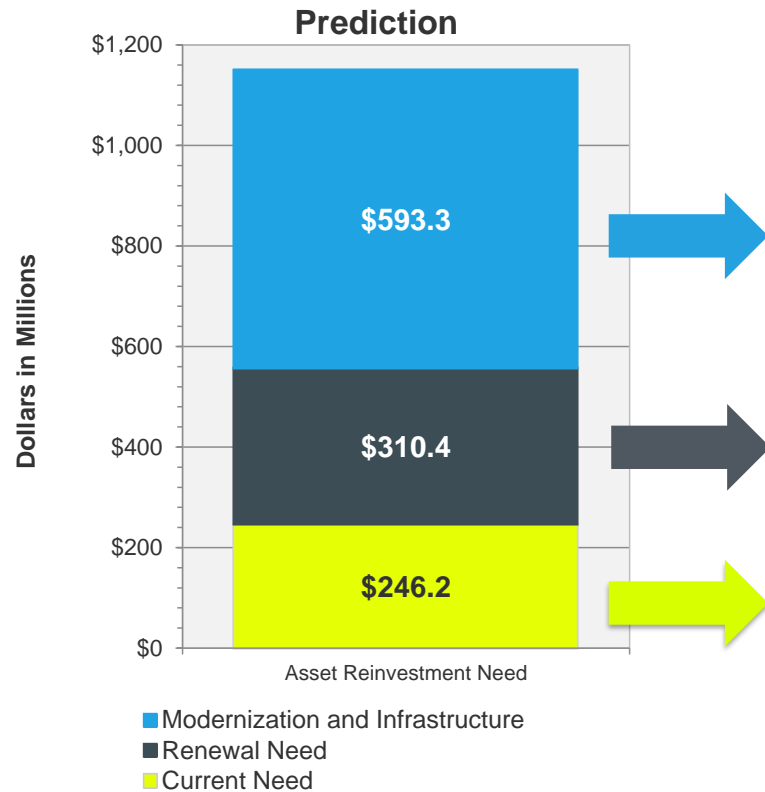**Roof**
Envelope
HVAC Systems
Electrical
Plumbing
Interiors

96% of Building Costs

10-Year Prediction Model

Estimated Next

Work Last Completed

$1.15B of Need at UMS Over the Next 10 Years

Current Need or Deferred Maintenance accounts for 20% of total need, $246.2M

Prediction

Dollars in Millions

- $593.3
- $310.4
- $246.2

Asset Reinvestment Need

- Modernization and Infrastructure
- Renewal Need
- Current Need

✓ Modernization and Infrastructure Needs
✓ Estimated using a combination of the Sightlines' database and BPS analyses.

✓ **Combination of Funds**

✓ Life Cycle Needs coming due between 2019-2028

✓ **"Keep-Up" Funds**

✓ Deferred Maintenance
✓ The subsystem has already failed
✓ The subsystem is functioning with substantial degradation of efficiency or performing at increased cost
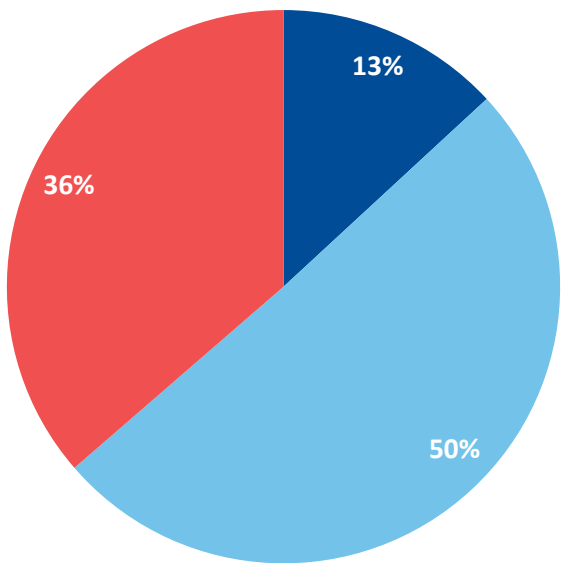
✓ **"Catch-Up" Funds**

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Majority of Current Need Falls into HVAC and Building Exteriors

Prediction

Distribution of Current Need by System
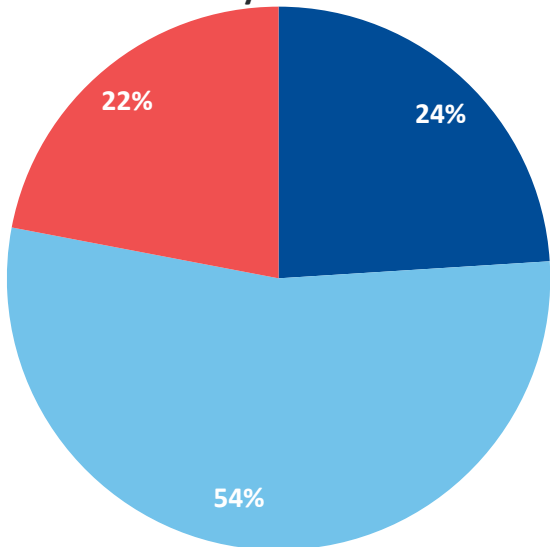
57

558
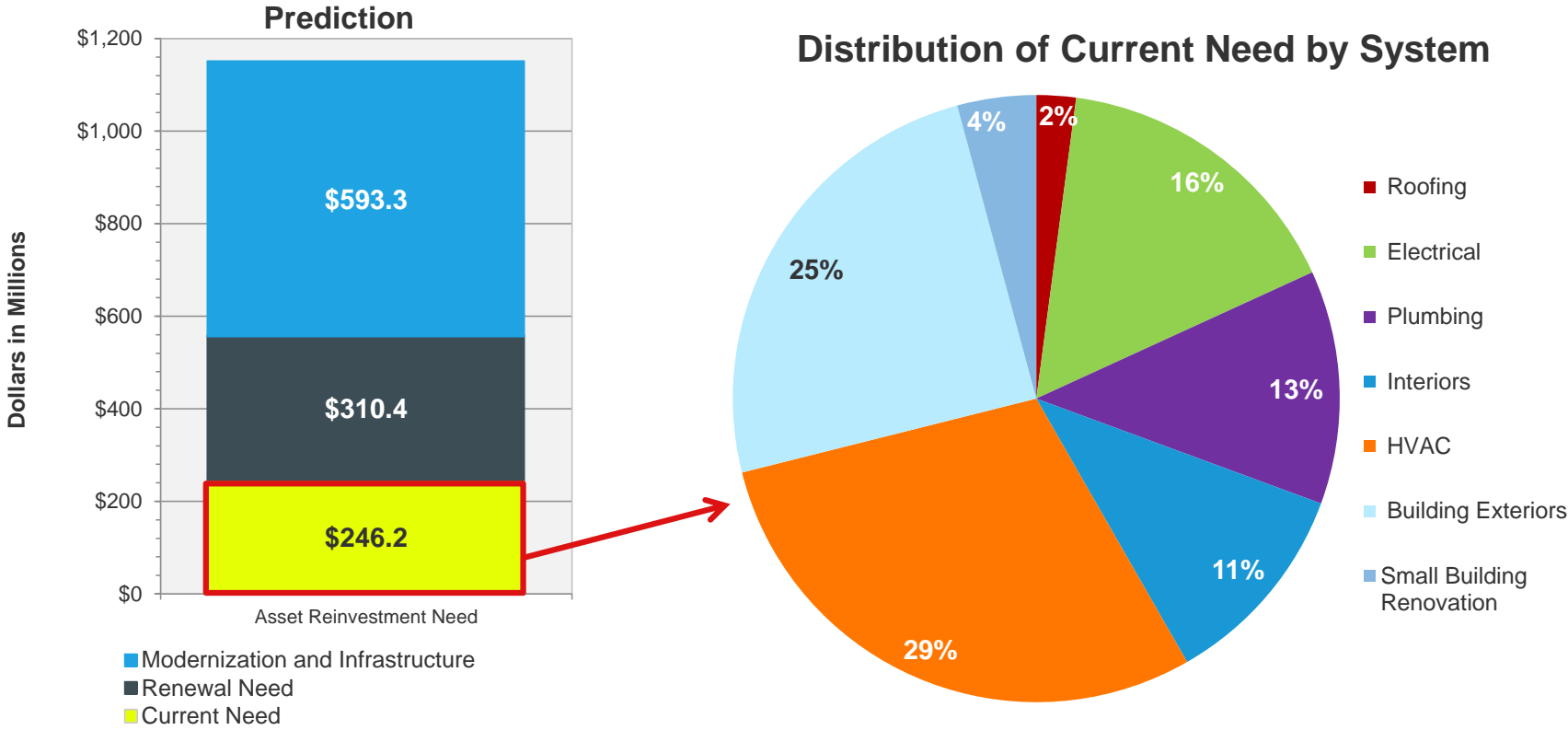
Envelope/Mechanical Requirements Account For 78% of 10 Year Need

Stronger investment in mechanical work needed in future years

2006-2018 Historical Project Investment

13%
36%
50%

$282M Invested

Distribution of Maine System Need* by System

24%
22%
54%

$557M of Need

■ Envelope ■ Mechanical ■ Interiors

*Need includes backlog and renewal projects, not modernization or infrastructure work
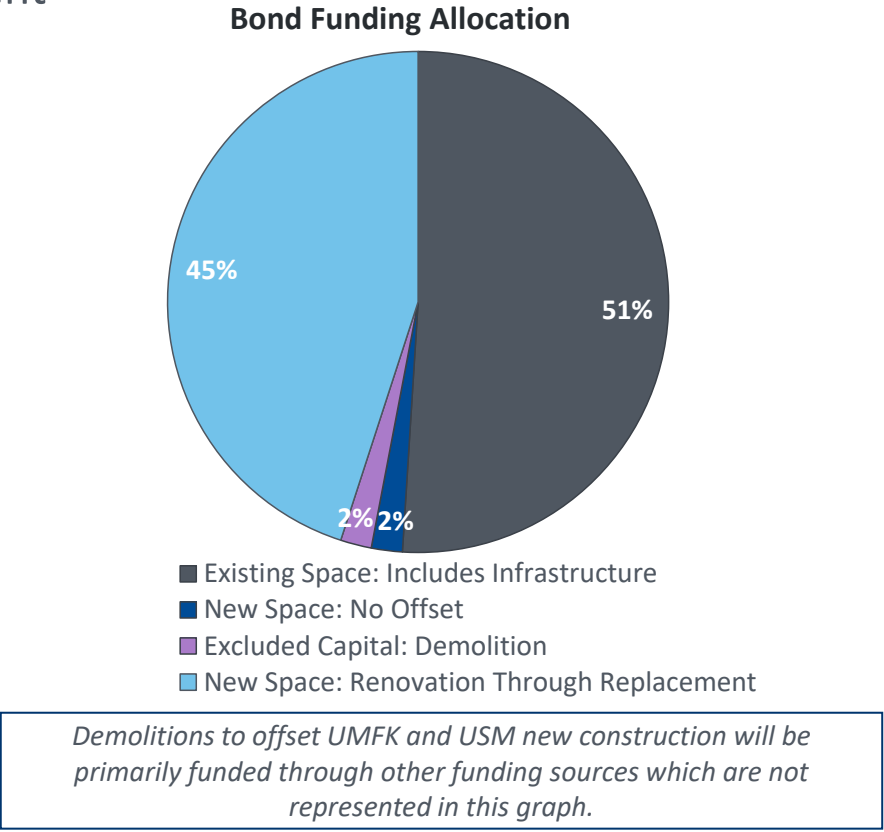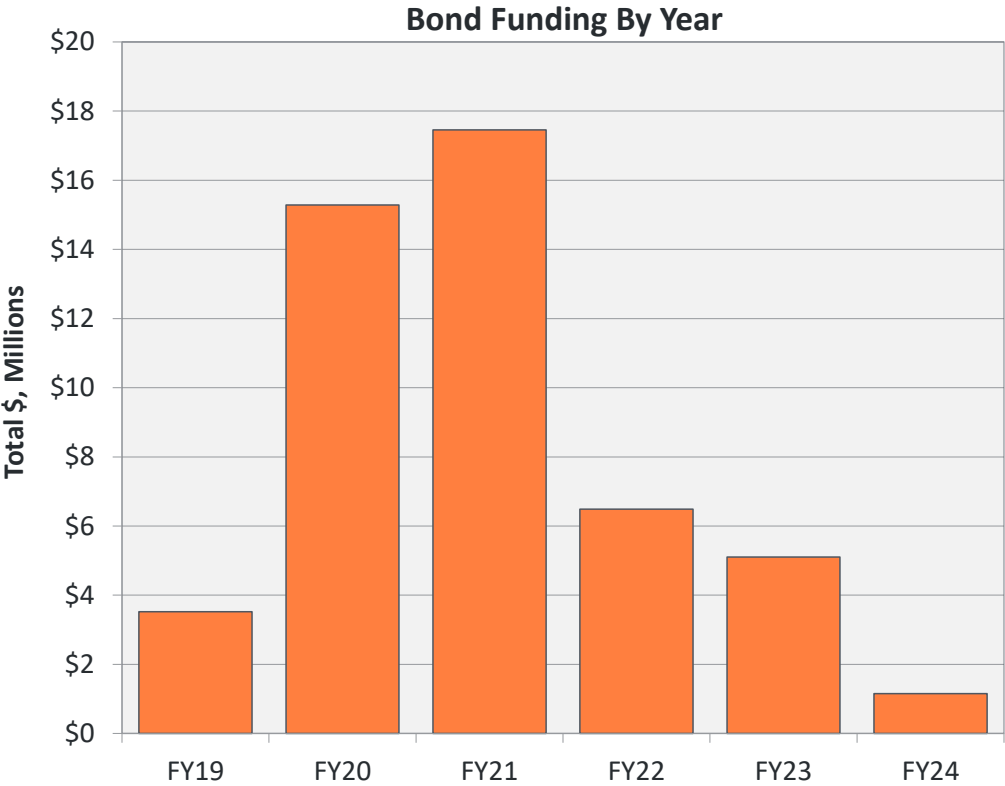
58

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Strategic Roadmap to Achieve UMS Goals
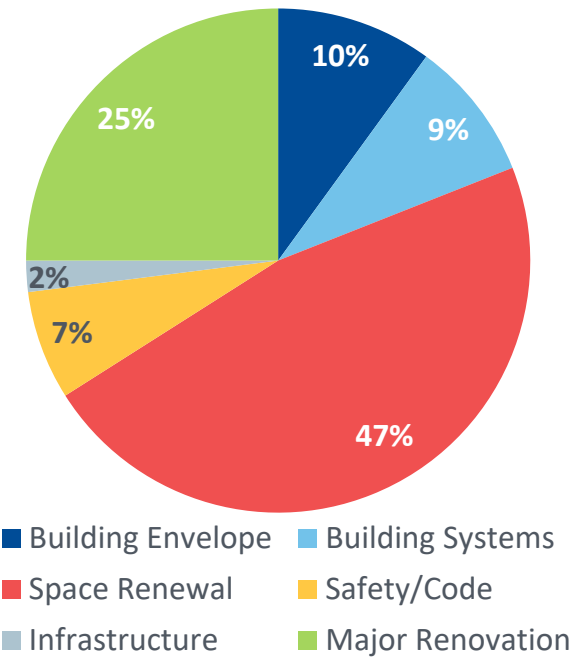
Bond Allocation Split Between Existing Space and New Space

FY20 and FY21 will see the majority of investment

Bond Funding By Year

Bond Funding Allocation

Existing Space: Includes Infrastructure
New Space: No Offset
Excluded Capital: Demolition
New Space: Renovation Through Replacement

Demolitions to offset UMFK and USM new construction will be primarily funded through other funding sources which are not represented in this graph.

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Existing Space Spending Breakout

25% of existing space allocation is towards major renovations that may reset building life cycles
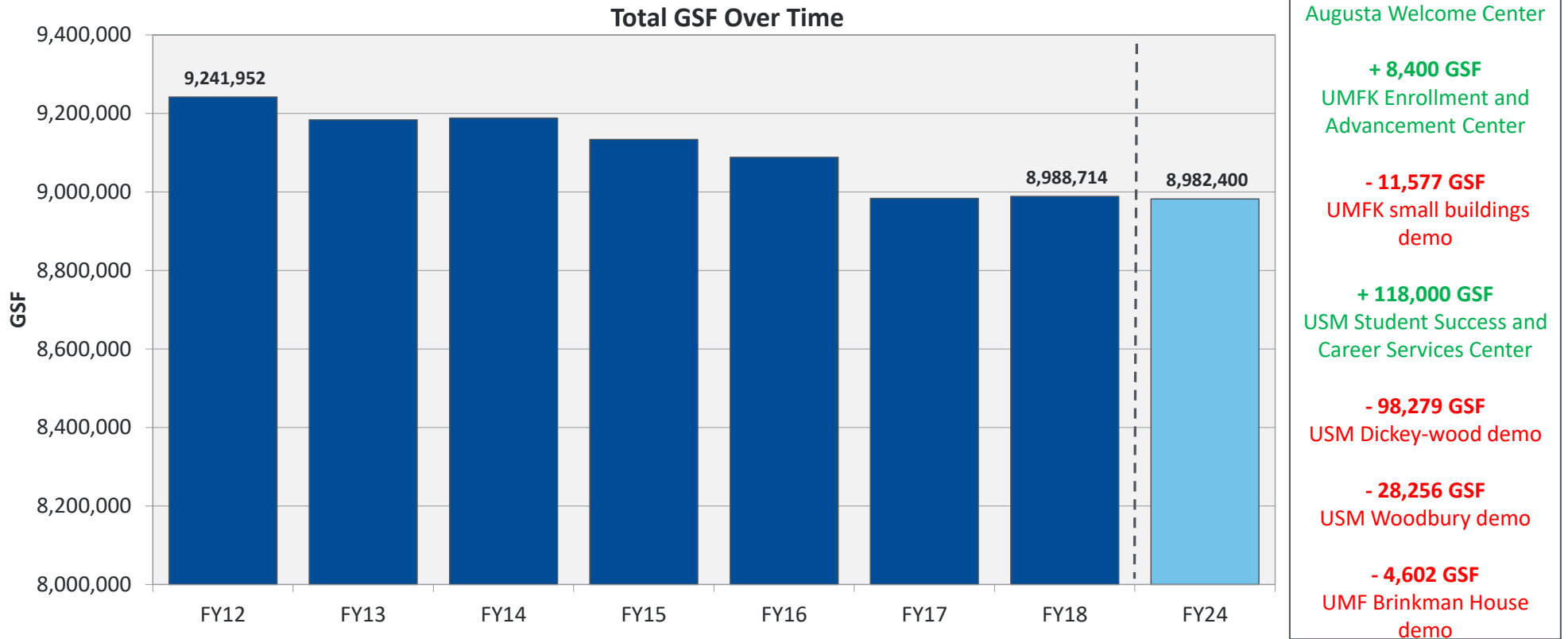
Existing Space Spending Allocation

Pie chart:
- 10% Building Envelope
- 9% Building Systems
- 47% Space Renewal
- 7% Safety/Code
- 2% Infrastructure
- 25% Major Renovation

Legend:
- Building Envelope
- Building Systems
- Space Renewal
- Safety/Code
- Infrastructure
- Major Renovation

Major Renovation Projects

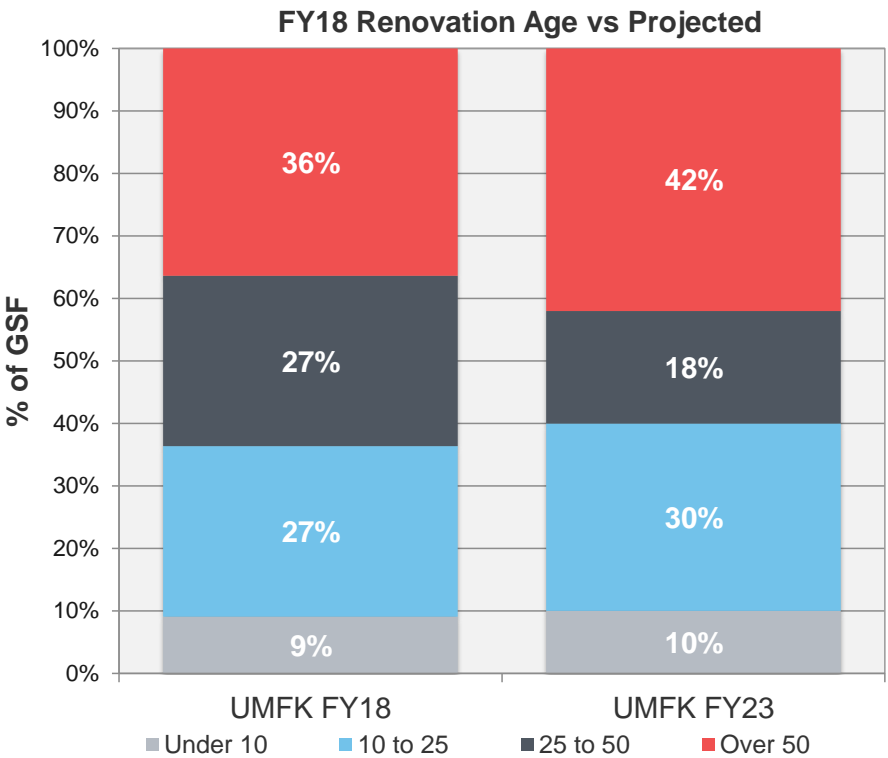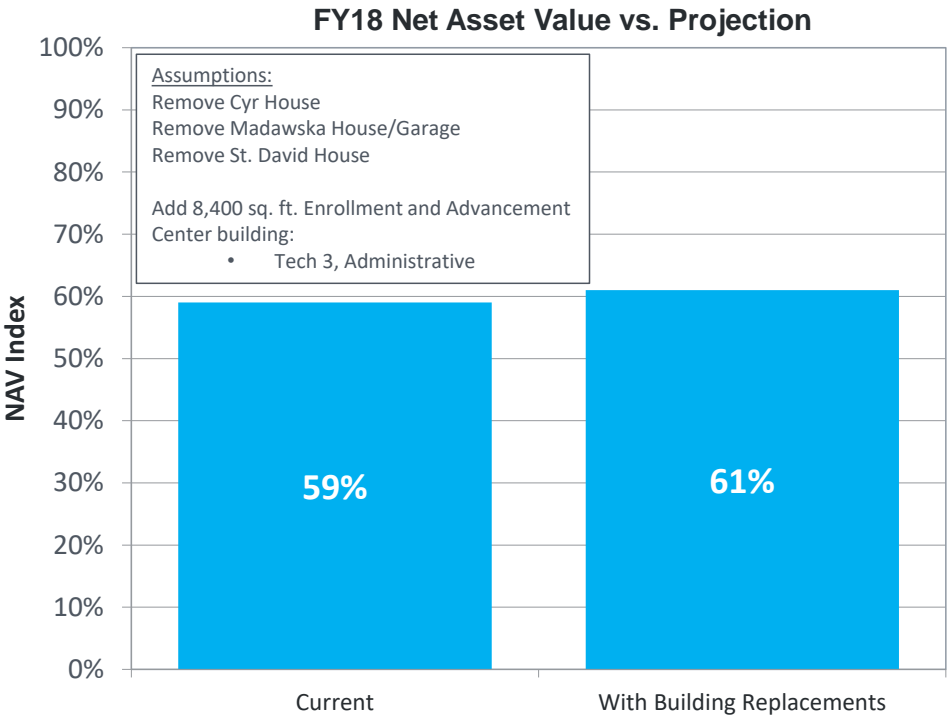|	
UMF	
OLSEN STUDENT CENTER	
Olsen Student Center Renovation	$ 1,900,000.00
UMPI	
WIEDEN HALL	
Infrastructure improvements to support allied health program growth and gymnasium functionality and accessibility.	$ 4,038,500.00
Grand Total	**$ 5,938,500.00**

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Stable GSF Projected With Bond Plan

New construction coupled with demolitions will net a similar GSF in FY24

Total GSF Over Time

Assumptions

+ 10,000 GSF
Augusta Welcome Center

+ 8,400 GSF
UMFK Enrollment and
Advancement Center

- 11,577 GSF
UMFK small buildings
demo

+ 118,000 GSF
USM Student Success and
Career Services Center

- 98,279 GSF
USM Dickey-wood demo

- 28,256 GSF
USM Woodbury demo

- 4,602 GSF
UMF Brinkman House
demo

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Note: FY24 GSF projection is based on assumptions listed above.
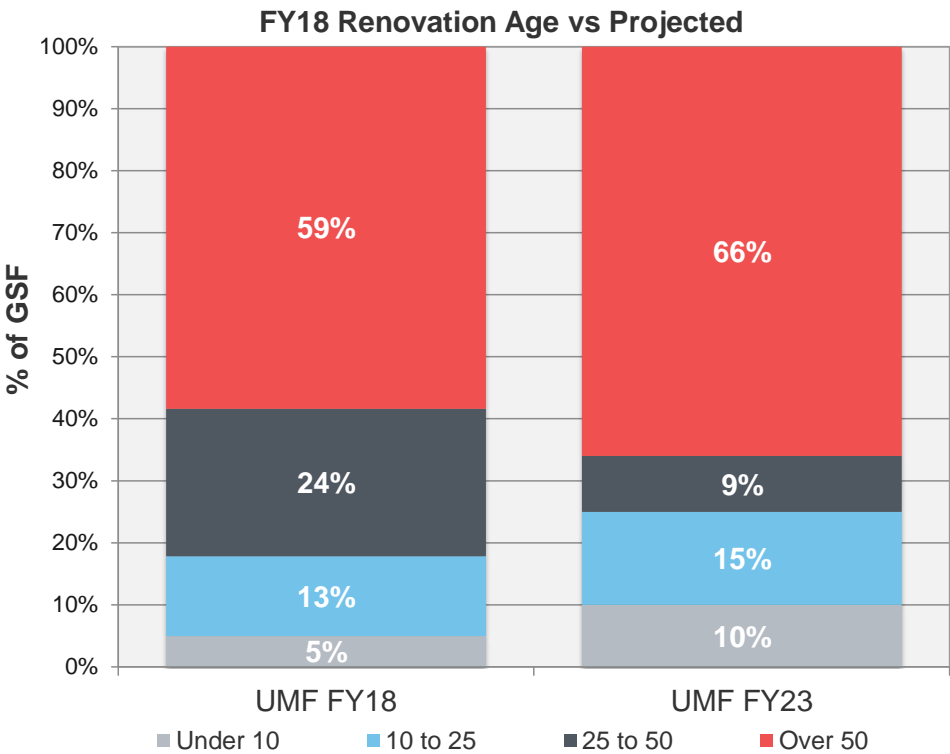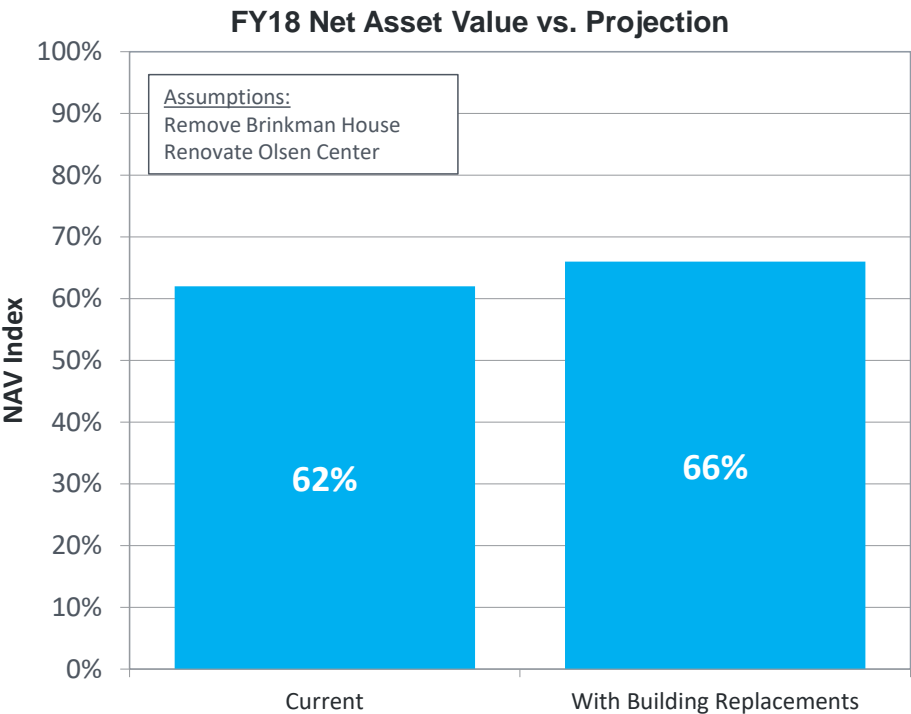Actual change in GSF is dependent on approval of projects.

563

UMFK NAV Scenario

NAV would increase by about 2% with Enrollment and Advancement Center replacing smaller buildings on campus

FY18 Net Asset Value vs. Projection

Assumptions:
Remove Cyr House
Remove Madawska House/Garage
Remove St. David House

Add 8,400 sq. ft. Enrollment and Advancement Center building:
- Tech 3, Administrative

Current: 59%
With Building Replacements: 61%

FY18 Renovation Age vs Projected

UMFK FY18: 36%, 27%, 27%, 9%
UMFK FY23: 42%, 18%, 30%, 10%

Legend: Under 10, 10 to 25, 25 to 50, Over 50

$$\text{Net Asset Value} = \frac{\text{Replacement Value} - \text{Backlog}}{\text{Replacement Value}}$$

63

UMF NAV Scenario

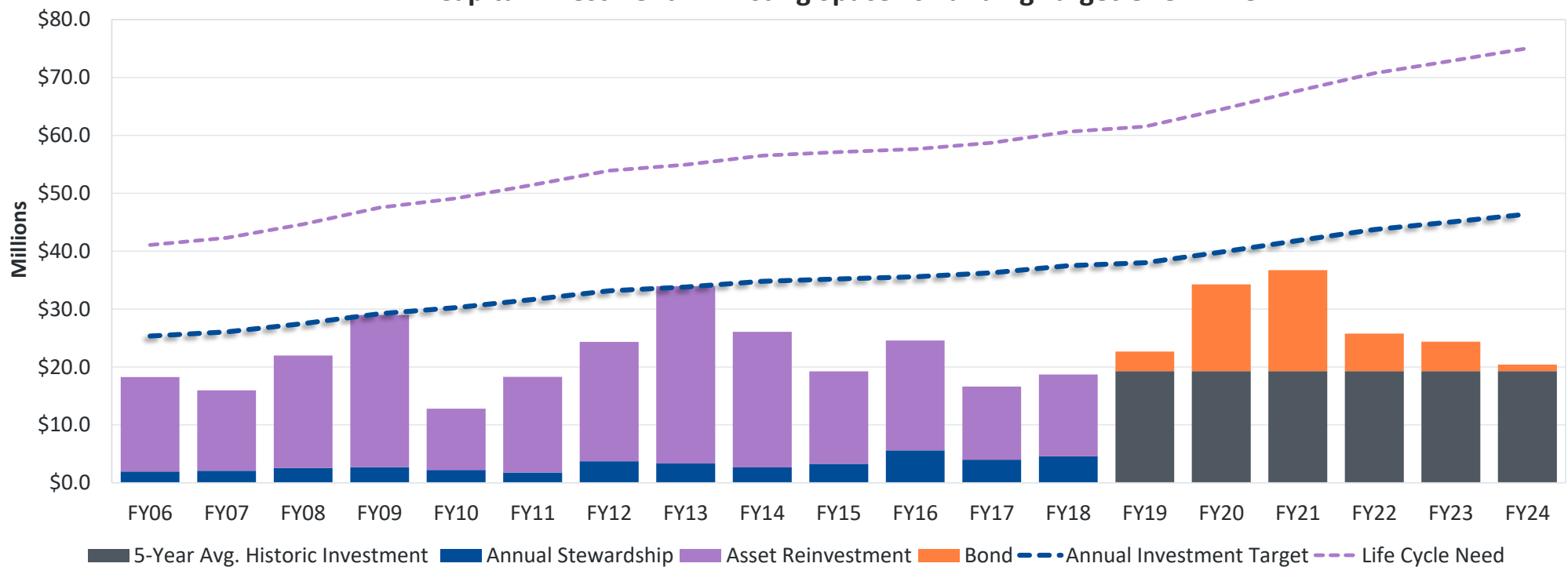UMF plan will remove $10M of backlog from inventory

FY18 Net Asset Value vs. Projection

Assumptions:
Remove Brinkman House
Renovate Olsen Center

Current: 62%
With Building Replacements: 66%

NAV Index

FY18 Renovation Age vs Projected

% of GSF

UMF FY18: 59%, 24%, 13%, 5%
UMF FY23: 66%, 9%, 15%, 10%

Under 10 | 10 to 25 | 25 to 50 | Over 50

Net Asset Value = $\dfrac{\text{Replacement Value} - \text{Backlog}}{\text{Replacement Value}}$

64

Sightlines' Target Not Met With Existing Space Investment Plans

Graph assumes UMS will fund the campuses at 5-year historic levels, excluding other bonds

Capital Investment in Existing Space vs Funding Target Over Time

Legend: 5-Year Avg. Historic Investment | Annual Stewardship | Asset Reinvestment | Bond | Annual Investment Target | Life Cycle Need

65

Historical data does not include infrastructure, new space or excluded capital spending

566

Concluding Comments

Concluding Comments

✓**Utilize UMS Bond Funding to Bolster Capital Investments**

- Strategic allocation of the UMS bond will be critical to moving towards KPI goals of increasing Net Asset Value and decreasing space over 50 years old.

- The current plan (demolitions and renovations) coupled with other demolitions funded through additional sources will take $17M of need off the system inventory.

- Despite the increased investment, there is still a gap between actual investment and the Sightlines' recommended target.

  - Strategic project selection within existing buildings will be critical to address deferred maintenance in older spaces not being targeted though the bond.

  - Continue to assess older buildings and utilization to determine if any can be removed from the inventory.

✓**Understand Operating Performance**

- Continue work on getting AiM system fully functioning throughout the system with adequate support at the campuses to input the appropriate information in a timely manner. This will help develop system wide reports to track and monitor operating resources.

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Questions and Comments

Appendix: UMS Key Performance Indicators

Using Sightlines Data to Monitor UMS KPIs

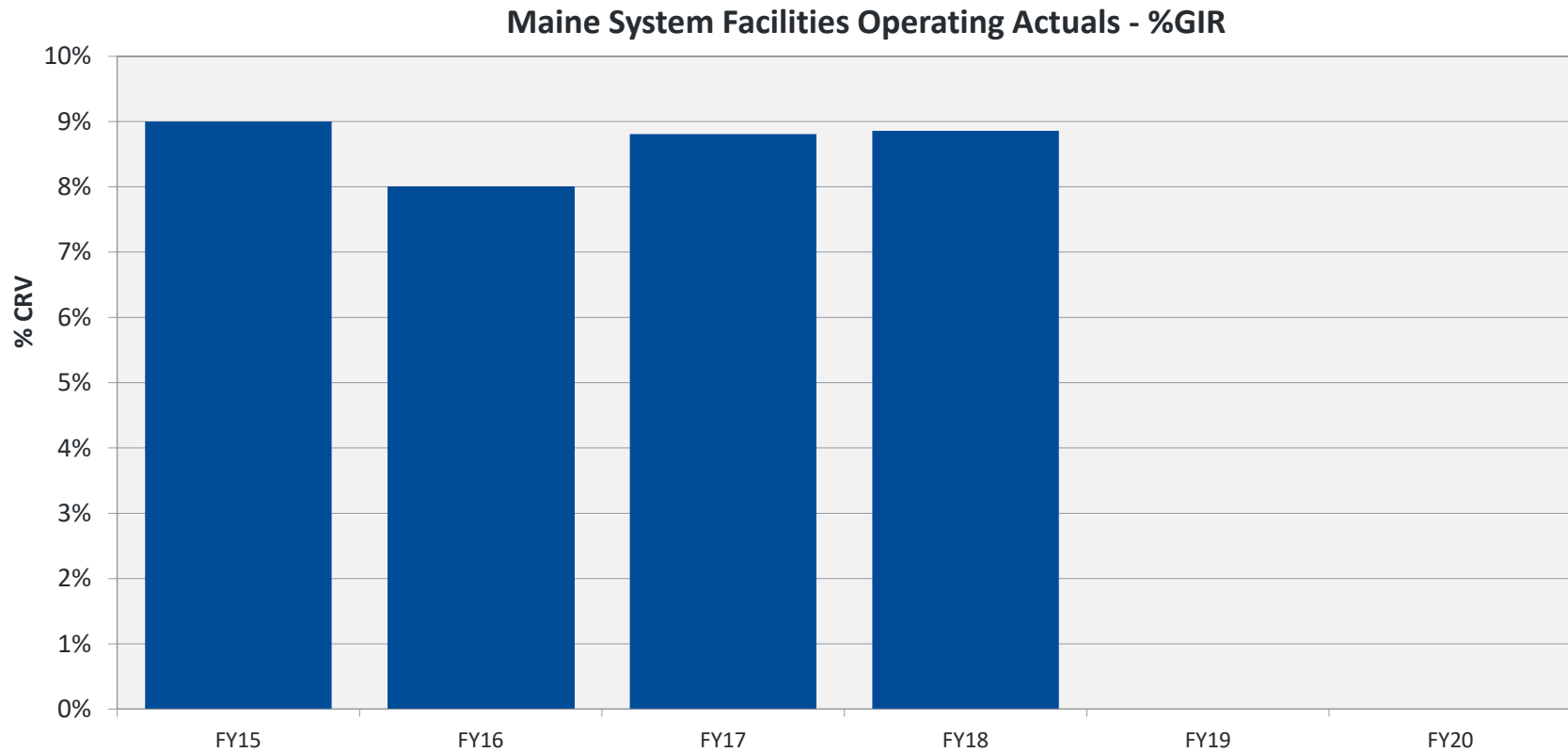| 1. Density: Number of users	2. NAV: Net Asset Value	3. Capital Expenditures on Existing Space; *%CRV*
□ Current UMS measure: 297 □ Interim Goal: 332 □ Peer/Industry standard: 460 □ Long-term System goal: 415	□ Current UMS measure: 59% □ Interim Goal: 63.5% □ Peer/Industry standard: 75% □ Long-term System goal: 70%	□ Current UMS measure: 1.88-2.34% □ Peer/Industry standard: <1.5% □ Periodic reporting recommended.
4. Annual Facilities Operating Expenses; *Maintenance, Custodial, Grounds, & Paid Utilities % GIR*	5. Total Cost of Ownership (TCO);	6. Energy Cost; *per GSF*
□ Current UMS measure: 9.67% □ At this time, there are no commonly accepted standards in this area. UMS will continue to track, report, & internally benchmark their progress.	□ UMS should formally consider lifetime cost of a facility and other KPIs in planning and decision making, not only one-time construction costs.	□ Current UMS measure: $1.72 □ Peer/Industry standard: $1.98 □ Periodic reporting recommended.
7. Annual Facilities Operating Expenses; *Maintenance, Custodial, Grounds, & Paid Utilities % CRV*	8. Annual Facilities Operating Expenses; *Maintenance, Custodial, Grounds, & Paid Utilities per GSF*	9. Preventive Maintenance/ Demand Maintenance; *% Annual Expenditures*
□ Current UMS measure: 2.89 - 3.60% □ Peer/Industry standard: TBD □ Periodic reporting recommended.	□ Current UMS measure: $6.70 □ Peer/Industry standard: $6.13 □ Establishment of specific goals to be revisited in FY17.	□ Current UMS measure: 3% □ Peer/Industry standard: in evaluation □ Establishment of specific goals to be revisited in FY17.
10. Coverage: FTE (Maintenance, Custodial, Grounds); *per GSF*	11. Energy Cost; *per Million BTUs*	12. Energy BTUs; *per GSF*
□ Continue to monitor GSF/FTE ratios. □ Strive to meet or exceed APPA/Sightlines benchmarks, i.e.: Custodial target zone: 29,213 – 37,000 GSF/FTE	□ Current UMS measure: $17.73 □ Peer/Industry standard: $19.00 □ Periodic reporting recommended.	□ Current UMS measure: 97,015 □ Peer/Industry standard: 121,131 □ Continue to meet/exceed peer/industry standards, strive to improve existing UMS performance, & establish specific goal for FY16.

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Density Factor

Density: Measures number of users per 100,00 GSF

Density Factor
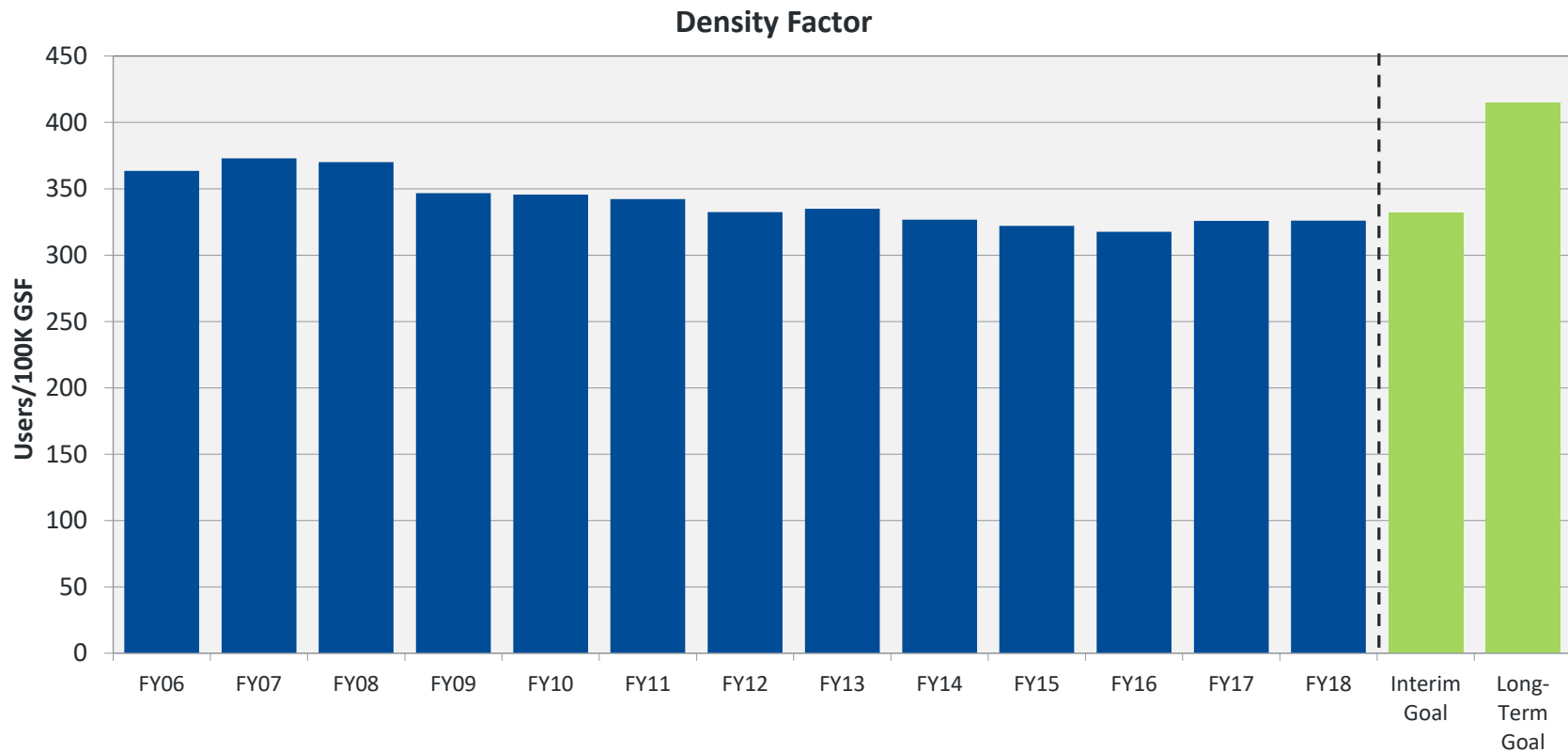
Net Asset Value

Net Asset Value

Facilities Operating Actuals as % of GIR

Maine System Facilities Operating Actuals - %GIR

This information will be tracked moving forward.
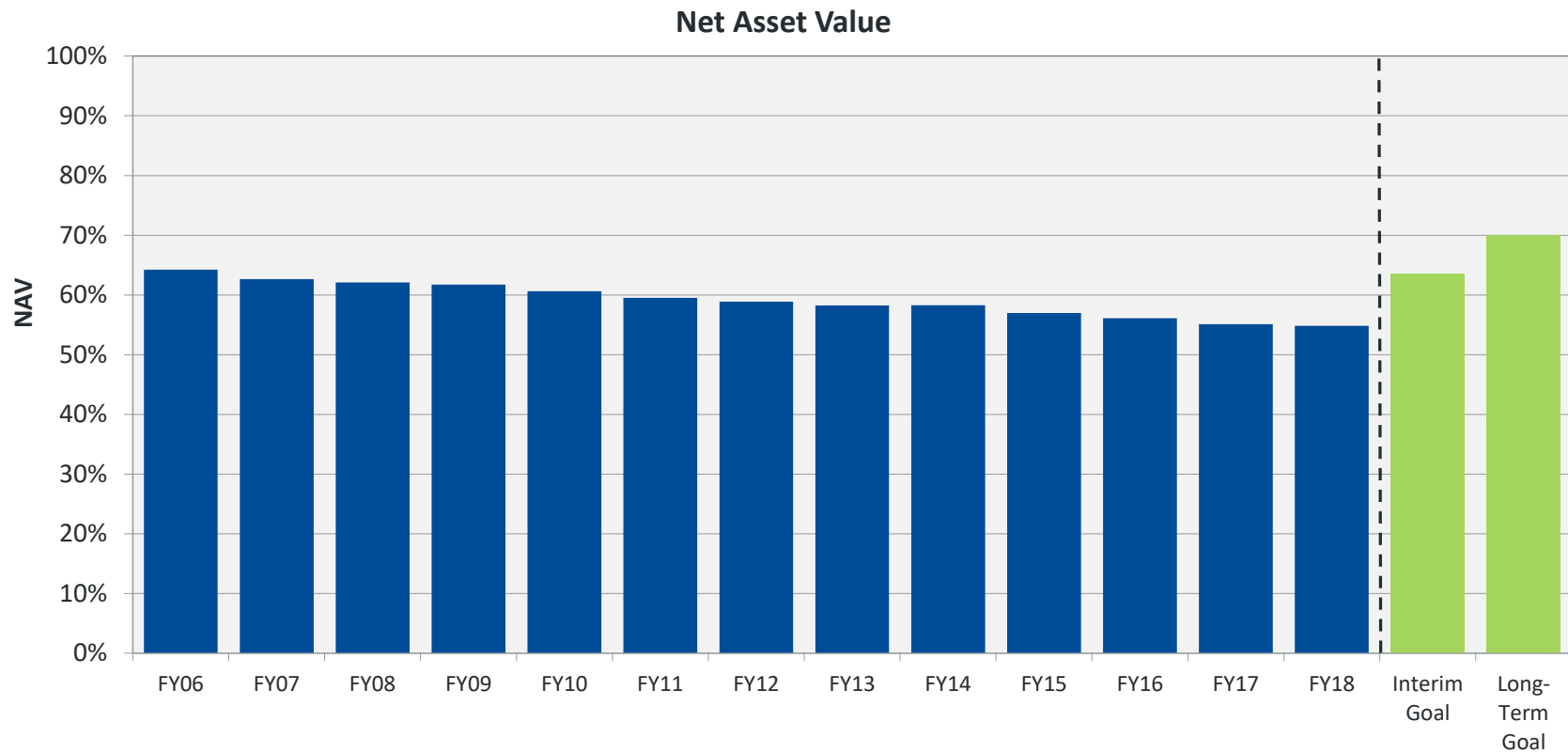
Capital Spending - % CRV

Existing space investment only

Existing Space Spending - % CRV

74

Facilities Operating Actuals as % of CRV
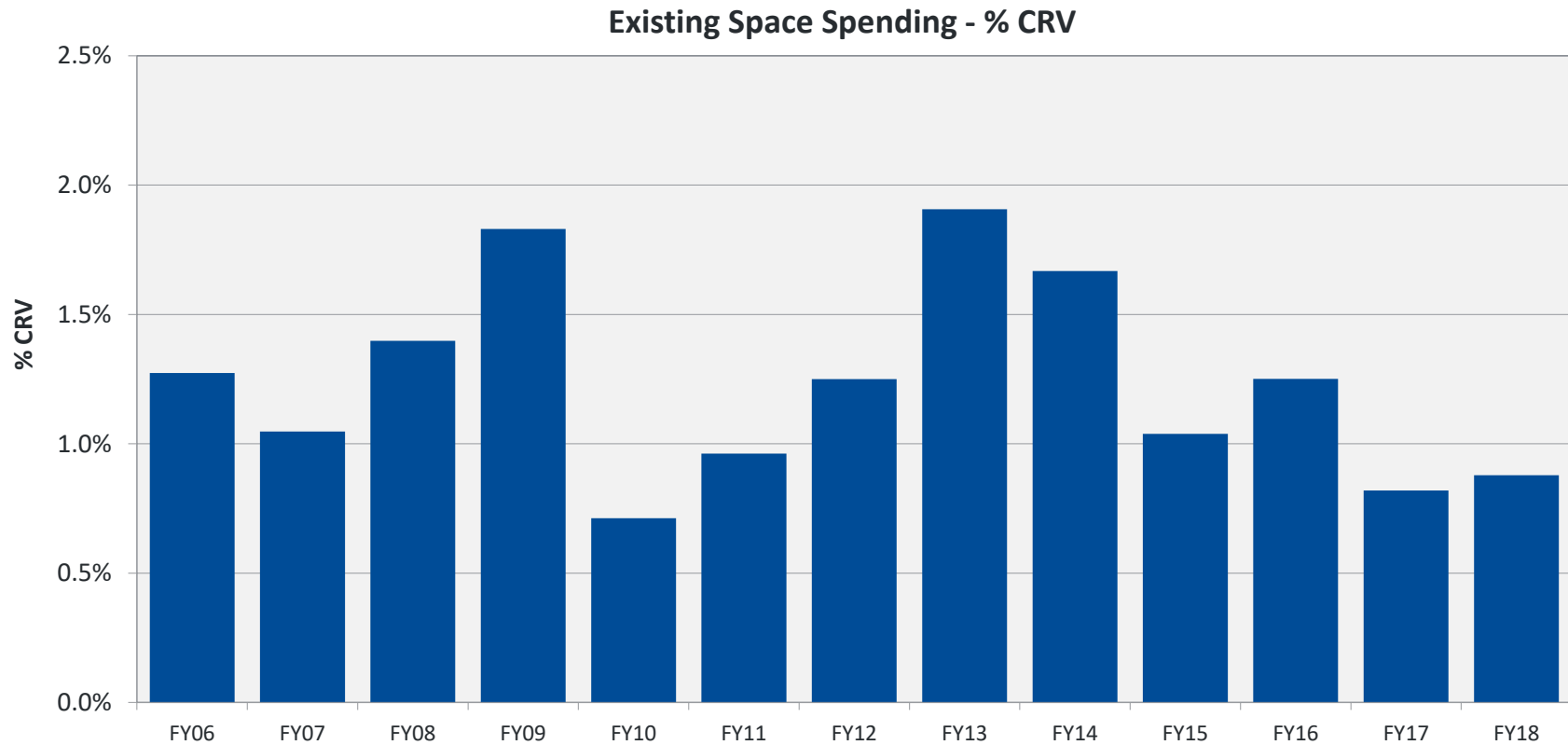
Maine System Facilities Operating Actuals - %CRV
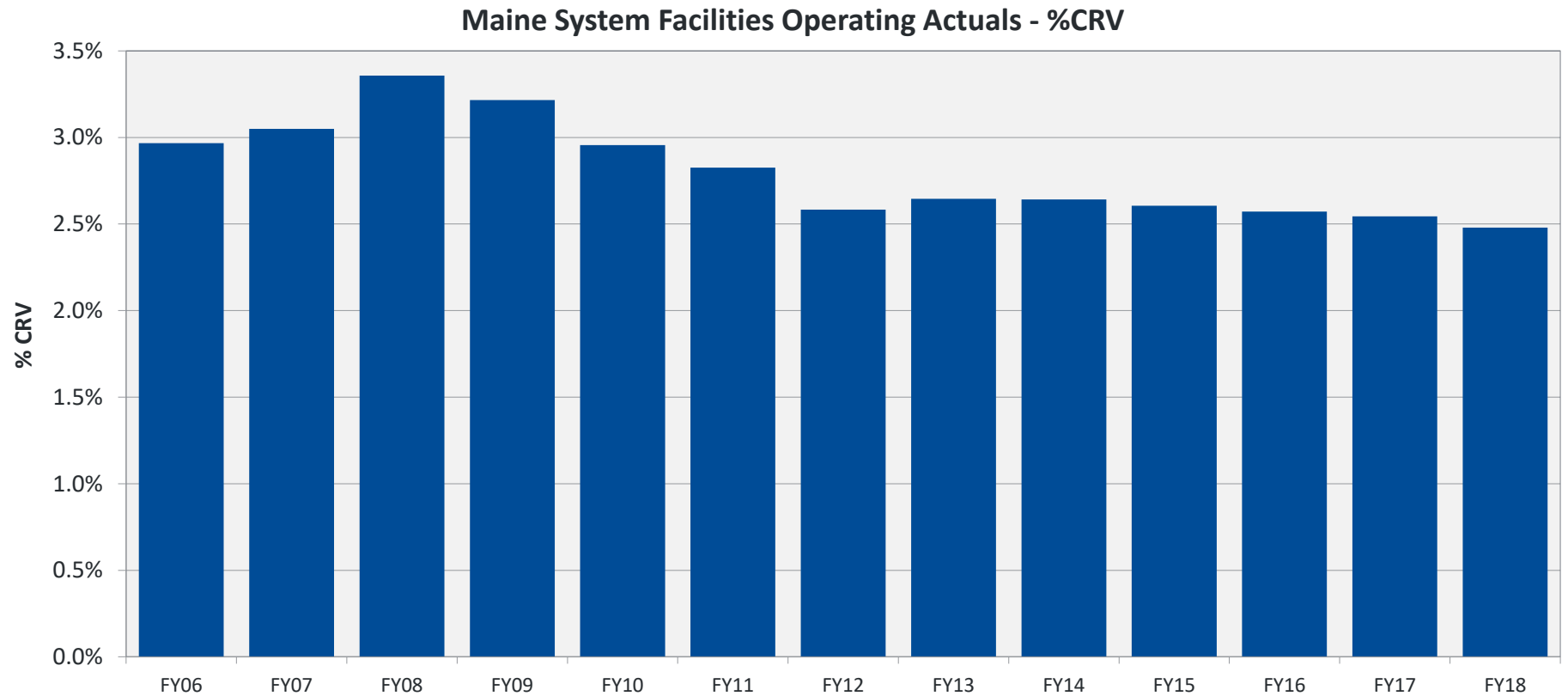
Facilities Operating Budget Actuals

Maine System Facilities Operating Actuals - $/GSF

Legend: ■ Daily Service ■ Planned Maintenance ■ Utilities

76

577

Planned Maintenance

Planned Maintenance - % of Budget
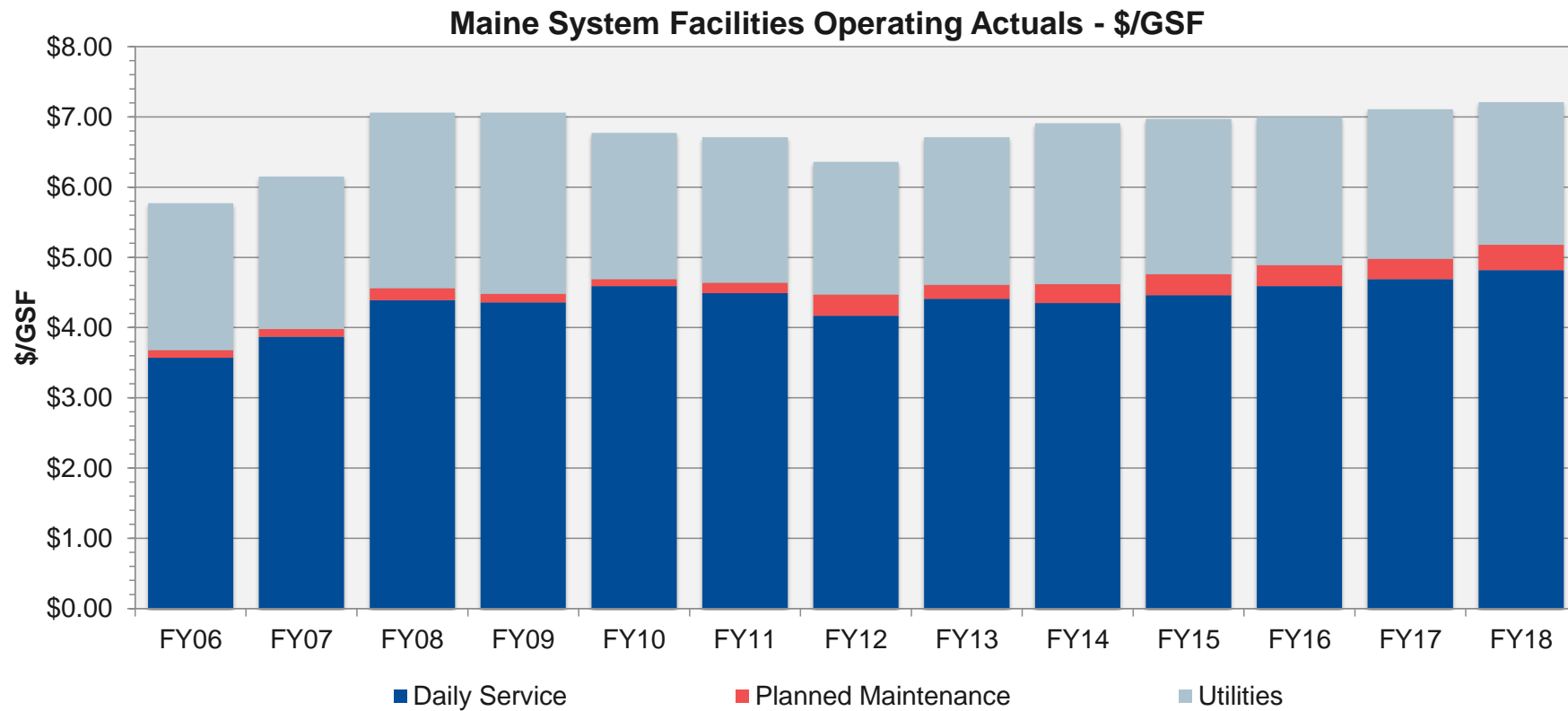
Maintenance Staffing
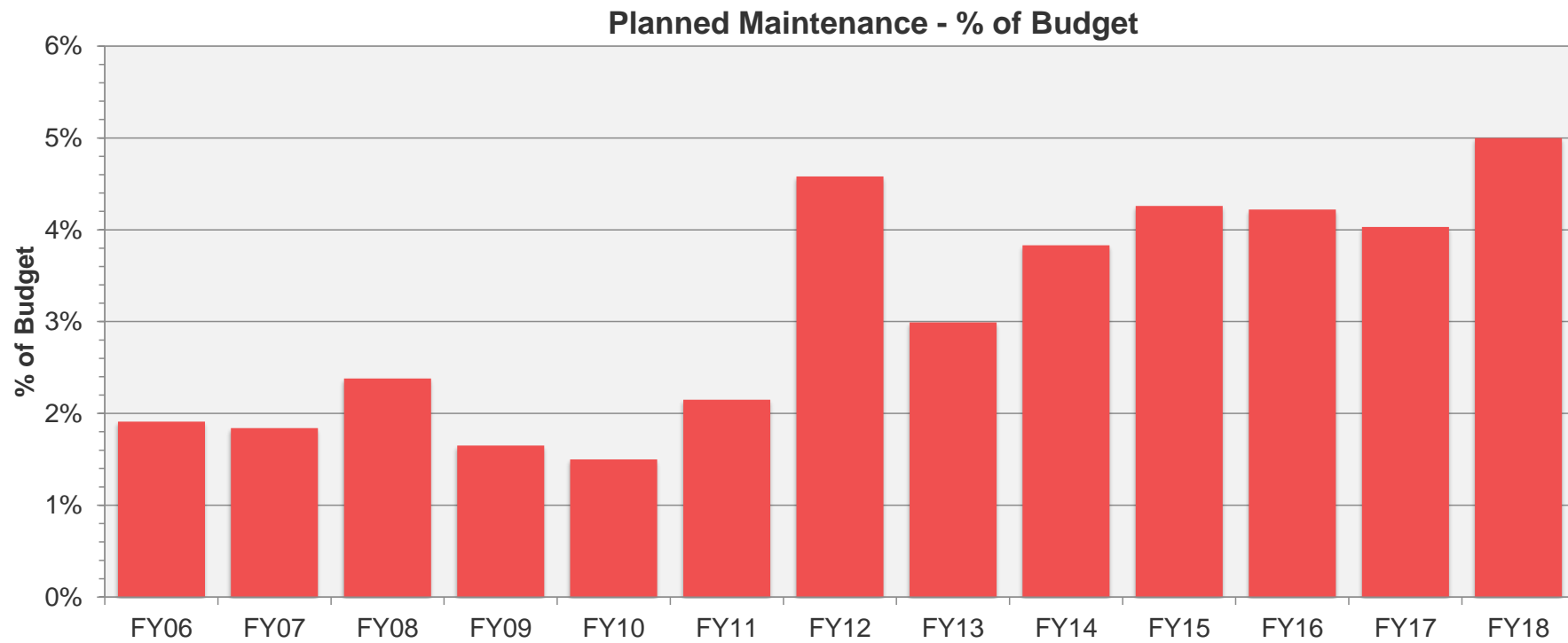
Maintenance Staffing

Custodial Staffing

Custodial Staffing

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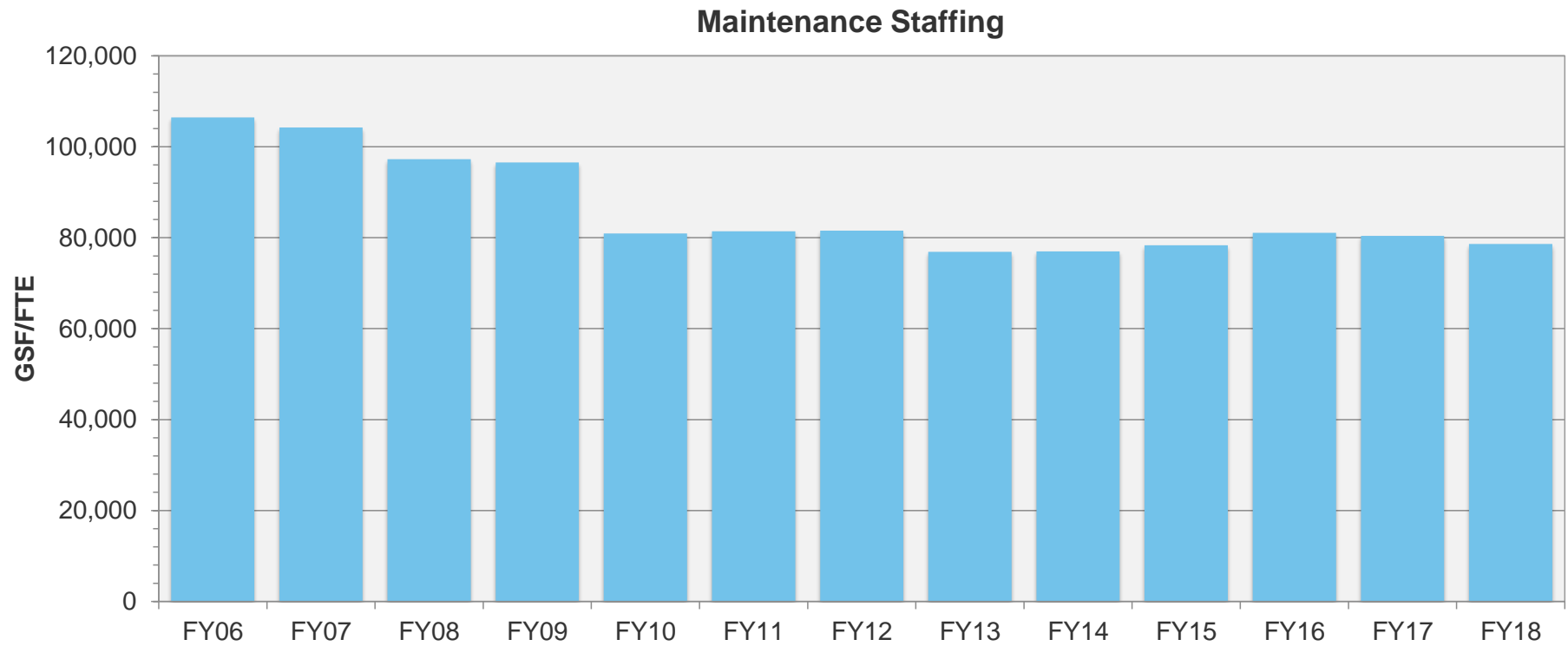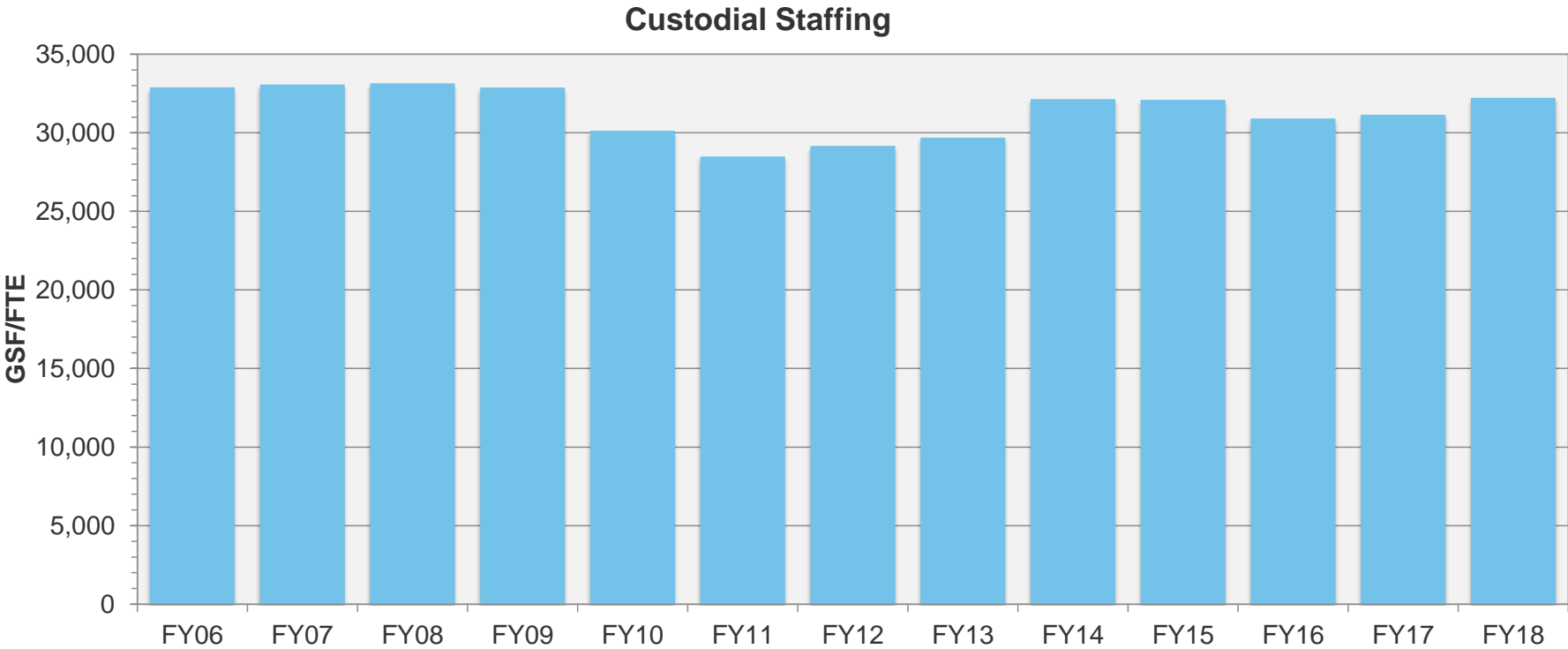
Grounds Staffing

Grounds Staffing
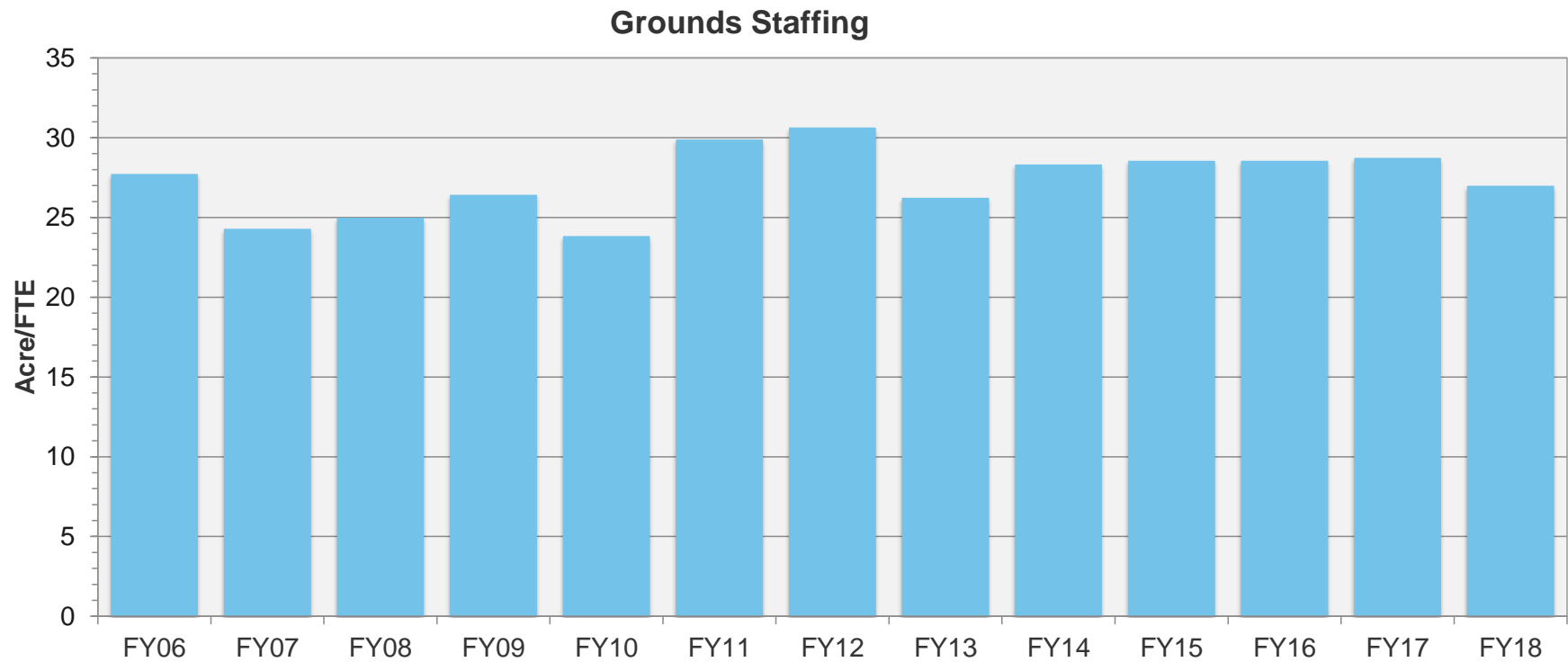
Energy Cost per GSF

Energy Cost per GSF

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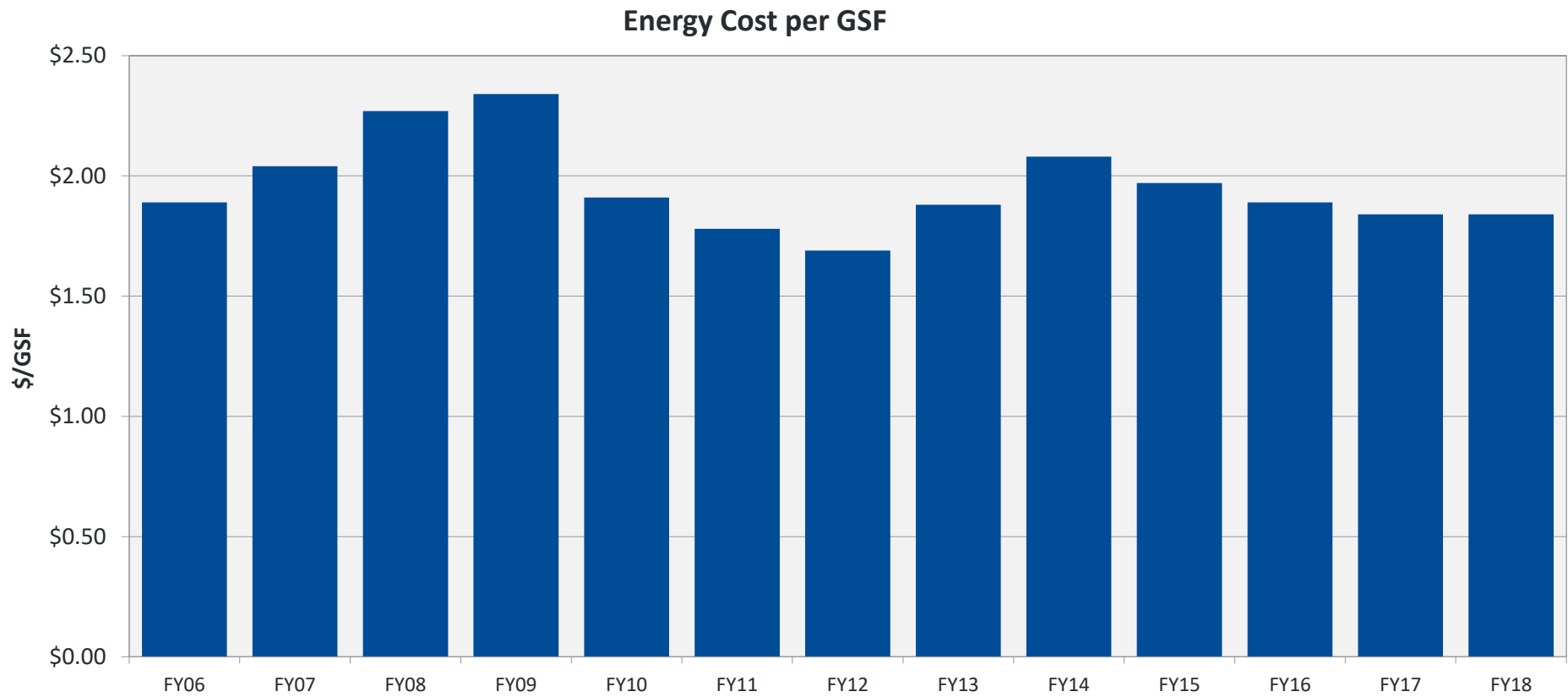
Energy Cost per MMBTU

Energy Cost per MMBTU

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Energy Consumption

Energy Consumption bar chart showing BTU/GSF by year from 2006 to 2018, with Fossil (blue) and Electric (red) components.
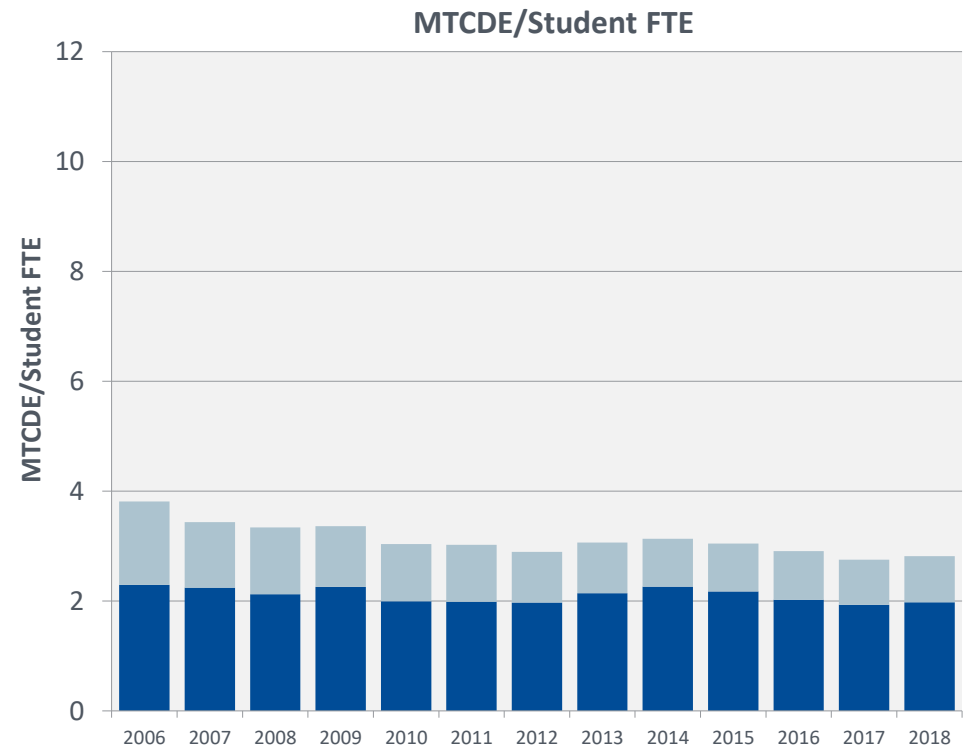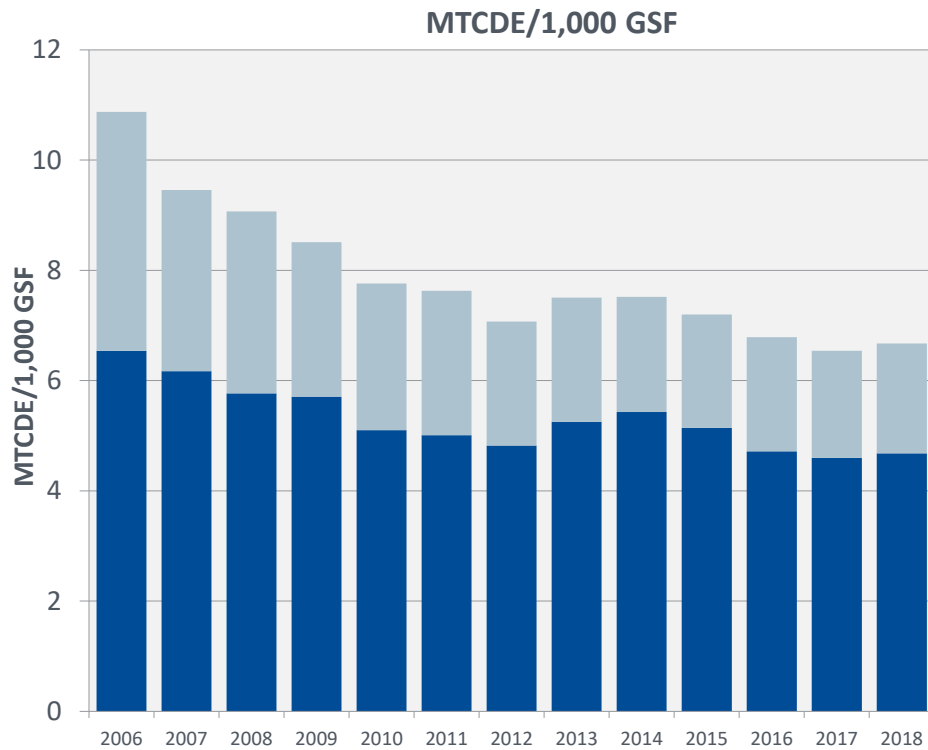
83

Emissions Summary

MTCDE/1,000 GSF

MTCDE/Student FTE

MTCDE = Metric Tons of Carbon Dioxide Equivalent

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Report of the Native American Waiver and Educational Program (NAWEP) Task Force

September 2018

Prepared by: UMS Native American Waiver and Educational Program Task Force

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University of Maine System
Report of the Native American Waiver and Educational Program (NAWEP) Task Force
September 2018

Renamed and revised in 2012, the Native American Waiver and Educational Program (NAWEP) is a critical benefit for our Native American student population and provides access for students who might not otherwise be able to participate in higher education. At the five year point of the adjustments implemented in 2012, the importance of the Program calls for dialogue to examine program effectiveness, efficiency and financial stability, and to ensure the goals established for NAWEP in 2012 are reviewed and evaluated on a regular basis. The University of Maine System (UMS) had already determined that a five-year review was necessary; a request on the part of Tribal Chiefs of the state of Maine further reinforced the need to do so. It must be noted that Tribal leadership, recognizing a down-turn in participation over the last five years, has called for a restoration of the program to the pre-2012 policy changes. As can be seen in this report, decreased participation in NAWEP has been caused by a number of factors, and our approach, as laid out here, is to start to better understand the causes of this decreased enrollment as we institute more effective Native American student support, recruitment, and retention/completion programs.

The NAWEP Task Force, comprised of the educational directors from the tribal communities and representatives from the University of Maine System, convened in the Fall of 2017 to re-examine our collective goals for the program, review our current policies, explore potential alternatives that will both ensure success and manage costs and provide any recommendations that will strengthen the program, ensure access for eligible students, and continue the program's financial sustainability. The Task Force met for four extended meetings beginning in September 2017 through January 2018 and arrived at preliminary recommendations at its January 26 meeting. Refinements to these recommendations occurred over the spring semester. Final meetings were held on June 12 and October 9 to review, revise and finalize the report and its recommendations.

This report will give an overview of the original establishment of the program as well as the current status, will provide insight into the discussions and considerations of the NAWEP Task Force including preliminary data, and make recommendations to strengthen the program and further research those factors that may be impacting aspirations, enrollment and completion; this research may result in additional recommendations in the future.

History of the Native American Waiver and Education Program in the University of Maine System

While the history of the program was not focused on during our conversations, it is important to highlight it here as we address recent developments. The history highlights the fact that there have been attempts by the University of Maine and (later) the University of Maine System to address educational access of Native Americans over the last 80 years.

These attempts (and successes) could not have been accomplished without the work of Native and non-Native individuals, both inside and outside the University of Maine System. We can

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trace the official origins of the University of Maine System Native American Waiver and Education Program (NAWEP) to May 3, 1934, when the Board of Trustees and University President Harold Sherburne Boardman (1926-1934), convened on Marsh Island in Orono and voted to offer "free tuition" at the University to "five students, either boys or girls from the two Indian tribes of the State, namely Penobscot and Passamaquoddy Tribes, and that each student be subject to [the] same college requirements as other students."[1] In the earliest years of the program, a few Penobscot and Passamaquoddy students attended the University of Maine's Orono campus on scholarships that were a direct result of the 1934 Board of Trustees' decision.

Although a number of Native students attended UMaine during the mid-twentieth century under the tuition scholarship program for Penobscot and Passamaquoddy tribal members, the lack of funding for room and board often made it difficult for tribal first-generation college students to continue their educations. Realizing that costs could be prohibitive for many students, at its meeting on May 27, 1966, the Maine State Board of Education voted to "offer free tuition, fees and, if available, room and board, for one Maine Indian student [in each class] at each of the five state colleges, each of the vocational-technical institutes, and each of the schools of practical nursing, and that free tuition be offered to as many qualified Maine Indians as are accepted for enrollment."[2] The offer to include room and board, when possible, with Indian scholarships was a turning point for many of Maine's Native students. The University of Maine Board of Trustees followed suit a few years later, voting to include room and board in its own scholarship program so long as the University would pick up the costs without passing those on to other students living in the dorms.[3]

What was prompting some of these changes during the late 1960s and early 1970s? Often referred to as a period of "self-determination" for Native Americans in U.S. history, the late 1960s into the 1970s were marked by increasing visibility and activism by American Indians and their allies over land rights, treaty violations, civil rights, and educational opportunity. The legacy of poorly-run federal boarding schools for American Indian children that separated them from their tribal cultures and families and did not prepare students for higher education, coupled

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[1] The University of Maine System. 1934. *Minutes of the Meeting of the Board of Trustees.* Orono, ME. May 3, 1934. Photocopy provided by Eddie Meisner, Vice Chancellor for Academic Affairs, University of Maine System, in a letter to Gail Sockabasin dated May 27, 1999. In *Native American Scholarship and Waiver, The University of Maine*, Vol. 1. Orono, ME: The Wabanaki Center.

[2] State Board of Education. 1966. *Excerpt from Meeting Minutes.* May 27, 1966. In *Native American Scholarship and Waiver, The University of Maine*, Vol. 1. Orono, ME: The Wabanaki Center; State Board of Education. 1966. *Excerpt from Meeting Minutes.* Augusta, ME. December 16, 1966. In *Native American Scholarship and Waiver, The University of Maine*, Vol. 1. Orono, ME: The Wabanaki Center.

[3] The University of Maine System. 1971. *Minutes of the Meeting of the Board of Trustees*. Gorham ME. November 18, 1971. In *Native American Scholarship and Waiver, The University of Maine*, Vol. 1. Orono, ME: The Wabanaki Center.

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with systemic racism that had prevented many older Indian students from attending mainstream universities, spurred calls across the United States for renewed educational reform and Native access to higher education.

In 1971, the University of Maine Education Political Action Committee recommended to the Board of Trustees that opportunities for higher education be broadened for Native Americans living in Maine. Effective for the spring semester 1972, what would come to be known as the "Indian Scholarship Program" would waive tuition, fees, room and board (for on-campus students) for eligible North American Indian students who were studying at any of the University of Maine System's campuses, including undergraduates, graduate students, and continuing education students.[4] Eligibility was "extended to":

> *1) those persons whose names are included on the current tribal census of either the Passamaquoddy or Penobscot Tribes of Indians, and*

> *2) those persons who have resided in Maine for at least one year and at least one of whose parents or grandparents were either included on the census of a North American Indian Tribe or held a band number of the Malecite or Micmac Tribes.*[5]

The modern waiver program is a legacy of this decision from 1971 to include all Maine tribes across the University of Maine System. This commitment would not have happened without the advocacy of both Native and non-Native people, inside and outside of the University of Maine system. Also, note that this language extended scholarship eligibility to tribes other than the Penobscot and Passamaquoddy. Maine residents who were on other North American tribal or band rolls (or censuses)—including the Micmac and Maliseet—were eligible for the program, as were biological descendants: those whose parent or grandparent was a member of a tribe, even if the resident student was not. By 1991, the Houlton Band of Maliseet Indians and the Aroostook Band of Micmacs had been added to the first category of eligibility. These eligibility requirements would shape the Indian Scholarship Program (also called the "waiver program") well into the University's second century.

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[4]

 The University of Maine System. 1971. *Minutes of the Meeting of the Board of Trustees*. Gorham ME. November 18, 1971. In *Native American Scholarship and Waiver, The University of Maine*, Vol. 1. Orono, ME: The Wabanaki Center.; The University of Maine System. 1971. *Minutes of* the *Meeting of the Board of Trustees*. Gorham, ME. November 17, 1971. In *Native American Scholarship and Waiver, The University of Maine*, Vol. 1. Orono, ME: The Wabanaki Center; The University of Maine System. 1973. Report. *Board of Trustees: Indian Scholarship Program*. September 26, 1973. In *Native American Scholarship and Waiver, The University of Maine*, Vol. 1. Orono, ME: The Wabanaki Center.

[5] The University of Maine System. 1971. Minutes of the *Meeting of the Board of Trustees*. Gorham ME. November 18, 1971. In *Native American Scholarship and Waiver, The University of Maine*, Vol. 1. Orono, ME: The Wabanaki Center. Pp 3-4.

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In 2010-2011, a Task Force comprised of the Education Directors of Maine's tribal communities and representatives of the University of Maine System convened for the first time as a collective task force to review the program, explore together how to sustain the program in the light of very serious financial restrictions and to ensure success for the students participating in the program, and to make recommendations related to both ensuring financial sustainability of the program and developing strategies to help all students in the program successfully enroll in and complete their academic program(s). The expectation was that final recommendations would strengthen the program, ensure access to students who need it, and build a program that was financially sustainable for the UMS. The report of this early Task Force was completed in late 2011 with adjustments to the program occurring starting Fall 2012. At the time, the program was renamed the "Native American Waiver and Educational Program." The original charge to this early Task Force is included in the appendix. The Administrative Practice Letter (APL) which incorporated the various recommendations is also included within the Appendix.

Data Analysis

In order to better understand the enrollment trends of the Native American students, it was first important to gather as much data as we could specific to their enrollment, their financial aid status and their ultimate success in the form of retention and degree completion. With the UMS as a whole trending down since 2008-2009, one assumption was that the Native American population would mirror this downturn (which indeed it does but in some tribal communities to a far greater extent). Another possibility was that the changes incorporated in 2012 (specifically the adjustment of the room and board scholarship to a need based grant) were factors impacting the decline.

So, looking at both student based data specific to the population and gaining a better understanding of demographic data at the tribal communities (in addition to the demographic information we already have relevant to Maine) were important starting points. Although we were able to gather quite a lot of information specific to the students enrollment within the UMS, we were not able to gain access to more specific demographic information at the tribal community level - the need to incorporate this into any consideration of impactors will be reflected within our recommendations.

A key element in understanding the impacts of the changes to the Native American Waiver and Education Program since 2010-2012 is understanding the exact nature of changing enrollments by Native American students across the University of Maine System and within the University of Maine System itself. While Native American enrollment across the System peaked in 2010-2011 (just prior to the date of implementation of changes put forward in 2012), the overall trend for Native American enrollments is in decline; but the overall percentage of decline is complicated by a couple of factors, including the overall decline in Systemwide enrollment, and the indicators within the data that seem to imply multiple causes which need further exploration.

While these raw numbers show a clear decline in overall enrollment, the exact causes are difficult to determine, given the difference in 2008-9 and 2010-11 numbers, years that had the

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same rules for NAWEP funding for Room and Board costs, and given the inability to examine any correlations between the decline in the Native American enrollment and enrollment within the UMS as a whole (discussed in the prior paragraph). For the purpose of this report and the overview of data below, we will concentrate on the years 2008, 2012 and 2016, and will utilize headcount as the predominant comparator. We will address the need to understand these changing enrollment numbers in the Recommendations section.

Key numbers:

1. Overall in-state enrollments within the UMS are down 18% since 2008, 17% since 2010.
2. Overall headcount of NAWEP participants is down 16% since 2008. It is down 14.7% since 2012; in-state specifically is down 22% since 2008 and 16% since 2012.
3. Overall FTE equivalent is down 9.5% since 2008. It is down 16%% since 2012.
4. Tribal member headcount (minus direct descendants) of NAWEP participants is down 11.4% since 2008. It is down 23% since 2011 and 10% since 2012.
5. Passamaquoddy-Indian Township Tribal Member enrollment is down 56% since 2008, by far the biggest decline of any Maine Tribe. The Aroostook Band of Micmac and Passamaquoddy, Pleasant Point have increased since 2008.
6. University of Maine at Machias, the closest campus to Indian Township, declined 28% since 2008, 24% since 2010 and 22% since 2012.
7. First time, full time fall-to fall retention of our NAWEP participants was 56.3% in the 2016 cohort and 72.7% for the 2015 cohort (this compares to overall UMS retention of 70.6% and 71.2% respectively).
8. 60% of NAWEP participants in 2016 were 24 years of age or younger.
9. 31.5% of all NAWEP participants lived on campus in 2016 (in 2012, 30.4%); Of the NAWEP participants that live on campus, 76% of these received the room and board scholarship in 2012, 72.5% in 2016. We do not have data from 2008 as a comparator.

The data included within the Appendix represent a brief overview of some of the pertinent data and a portion of a far more comprehensive set of data gathered for the purpose of this report - it does not represent the entire set of data collected and points to a need for a far better understanding of more comprehensive data and analysis to be able to determine the causal impactors for the enrollment decline.

Recommendations

As the Task Force reviewed the data and feedback from all constituencies, several themes emerged: the need for **consistency and transparency**, the need for **training and communication** across the University of Maine System campuses and between the UMS

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campuses and the Tribal Education Directors for better administration of the NAWEP, and the continuing goal of focusing on student success and degree completion for our students participating in the NAWEP.

Student Success:

Identify and develop overall strategies to promote the success of Native students –
- Need to delve deeper into the aspirations, recruitment and retention/student success factors to try to determine why the numbers are declining and to make appropriate recommendations
  - As a way to do this, identify a tribal community (Indian Township and the Machias area has been recommended) to focus upon as a way to do this "deeper dive" and determine appropriate interventions and supports – we may be able to partner with an organization like JMG or pursue other potential grant funding to do this work. Of course, any program with a Tribal community will be done only with Tribal involvement and approval. Our goal is to begin implementation of this work in the Fall of 2019 with collaboration and meetings with the identified tribal community and University of Maine campus. Interventions will begin by Fall 2020, depending on funding.
  - After a 1-2 years of interventions, develop baseline goals for NAWEP participation (for example: increase NAWEP enrollment by XX% over the next X years; increase retention by XX% over the next X years, etc).
- Review what support and intervention we provide at the universities, who the contacts are and what role do they play, how can we better connect the education directors and the campus coordinators in a team approach to supporting the student (see earlier recommendations which are connected to this)
- Similar to the proposal in 2012, pursue funding for a dedicated person to work with the students (preferably professional staff as opposed to a graduate assistant) and to delve more deeply into the data at both the UMS and tribal level; Goal: to answer the question: why aren't more students coming our way? and how can we best support their success? Our goal is to secure funding for this position by end of the calendar year, 2019. We imagine this person will be located at the University of Maine, but will make regular trips to each campus and community to increase integration/connections/communication.
- Further develop the partnership between the Tribal Education Directors and the Campus-based coordinators and financial aid to ensure that all are working together to aid in and intervene if necessary in the success of the students.
- Explore whether an emergency fund is needed to help support the most vulnerable Native students. Using UM as a pilot, this will include working with the University of Maine Foundation to develop fundraising opportunities, with the Chair of Native American Programs taking the lead. Initial steps involved the Chair of Native American Programs meeting with the University of Maine Foundation in Spring 2019.

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● Develop better communication of SAP[6], develop and put in place support plans, ensure that timelines for appeals are understood and students respond in a timely way, clearer communication of when the waiver could be used to help a student who has been SAPped (if the circumstances warrant such an action). Add language to the guidance for administrators around the ability to do this. Language will be added by the Chief Student Affairs Officer and Coordinator of the Native American Waiver & Educational Program during Spring 2019 Semester.
  o Develop a "second chance" program for Native students when they have been SAPped from the program or encounter other challenges to their continuation in their academic program.

Consistency and Transparency

● Ensure transparency between financial aid directors/officers and education directors so that all understand how the NAWEP is interpreted and implemented (clear communication in how the EFC[7] is translated, etc.; training for the education directors as well so they can best help their students).
● Ensure consistency of financial aid packaging across the campuses, and a greater understanding of how that works.
  ○ One area that needs to be clearly identified—how tribal book money is handled across the campuses and within the various tribes and ensure consistency once this is understood. It is critical that financial aid packages only include Tribal book money if it is known by the financial aid offices—no amount of tribal book money should be assumed by financial aid offices.
● Ensure that all understand the parameters of the NAWEP, including the credit hour load needed for on campus housing.
● Incorporate a FERPA release into the Waiver Agreement or across the system to enable the Tribal Education Directors to work with and advocate for the student and the campus when needed. This will better incorporate better communication and advocacy for all Native students. Moreover, once this is implemented, a semester-by-semester GPA communication for each tribal student will be communicated to the appropriate Education Director. This will be implemented starting in Fall of 2019
● Provide information to the Tribal Education Directors that would be helpful when advising students: 1) Simple room and board calculation by EFC level (0-5, etc.); 2) better understanding of what would prompt a repackaging (ex. loss of income in household (student prompts), maybe not packaged for work-study and this is added, student requests additional funds, change in credit hours, moves from on-campus to off-campus (how calculated varies by campus because housing costs are different across the state), etc.); 3) better understanding of when verification occurs and how best work with students selected. This information will be provided beginning in January 2019.

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[6] SAP Satisfactory Academic Progress: Federal financial aid regulations require financial aid recipients to make progress toward earning their degree, stay above specific GPA minimums and to complete the degree within a maximum time frame.
[7] EFC Estimated Family Contribution: This is determined using federally-defined formulas which take into consideration factors such as income level, assets and household size. The EFC is used to determine federal student aid eligibility and financial aid award.

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- Annually update data specific to the NAWEP population and share with the tribal education directors and campus coordinators.

Communication:
  - Ensure that the master contact list (include financial aid directors, campus NA coordinators, tribal education directors) is updated on a regular basis and communicated to all appropriate constituencies
  - Meet as a group at least two times per year to review data, progress and issues. These meetings will be: once in the mid Spring around April 15, and mid Fall around October 15.
  - Plan for a regular program review every five years with a clear definition of what the work would be (sustainability, review of student success factors) and if not, how to ensure this is incorporated within the work of this group. Our next review will begin in Fall, 2022.
  - Develop recruitment information to prepare and inform potential and new students – FAQs, financial aid information, connecting campuses and students/parents.

Training – Financial aid offices, campus coordinators, and Tribal Education Directors should be trained annually (or as new staff are hired) on the guidelines and parameters of NAWEP. This training will be developed by the University of Maine System Office Native American Waiver and Educational Program Coordinator and representatives from Financial Aid offices across the University of Maine System. Training will begin in the Fall 2019 semester.

Next Steps
Student Success:

1.Develop a better understanding of the aspirations, recruitment and student success factors that may be impacting enrollment

- Confirm selection of a tribal community with which to explore why enrollment is declining and the student success factors that could impact, with the focus being Indian Township, UMM and Washington County
    o Set up preliminary meetings with the key participants/partners
- Set up a meeting with the Director of Jobs for Maine's Graduates to explore a partnership
- Explore grant funding possibilities with foundations

2. Identify and review what support and intervention are provided at the Universities, who the appropriate contacts are, and explore how to best connect the education directors and the campus coordinators as a team
- This item was a key agenda item for the October 9, 2018 meeting of Education Directors, Campus Coordinators, Campus Financial Aid and others as identified.

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3.Identify potential grant funding or other approach to work with the students from a student success perspective including conducting more detailed analysis of the data at the campus and tribal level (could possibly identify students within the graduate education programs at UM or USM for whom this would be a good project)

4. Using UM as a pilot, explore whether an emergency fund is needed to help support the most vulnerable Native student and determine potential sources of funding (UM Foundation and Chair of Native American Programs to discuss this)

5. Develop better communication related to financial aid requirements (such as SAP, EFC, etc.) to ensure transparency and consistency across the campuses
   - Financial Aid directors and Education Directors will meet to determine which components need to be clarified for students
   - Financial aid directors and Education Directors will determine which components would be helpful for Education Directors to have more information about in working with their students (this would include but not be limited to: simple room and board calculations by EFC level, better understanding of the factors that can prompt repackaging, and a better understanding of when verification occurs and how it works for the students selected)
   - FAQs and similar aids for students will be developed
   - Campus coordinators, Education Directors and Financial Aid staff will be trained to discuss these with students as they enter the institution

6. Develop a "second chance" program for Native students who have been "SAPped"
   - Develop language for who would be qualified, codify how the NAWEP program would be impacted (as opposed to financial aid), and establish criteria that would include financial aid examining the student's situation in case SAP could be remedied

Consistency and Transparency

1.Ensure consistency of financial aid packages across the campuses, specifically the use of Tribal book money and develop communications that promote better understanding of the financial aid process
   - Specific to the Tribal book money, the Education Directors will send lists of students and any funding awarded to the appropriate financial aid department by August 15 (for fall semester) and December 15 (for spring semester), and then a second, reconciled list by no later than add/drop
   - All Tribal and University staff will remind students that any book money (or other added resources) could impact their aid
   - Add language about this to the "Guidance for Administrators" document that is used by campus coordinators and others to ensure consistent administration of the NAWEP program

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2. Incorporate a FERPA release into the process used when students sign their NAWEP agreement so that Education Directors can best support the student
- Adapt the FERPA release used for parents for this use
- Attach to the agreement as an addendum – both the agreement and the release would need to be signed (but a student could opt out of the FERPA release)
- Work with UM Financial Aid and IT to add a code or check off on the NA pages within MaineStreet so that staff at the campuses can easily see that the release is in place
- Ask that all students complete new agreements and sign off on the FERPA (should they elect to do so)
- Develop a communication plan to all appropriate staff about this

3. Annually update data specific to the NAWEP and share with the Education Directors and the University Campus Coordinators.
- Update the existing data to include Fall 2017 by September 1 if possible
- Update for Fall 2018 by end of December 2018

Communication

1. Ensure that the master contact list is up to date and review/update annually on June 1
- Master list includes Education Directors, financial aid directors and campus coordinators)

2. Meet as a group at least two times per year to review data, progress and discuss any issues/concerns/opportunities. These meetings will be: once in the mid Spring around April 15, and mid Fall around October 15.

3. Conduct a review of the NAWEP program every five years to include program sustainability and student success. The next review will begin in Fall, 2022.

4. Develop recruitment materials to prepare and inform potential new students and to better connect campuses to student and their parents (such as FAQs, financial aid information, connecting campuses and students/parents)
- See *Student Success #5* for additional communication components

Training

1. Develop an annual training/professional development program for financial aid offices, campus coordinators, Education Directors and admissions staff on the guidelines and parameters of NAWEP and strategies in how to best support students. This training will be developed by the UMS Native American Waiver and Educational Program Coordinator and representatives of financial aid offices across the UMS, with training documents completed by Summer, 2019. Initial training will begin in August, 2019.

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Action Timeline:

January 2019: Provide information to the Tribal Education Directors that would be helpful when advising students

Mid-Spring 2019: Group Meeting

Spring 2019: Develop better communication of SAP with staff by clarifying timelines and plans for students.

Spring 2019: Chair of Native American Programs meeting with the University of Maine Foundation to pursue Native Student Emergency Fund

Summer 2019: Preliminary draft of UMS training documents.

August 2019: Initial Training of UMS Personnel

Fall 2019: Identify a tribal community (Indian Township and the Machias area has been recommended) to focus upon as a way to do this "deeper dive" and determine appropriate interventions and supports.

Fall 2019: Begin implementation of FERPA release into the Waiver Agreement or across the system to enable the Tribal Education Directors to work with and advocate for the student and the campus when needed.

Mid-Fall 2019: Group Meeting

End of Calendar Year, 2019: Secure funding for a dedicated person to work with the students (preferably professional staff as opposed to a graduate assistant) and to delve more deeply into the data at both the UMS and tribal level

Fall 2022: Conduct next review of the NAWEP program

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Appendix
Key Data (A full report is available upon request)

Nine-Year Trend of NAWEP Headcount Enrollment by Residency
(Based on Original Home Address)

| | | Fall Term | | | | | | | | | 1-Year % Change | 8-Year % Change | 8-Year Avg. % Change |
		2008	2009	2010	2011	2012	2013	2014	2015	2016			
UM	In-State	139	174	157	154	157	154	147	132	115	-12.9%	-17.3%	-1.8%
	Out-of-State	21	31	34	35	31	34	28	29	29	0.0%	38.1%	5.6%
	Subtotal	160	205	191	189	188	188	175	161	144	-10.6%	-10.0%	-0.7%
UMA	In-State	102	97	96	84	67	78	73	76	74	-2.6%	-27.5%	-3.4%
	Out-of-State	1		1	3	3	3	7	6	3	-50.0%	25.0%	
	Subtotal	103	97	97	87	70	81	80	82	77	-6.1%	-25.2%	-3.1%
UMF	In-State	14	13	12	10	14	18	15	16	16	0.0%	14.3%	3.4%
	Out-of-State		1		1	2	2	1		1			
	Subtotal	14	13	12	11	16	20	16	16	17	6.3%	21.4%	4.2%
UMFK	In-State	14	16	13	15	11	15	16	14	14	0.0%	0.0%	1.8%
	Out-of-State				2	1							
	Subtotal	14	16	13	17	12	15	16	14	14	0.0%	0.0%	2.0%
UMM	In-State	21	21	32	24	22	13	22	27	19	-29.6%	-9.5%	5.1%
	Out-of-State					1			1	1	0.0%		
	Subtotal	21	21	32	24	23	13	22	28	20	-28.6%	-4.8%	6.0%
UMPI	In-State	53	41	53	66	55	41	32	31	31	0.0%	-41.5%	-4.5%
	Out-of-State	2	3	5	2	2	2	3	1	2	100.0%	0.0%	17.5%
	Subtotal	55	44	58	68	57	43	35	32	33	3.1%	-40.0%	-4.5%
USM	In-State	88	97	97	101	77	74	76	73	66	-9.6%	-25.0%	-3.0%
	Out-of-State	7	14	13	12	12	12	15	13	17	30.8%	142.9%	16.0%
	Subtotal	95	111	110	113	89	86	91	86	83	-3.5%	-12.6%	-1.1%
Total	In-State	431	459	460	454	403	393	381	369	335	-9.2%	-22.3%	-3.0%
	Out-of-State	31	48	53	55	52	53	54	50	53	6.0%	71.0%	8.2%
	Total	462	507	513	509	455	446	435	419	388	-7.4%	-16.0%	-2.0%

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Nine-Year Trend of NAWEP FTE by Residency
(Based on Original Home Address)

| | | \multicolumn{9}{c\|}{Fall Term} | 1-Year % Change | 8-Year % Change | 8-Year Avg. % Change |
		2008	2009	2010	2011	2012	2013	2014	2015	2016			
UM	In-State	107.1	134.3	131.5	129.3	133.2	128.0	115.7	106.5	92.6	-13.0%	-13.5%	-1.2%
	Out-of-State	20.0	27.9	30.4	32.8	29.0	31.3	24.0	26.0	26.0	-0.1%	30.1%	4.7%
	Subtotal	*127.1*	*162.2*	*161.9*	*162.1*	*162.2*	*159.3*	*139.7*	*132.5*	*118.6*	*-10.5%*	*-6.7%*	*-0.3%*
UMA	In-State	60.4	56.2	58.5	52.7	42.8	49.1	46.1	46.1	46.7	1.3%	-22.7%	-2.7%
	Out-of-State	0.8		0.2	1.4	1.6	1.4	3.7	4.2	2.3	-46.0%	183.8%	
	Subtotal	*61.2*	*56.2*	*58.7*	*54.1*	*44.4*	*50.5*	*49.7*	*50.3*	*48.9*	*-2.7%*	*-20.0%*	*-2.4%*
UMF	In-State	12.5	11.4	10.5	9.0	12.1	15.9	11.7	13.3	14.2	6.9%	13.5%	3.6%
	Out-of-State				1.0	2.0	2.0	1.0		1.0			
	Subtotal	*12.5*	*11.4*	*10.5*	*10.0*	*14.1*	*17.9*	*12.7*	*13.3*	*15.2*	*14.4%*	*21.5%*	*4.6%*
UMFK	In-State	7.9	8.7	9.0	10.9	8.2	11.6	10.9	9.7	10.3	5.5%	29.4%	4.9%
	Out-of-State				0.9	0.5							
	Subtotal	*7.9*	*8.7*	*9.0*	*11.7*	*8.7*	*11.6*	*10.9*	*9.7*	*10.3*	*5.5%*	*29.4%*	*5.0%*
UMM	In-State	11.8	12.8	20.9	18.4	17.7	11.1	16.9	18.6	13.5	-27.2%	14.7%	6.7%
	Out-of-State					0.9			1.1	1.0	-11.5%		
	Subtotal	*11.8*	*12.8*	*20.9*	*18.4*	*18.5*	*11.1*	*16.9*	*19.7*	*14.5*	*-26.4%*	*23.2%*	*7.9%*
UMPI	In-State	36.0	23.4	34.1	43.2	38.5	27.6	24.3	20.6	23.2	12.6%	-35.6%	-2.0%
	Out-of-State	2.1	3.1	3.7	1.6	1.9	1.7	2.2	1.0	1.7	66.7%	-19.4%	7.7%
	Subtotal	*38.1*	*26.5*	*37.8*	*44.8*	*40.4*	*29.3*	*26.5*	*21.6*	*24.9*	*15.1%*	*-34.7%*	*-2.4%*
USM	In-State	66.8	72.5	77.0	79.5	59.9	58.3	59.6	53.2	51.2	-3.8%	-23.4%	-2.7%
	Out-of-State	6.1	12.6	11.3	10.1	10.9	9.5	13.2	11.2	16.4	47.0%	169.4%	18.9%
	Subtotal	*72.9*	*85.1*	*88.3*	*89.6*	*70.8*	*67.8*	*72.9*	*64.4*	*67.6*	*5.0%*	*-7.3%*	*-0.3%*
Total	In-State	302.6	319.3	341.5	342.9	312.5	301.5	285.2	268.0	251.7	-6.1%	-16.8%	-2.1%
	Out-of-State	28.9	43.6	45.6	47.7	46.6	46.0	44.1	43.5	48.4	11.1%	67.1%	7.7%
	Total	*331.5*	*362.9*	*387.1*	*390.7*	*359.1*	*347.4*	*329.4*	*311.5*	*300.0*	*-3.7%*	*-9.5%*	*-1.1%*

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Nine-Year Trend of NAWEP Maine Wabanaki Tribal Member Headcount Enrollment by Tribal Affiliation

	Fall Term									1-Year % Change	8-Year % Change	8-Year Avg. % Change
	2008	2009	2010	2011	2012	2013	2014	2015	2016			
Maliseet, Houlton Band of	37	34	45	43	42	46	49	39	35	-10.3%	-5.4%	0.4%
Micmac, Aroostook Band of	36	36	45	47	46	38	38	40	40	0.0%	11.1%	1.9%
Passamaquoddy, Indian Township	25	20	29	31	18	19	30	21	11	-47.6%	-56.0%	-3.0%
Passamaquoddy, Pleasant Point	51	60	59	59	59	53	62	65	64	-1.5%	25.5%	3.3%
Penobscot Nation	87	97	88	94	89	95	77	71	59	-16.9%	-32.2%	-4.1%
Total	236	247	266	274	254	251	256	236	209	-11.4%	-11.4%	-1.3%

Total Room & Board Scholarships Awarded to On-Campus NAWEP Students

	Fall Term						
	2010	2011	2012	2013	2014	2015	2016
UM	$377,785	$375,689	$132,885	$149,948	$131,523	$109,115	$100,106
UMF	$7,854	$23,478	$33,575	$17,734	$4,608	$3,750	$8,791
UMFK	$6,122	$21,265	$4,961	$12,899	$12,710	$5,721	$5,029
UMM	$14,979	$9,916	$8,617	$3,065	$1,496	$12,221	$4,872
UMPI	$9,839	$24,761	$6,194	$15,361	$9,361	$7,364	$11,428
USM	$109,395	$84,806	$45,275	$22,960	$24,551	$31,603	$42,895
Total	$525,974	$539,915	$231,507	$221,967	$184,249	$169,774	$173,121

Percentage of Room & Board Charges for On-Campus NAWEP Students Covered by Room & Board Scholarship

	Fall Term						
	2010	2011	2012	2013	2014	2015	2016
UM	83.9%	80.6%	41.2%	47.2%	43.8%	37.5%	45.4%
UMF	94.8%	92.5%	71.5%	37.2%	25.9%	14.9%	19.2%
UMFK	78.0%	72.2%	39.2%	42.9%	65.4%	49.7%	45.0%
UMM	50.7%	42.0%	41.0%	18.7%	8.3%	35.0%	19.6%
UMPI	71.0%	50.0%	32.3%	45.3%	43.2%	45.9%	31.3%
USM	60.6%	52.8%	43.6%	41.5%	30.0%	35.6%	34.9%
Total	76.1%	71.6%	44.0%	44.3%	40.2%	36.3%	37.5%

The cost savings implemented in 2012 regarding room and board scholarships have had a significant impact. Since 2010, the overall savings has been about $352,000.

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Examples of Room and Board Calculations

2017-2018 Academic Year USM Native American Room and Board Calculation Examples

Based on New Admits Fall 2017 Criteria

Cost of Attendance	EFC	NA Tuition Waiver	Financial Need Eligibility	Standard Room & Board Rate	50% of Pell Grant	Merit	State of Maine Grant	Maximum Room & Board Grant	NA Tuition & Fee Waiver	Merit	Pell Grant	State of Maine Grant	NA Room & Board Grant	Total Aid Awarded	Remaining Need FWS and/or Direct Loan	Tuition & Fees	Double Room & Board	Initial Total Charges	Financial Aid	Student Estimated Refund
				Determining Room & Board Calculation					2017-2018 Sample Award Package								AY Costs- Financial Aid			
22612	0	8638	13974	9200	2960	2500	1500	2240	8638	2500	5920	1500	2240	20798	1814	8638	9200	17838	20798	-2960
22612	0	8638	13974	9200	2960	0	1500	4740	8638	0	5920	1500	4740	20798	1814					
22612	0	8638	13974	9200	2960	0	0	6240	8638	0	5920	0	6240	20798	1814					
22612	500	8638	13474	9200	2735	2500	1500	2465	8638	2500	5470	1500	2465	20573	2039	8638	9200	17838	20573	-2735
22612	500	8638	13474	9200	2735	0	1500	4965	8638	0	5470	1500	4965	20573	2039					
22612	1000	8638	12974	9200	2485	4000	1500	1215	8638	4000	4970	1500	1215	20323	2289	8638	9200	17838	20323	-2485
22612	1000	8638	12974	9200	2485	0	1500	5215	8638	0	4970	1500	5215	20323	2289					
22612	1500	8638	12474	9200	2235	1750	1500	3715	8638	1750	4470	1500	3715	20073	2539	8638	9200	17838	20073	-2235
22612	1500	8638	12474	9200	2235	0	1500	5465	8638	0	4470	1500	5465	20073	2539					
22612	2000	8638	11974	9200	1985	4000	1500	1715	8638	4000	3970	1500	1715	19823	2789	8638	9200	17838	19823	-1985
22612	2000	8638	11974	9200	1985	0	1500	5715	8638	0	3970	1500	5715	19823	2789					
22612	2500	8638	11474	9200	1735	2500	1500	3465	8638	2500	3470	1500	3465	19573	3039	8638	9200	17838	19573	-1735
22612	2500	8638	11474	9200	1735	0	1500	5965	8638	0	3470	1500	5965	19573	3039					
22612	3000	8638	10974	9200	1485	1750	1500	4465	8638	1750	2970	1500	4465	19323	3289	8638	9200	17838	19323	-1485
22612	3000	8638	10974	9200	1485	0	1500	6215	8638	0	2970	1500	6215	19323	3289					
22612	3500	8638	10474	9200	1235	2500	1500	3965	8638	2500	2470	1500	3965	19073	3539	8638	9200	17838	19073	-1235
22612	3500	8638	10474	9200	1235	0	1500	6465	8638	0	2470	1500	6465	19073	3539					
22612	4000	8638	9974	9200	985	2500	0	5715	8638	2500	1970	0	5715	18823	3789	8638	9200	17838	18823	-985
22612	4000	8638	9974	9200	985	0	0	8215	8638	0	1970	0	8215	18823	3789					
22612	4500	8638	9474	9200	735	2500	0	5965	8638	2500	1470	0	5965	18573	4039	8638	9200	17838	18573	-735
22612	4500	8638	9474	9200	735	0	0	8465	8638	0	1470	0	8465	18573	4039					
22612	5000	8538	9074	9200	485	2500	0	6215	8638	2500	970	0	6215	18323	4289	8638	9200	17838	18323	-485
22612	5000	8538	9074	9200	485	0	0	8715	8638	0	970	0	8715	18323	4289					
22612	6000	8538	8074	9200	0	2500	0	6700	8638	2500	0	0	5574	16712	5900	8600	9200	17838	16712	
22612	6000	8538	8074	9200	0	0	0	9200	8638	0	0	0	8074	16712	5900					

* State of Maine Grant Eligibility Max 3600 EFC; FAFSA completed prior to May 1st.

* Costs assume student has ability to waive health insurance

* High Merit and EFC requires reduction in Room and Board Grant based on need

Current Administrative Practice Letter

University of Maine System

ADMINISTRATIVE PRACTICE LETTER

Section IX-G: University of Maine System Tuition Waivers

Native American Waiver and Educational Program

Effective September 2012 (updated 2015)

The University of Maine System has tuition waiver and room and board grant programs for eligible Native American students. The purpose of these programs is to encourage Native American students to participate in public higher education in Maine. The goal is to provide sustained support for all UMS Native American students who wish to pursue post-secondary study and, in particular, those who wish to obtain a certificate and/or an associate, baccalaureate, or graduate degree or some other appropriate credential that will serve them personally and professionally as they plan for the future.

Native American Waiver Program

This program covers tuition and mandatory fees. Tuition and mandatory fees will be waived for qualified students, both matriculated and non-matriculated, who are enrolled in academic, credit-bearing courses at the undergraduate, graduate, or continuing education level at the campuses of the University of Maine System. Mandatory fees are required fees charged of all students enrolled at the institution and automatically assessed at the time of registration exclusive of fees associated with contracted training or other educational activities provided by an external agency, business or organization including but not limited to travel and accommodation fees related to travel courses and other extraordinary fees such as health insurance. .

Eligibility

    - A student must be a member and be included on the current tribal census of the Passamaquoddy Tribe, the Penobscot Nation, the Houlton Band of Maliseet, or the Aroostook Band of Micmac, or have at least one parent or grandparent who is included on the current tribal census of the Passamaquoddy Tribe, the Penobscot Nation, the Houlton Band of Maliseet, or the Aroostook Band of Micmac. OR:

    - A student must be a member and be included on the current tribal census of a Canadian Wabanaki Tribe or have at least one parent or grandparent who is included on the current tribal census, and have lived in Maine for at least twelve months, for purposes other than education, immediately prior to application. OR:

    - A student must be a member and be included on a current tribal census of a federally, state or provincially recognized Native American Tribe and who have lived in Maine for at least twelve months, for purposes other than education, immediately prior to application.

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- Proof of residency is required for all applicants with the exception of current tribal members and their direct biological descendants (e.g., parent or grandparent was a tribal member) of the Passamaquoddy Tribe, the Penobscot Nation, the Houlton Band of Maliseet, or the Aroostook Band of Micmac. The residency guidelines are the same as those employed for any student and can be located within the UMS Administrative Practice Letter found at: http://www.maine.edu/pdf/IV-G_002.pdf.

- Matriculating students must apply for financial aid by completing the Free Application for Federal Student Aid (FAFSA) and supply all required documentation to the Financial Aid Office at the campus they are attending. For the academic year and/or the fall semester, the FAFSA must be filed and the aid application completed by September 1. For the spring semester, the FAFS must be filed and the aid application completed by January 1st.

- All students must remain eligible to register for classes and maintain Satisfactory Academic Progress as defined by federal guidelines. Degree seeking students will be evaluated based on the Satisfactory Academic Progress policy of the campus where they are matriculating. Students who are not matriculating at any campus of the University of Maine System will be evaluated using the University of Maine Satisfactory Academic Progress policy. This policy can be found at: http://umaine.edu/stuaid/sap/

- Students who entered the program prior to Fall 2012 would be grandfathered for the receipt of the waiver portion of the benefit until graduation from their current degree program or through academic year 2017-2018, whichever occurs first. If they subsequently apply for an additional degree (either at the completion of their current degree or after 2017-2018), the new requirements will be in effect.

The total amount a student receives from the Native American Tuition Waiver Program and from all other sources of financial support for the same purpose, whether from the institution or from outside agencies, may not exceed the student's cost of attendance. The receipt of other aid may, in some rare cases, reduce or eliminate the receipt of the tuition waiver.

Native American Room and Board Grant

The Native American Room and Board Grant is a need based award for qualified native students living in a residence hall of the campus where they are matriculating. Students will be subsidized at the double occupancy rate for the student's residence. Charges for single, double single, or computer or telephone devices, for which there is a separate charge, will be the responsibility of the student tenant. Room and board charges will be covered only during the traditional academic year (fall and spring terms).

Eligibility

- Students must meet all eligibility requirements of the Native American Waiver and Educational Program and be certified as eligible by the Wabanaki Center at the University of Maine.

- Students must be matriculating in an undergraduate or graduate degree program within the University of Maine System, enrolled in a minimum of twelve (12) credit hours for undergraduates or nine (9) credit hours for graduate students at USM, or

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six (6) credits hours for graduate students at UM, and living in a residence hall of the campus where they are matriculating. Full time enrollment for graduate students working on their thesis or dissertation, and/or on a campus other than UM and USM, will be classified as full time in accordance with the policies on their campus of matriculation. Exceptions to the minimum enrolled hour requirement may be granted in cases where educational accommodations are required. Room and board charges will be covered ONLY during the time period when the student is actively enrolled.

- Students must apply for financial aid by completing the Free Application for Federal Student Aid (FAFSA) and supply all required documentation to the Financial Aid Office at the campus they are attending. For the academic year and/or the fall semester, the FAFSA must be filed and the aid application completed by September 1st for the spring semester, the FAFSA must be filed and the aid application completed by January 1st.

- Students must meet all of the general eligibility requirements of the Federal Title IV Financial Aid programs, including Satisfactory Academic Progress requirements.

- Students who maintain a permanent private residence, other than the parent's home, within commuting distance of the university are NOT eligible for room and board grants.

- Students pursuing a second degree at the same level are not eligible for a room and board grant.

- Persons employed by the University of Maine System on a half-time or greater basis and who are carried on the University employee payroll are NOT eligible for the room and board grants.

The maximum eligibility for the Room and Board Grant will not exceed the cost of the standard room and board charges, less all federal and state gift aid the student may receive for the purpose of funding education expenses, as well as other assistance specifically identified as paying for room and board charges. For the purposes of this calculation, 50% of a Federal Pell Grant will be considered. During the award process the maximum eligibility is then compared to the students remaining need and reduced if necessary so that an over award situation is not created.

The total amount a student receives from the Native American Room and Board Grant Program and from all other sources of financial support for the same purpose, whether from the institution or from outside agencies, may not exceed the student's calculated financial need. The receipt of other aid may, in some cases, reduce or eliminate the receipt of the room and board grant.

Appeals: Exceptions to any policies associated with the Native American Waiver and Educational Program will only be granted by the Native American Waiver and Educational Program Coordinator in consultation with the UMS Chief Student Affairs Officer. Appeals should be presented in the form of a letter detailing the specifics of the appeal.

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Guidance for Administrators – Updated 2015

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University of Maine System
Native American Waiver and Educational Program
Guidance for Administrators
Effective Fall 2012
(Updated 3/16/15)

</div>

The University of Maine System has a tuition waiver and room and board grant programs for qualified and eligible Native American students. The purpose of these programs is to encourage Native American students to participate in public higher education in Maine. The goal is to provide sustained support for all UMS Native American students who wish to pursue post-secondary study and, in particular, those who wish to obtain a certificate and/or an associate, baccalaureate, or graduate degree or some other appropriate credential that will serve them personally and professionally as they plan for the future.

Native American Waiver Program
This program covers tuition and mandatory fees (required fees charged of all students enrolled at the institution and automatically assessed at the time of registration exclusive of fees associated with contracted training or other educational activities provided by an external agency, business or organization including but not limited to travel and accommodation fees related to travel courses and other extraordinary fees such as health insurance). Tuition and mandatory fees will be waived for qualified students, both matriculated and non-matriculated, who are enrolled in academic, credit-bearing courses at the undergraduate, graduate, or continuing education level at the campuses of the University of Maine System.

Eligibility:
-   A student must be a member and be included on the current tribal census of the Passamaquoddy Tribe, the Penobscot Nation, the Houlton Band of Maliseet, or the Aroostook Band of Micmac, or have at least one parent or grandparent who is included on the current tribal census of the Passamaquoddy Tribe, the Penobscot Nation, the Houlton Band of Maliseet, or the Aroostook Band of Micmac. **OR:**

-   A student must be a member and be included on the current tribal census of a Canadian Wabanaki Tribe or have at least one parent or grandparent who is included on the current tribal census, and must have lived in Maine for at least twelve months, for purposes other than education, immediately prior to application. **OR:**

-   A student must be a member and be included on a current tribal census of a federally, state or provincially recognized Native American Tribe and have lived in Maine for at least twelve months, for purposes other than education, immediately prior to application.

-   Proof of residency is required for all applicants with the exception of current tribal members and their direct biological descendants (e.g., parent or grandparent was a tribal member) of the Passamaquoddy Tribe, the Penobscot Nation, the Houlton Band of Maliseet, or the Aroostook Band of Micmac. The residency guidelines are the same as those employed

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     for any student and can be located within the UMS Administrative Practice Letter found at: http://www.maine.edu/pdf/IV-G_002.pdf.

- Matriculating students must apply for financial aid by completing the Free Application for Federal Student Aid (FAFSA) and supply all required documentation to the Financial Aid Office at the campus on which they are matriculated. For the academic year and/or the fall semester, the FAFSA must be filed and the aid application completed by September 1st. For the spring semester, the FAFSA must be filed and the aid application completed by January 1st. It is understood that a student's particular situation (family emergency as an example) might necessitate more flexibility in these dates; the financial aid director (or, the campus coordinator for NAWEP in consultation with the financial aid director) have the ability to alter these dates as needed. New students in particular may need more time to complete this requirement and every effort should be made to provide the needed flexibility.

All students must remain eligible to register for classes and maintain Satisfactory Academic Progress as defined by federal guidelines. Degree seeking students will be evaluated based on the Satisfactory Academic Progress policy of the campus where they are matriculating. Students who are not matriculating at any campus of the University of Maine System will be evaluated using the University of Maine Satisfactory Academic Progress policy. The policy can be found at: http://umaine.edu/stuaid/sap/

Waiver: Program Specifics

Eligibility Verification: Eligibility is verified by the UMS Native American Program Coordinator.

Residency: As mentioned in the eligibility criteria listed above, proof of residency is required for all applicants with the exception of current tribal members and their direct biological descendants (e.g., parent or grandparent was a tribal member) of the Passamaquoddy Tribe, the Penobscot Nation, the Houlton Band of Maliseet, or the Aroostook Band of Micmac. The residency guidelines are the same as those employed for any student and can be located within the UMS Administrative Practice Letter found at: http://www.maine.edu/pdf/IV-G_002.pdf.

Tuition charged: The waiver will be charged at the in-state rate for all students, new and continuing, as of 2012-2013. Students who were certified for the waiver prior to 2012 who were classified as out-of-state will be reclassified to in-state.

Mandatory Fees:
Mandatory Fees: Mandatory fees are those fees which all students must pay including any course or program fees. For the purpose of the waiver, mandatory fees are covered for eligible Native students with the following exceptions:
- Any fees which could be construed as books or supplies are NOT covered by the waiver.
- Fees associated with contracted training or other educational activities provided by an external agency, business or organization including but not limited to: travel expenses for airfare, hotel and meals for a course requiring travel or the cost of flight instructors, and

expenses related to use of airplanes or other training equipment in an Aviation Course are NOT covered by the waiver. Such fees are considered Extraordinary Fees and are explicitly excluded from this definition of mandatory fees. For the purposes of any tuition or course fee waiver provided by the University including employee and Native American Student waivers, such Extraordinary Fees are NOT covered by the waiver.

- Fees associated with student health insurance are NOT covered by the waiver. The UMS has a mandatory requirement for students to carry health insurance but students can waive the university plan and so are not required to take this plan if they have other coverage. However, students who are covered by the Indian Health Service (IHS) can waive the student health insurance by simply going into the insurance waiver website and indicating "Indian Health Service" on the line indicating coverage.

Grandfathering of students who were certified for the waiver prior to Fall 2012: Students who entered the program prior to Fall 2012 would have their eligibility grandfathered for the receipt of the waiver portion of the benefit until graduation from their current degree program or through academic year 2017-2018, whichever occurs first. If they subsequently apply for an additional degree (either at the completion of their current degree or after 2017-2018), the new eligibility requirements will be in effect. Grandfathered students are expected to meet all other new requirements (SAP, etc) of the Program.

Program Agreement: All students receiving the waiver and/or grant will be expected to sign a new program agreement.

Repeat coursework: The waiver is not tied to federal eligibility (with the exception of satisfactory academic progress) and so repeat coursework is permitted but should be monitored as this can impact satisfactory academic progress.

Eligibility for degrees: With the exception of students certified for the waiver before September 2012, students receiving the Native American Waiver and the Room and Board Grant are only permitted to receive same for one degree at each level: certificate, associate degree, bachelor's degree, master's degree, and doctoral degree. Students who were certified before September 2012 may be currently working on a second degree at the same level – they are grandfathered for this as specified elsewhere in this document.

In rare circumstances and with the approval of the UMS Chief Student Affairs Officer, a student may be granted an exception when the receipt of an additional degree at a given level is necessary for workplace advancement or retraining (examples include certain post-baccalaureate degrees at UMA, certification programs at UMPI and other appropriate certificates at other campuses). It is important to note that when such an exception is granted, the student would only be eligible for the waiver. Eligibility for the room and board grant would end with the receipt of the original degree (so, one bachelors, one masters, and so on).

So, if a student is enrolling in a certificate program after already receiving a bachelor's degree, assuming that the certificate program is for retraining/workforce development, the student would appeal to the Chief Student Affairs Officer (a letter describing the program and why enrolling) and that individual would approve it and notify all appropriate individuals. HOWEVER, the

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student would only be qualified for the waiver of tuition and fees and would not be eligible for the room and board grant. They are only eligible for the room and board grant for one of each level (associates, bachelors, masters and doctorate) - a certificate is really just a subset of a bachelor's degree (or in the case of certain education certification certificates, a master's degree) not a new degree per se.

Satisfactory Academic Progress - All students must remain eligible to register for classes and maintain Satisfactory Academic Progress as defined by federal guidelines. Degree seeking students will be evaluated based on the Satisfactory Academic Progress policy of the campus where they are matriculating. Students who are not matriculating at any campus of the University of Maine System will be evaluated using the University of Maine Satisfactory Academic Progress policy. The policy can be found at: http://umaine.edu/stuaid/sap/
As with current practice, the campus Financial Aid Office will conduct SAP review for all matriculated students receiving the waiver and/or grant. The Native American Waiver and Educational Program Coordinator will conduct the SAP review for all non-matriculated students receiving the waiver utilizing the University of Maine SAP policy.

Total amount of aid permitted: The total amount a student receives from the Native American Tuition Waiver Program and from all other sources of financial support for the same purpose, whether from the institution or from outside agencies, may not exceed the student's cost of attendance. The receipt of other aid may, in some rare cases, reduce or eliminate the receipt of the tuition waiver.

Native American Room and Board Grant
The Native American Room and Board Grant is a need based award for qualified native students living in a residence hall of the campus where they are matriculating. Students will be subsidized at the double occupancy rate for the student's residence. Charges for single, double single, or computer or telephone devices, for which there is a separate charge, will be the responsibility of the student tenant. Room and board charges will be covered only during the traditional academic year (fall and spring terms). On those campuses that have designated housing for seniors where the students can decline the board portion of the charge, the Native American Room and Board Grant will only be applied to the housing portion; the student will not receive any refund for board not delivered as a part of the normal board plan.

Eligibility
- Students must meet all eligibility requirements of the Native American Tuition Waiver Program and be certified as eligible by the Wabanaki Center at the University of Maine.

- Students must be matriculating in an undergraduate or graduate degree program within the University of Maine System, enrolled in a minimum of twelve (12) credit hours for undergraduates or nine (9) credit hours for graduate students at USM, or six (6) credits hours for graduate students at UM, and living in a residence hall of the campus where they are matriculating. Full time enrollment for graduate students working on their thesis or dissertation, and/or on a campus other than UM and USM, will be classified as full time in accordance with the policies on their campus of matriculation.

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- Students must apply for financial aid by completing the Free Application for Federal Student Aid (FAFSA) and supply all required documentation to the Financial Aid Office at the campus on which they are matriculated. For the academic year and/or the fall semester, the FAFSA must be filed and the aid application completed by September 1st. For the spring semester, the FAFSA must be filed and the aid application completed by January 1st. It is understood that a student's particular situation (family emergency as an example) might necessitate more flexibility in these dates; the financial aid director (or, the campus coordinator for NAWEP in consultation with the financial aid director) have the ability to alter these dates as needed. New students in particular may need more time to complete this requirement and every effort should be made to provide the needed flexibility.

- Students must meet all of the general eligibility requirements of the Federal Title IV Financial Aid programs, including Satisfactory Academic Progress requirements.

- Students who maintain a permanent private residence, other than the parent's home, within commuting distance of the university are NOT eligible for room and board grants.

- Persons employed by the University of Maine System on a half-time or greater basis and who are carried on the University employee payroll are NOT eligible for the room and board grant.

Grant Program Specifics:

Students who fall under this revision: The transition of the Native American Room and Board Scholarship to a need based grant will apply to all students, new and continuing, effective Fall 2012.

Enrollment in sessions outside the normal fall and spring semesters: Students enrolled in course work during short sessions outside the regular fall and spring semesters may be considered for a room and board grant while carrying fewer than the minimum credit hours specified above. The grant covers room and board charges only during that time period when the student is regularly enrolled and attending classes. These exceptions would only be granted if the student's major required attendance during these sessions.

Students in default: Students receiving the Native American Room and Board Grant must meet the federal financial aid eligibility requirements.

Reduction in credit hour requirement: Students who have documented disabilities, are working with the campus Office of Students with Disabilities, and are required to take a reduced course load due to this (as a component of "reasonable accommodation') are eligible for the room and board grant. There may be instances where a student, due to SAP, is put on a learning contract which may necessitate a reduction in credit hours – in these instances, the campus can, on a case by case basis, permit this.

Determination of room and board grant: The maximum eligibility for the Room and Board Grant will not exceed the cost of the standard room and board charges, less all federal and state gift aid

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the student may receive for the purpose of funding education expenses, as well as other assistance specifically identified as paying for room and board charges. For the purposes of this calculation, 50% of a Federal Pell Grant will be considered.   During the award process the maximum eligibility is then compared to the students remaining need and reduced if necessary so that an over award situation is not created.

Total amount of aid permitted: The total amount a student receives from the Native American Room and Board Grant Program and from all other sources of financial support for the same purpose, whether from the institution or from outside agencies, may not exceed the student's calculated financial need. The receipt of other aid may, in some cases, reduce or eliminate the receipt of the room and board grant.

Exceptions: Exceptions to any policies associated with the Native American Waiver and Educational Program will only be granted by the Native American Waiver and Educational Program Coordinator in consultation with the UMS Chief Student Affairs Officer. Appeals should be presented in the form of a letter detailing the specifics of the appeal.

Updated 10/22/15

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Native American Waiver and Educational Program

2017-2018 Task Force Membership

Chris Bell
Campus Operations Officer
University of Maine at Presque Isle
(207) 768-9510
chris@maine.edu

Chief William Nicholas
Chief
Passamaquoddy/Indian Township

Chief.WNicholas@gmail.com

Nakia Dana   (alternate)
Education Resource Coordinator
Passamaquoddy/Indian Township
(207) 796-6131
nakia.dana@gmail.com

Keith Dubois
Director of Student Financial Services
University of Southern Maine
(207) 780-5122
dubois@maine.edu

Candi Ewer
Education Director
Penobscot Nation
(207) 817-7348
candi.ewer@penobscotnation.org

Nicole Francis
Education Director
Aroostook Band of MicMacs
(207) 764-1972
nfrancis@micmac-nsn.gov

Ryan Low (Co-chair)
Vice Chancellor for Finance & Administration
University of Maine System
(207) 581-1554
ryan.low@maine.edu

John Bear Mitchell
Coordinator, Native American Waiver & Educational Program
University of Maine
(207) 581- 1432
john.b.mitchell@maine.edu

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Rena Newell
Education Director
Passamaquoddy/Pleasant Point
(207) 853-2600
rena@wabanaki.com

Darren Ranco   (Co-chair)
Chair, Native American Programs
University of Maine
(207) 581-1801
Darren.ranco@maine.edu

Rosa Redonnett
Chief Student Affairs Officer
University of Maine System
(207) 621-3419
rosar@maine.edu

Amber Wire
Education Director
Houlton Band of Maliseet Indians
(207) 532-4273 (ext. 210)
edu.director@maliseets.com

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Meeting of the
UMS Board of Trustees
March 25, 2019

VCAA Report

1. Programs For Examination Outcomes
2. Program Innovation Fund
3. Academic Partnerships Update
4. New Capabilities: Burning Glass Modules

Bob Neely, VCAA
261 Estabrooke Hall
University of Maine System
robert.neely@maine.edu

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Programs for Examination Annual Process

By August 1 of each year - UMS IR office will provide a dashboard summary of graduates, majors and faculty by campus for each program in the UMS program inventory, and will have identified for the CAOs those programs not meeting the above thresholds;

In November of each year – each CAO will notify the VCAA of the following items for discussion with the CAOC:

I. reason(s) of why any program need not be examined further because of meeting critical university needs, regardless of the *Programs for Examination* criteria;

II. programs not meeting the *Programs for Examination* criteria for which more examination is needed; for those programs for which questions remain, the CAO will communicate to the appropriate academic unit(s) the need for further information, analysis, discussion, etc.;

III. progress on actions to address concerns for programs identified in the previous year of the *Programs for Examination* process;

In March of each year –

I. For discussion with the CAOC, the VCAA will have provided a written summary of those programs identified by the *Programs for Examination* process, but determined to meeting critical university needs.

II. the CAOC will engage in a discussion of action plan outlines developed by each CAO to address low numbers of graduates, majors and/or faculty for any remaining program(s) identified by the *Programs for Examination* process.

Program For Examination Process: First Year Outcomes

Initially: 130 programs identified (72 Under-Grad; 58 Grad)
33 PFE Programs Remaining

PROGRAM ACTIONS

Curricular Revision:	11
Online/Hybrid Modality:	6
Marketing-Rebranding:	7
Formal Program Review:	7
Special Program Review:	2
Collaboration:	8
New Partnerships:	2
Merger:	4
Suspension:	6
Enrich Student Experience:	1
New Audience:	12
New Expertise:	7
Early College Catalyst:	2

Maine's Public Universities ~ Building Futures, Strengthening Maine

Program Innovation Fund, 2019

Upcoming: CAOC Review, April 4

- Increasing Workforce Programmatic Capacity for Working Learners through CBE
- Community Engaged Professional Credentialing
- General Education Tailored to the Adult Online Student
- Aquaculture Workforce Development: Aquatic Systems, Health and Husbandry
- Humanities Online Pedagogy Initiative
- Mental Health & Rehabilitation Technician/Community Certification (MHRT/C) Expansion
- Information Technology and Multimodality: Writing and Designing Across the Curriculum
- Credentialing Maine Adults for transition into Careers in Information Systems and Computing
- Enhancing Nurses' Competency at Graduation through Clinical Immersion—A Pilot Project
- Northern & Downeast Pilot to Expand Inclusive Early Childhood Education
- Collaborative Master of Science in Athletic Training
- Portable Dental Assistance Program
- Creation of a Baccalaureate program in the area of Mental Health and State and County Corrections

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Spring 2019 Enrollment Report

UMS Board of Trustees

March 2019

Spring 2019 Enrollment: Overview

➤ Headcount, FTE and credit hours increased

  ➤ Associate degree and non-degree law credit hours declined

  ➤ Baccalaureate credit hours increased slightly (0.7%)

    ➤ Undergraduate non-degree increased 2.2%; Early College represents 53% of undergraduate non-degree credit hrs, 8.2% of all undergraduate cr hrs

  ➤ Graduate credit hours increased 2.7%

  ➤ UM, UMA, USM all had increases in credit hours

  ➤ UMF, UMFK and UMM had most significant credit hour loss (4.2%, 6.2% and 4.5%)

Spring 2019 Enrollment: Overview

➢ Out of state enrollment grew at all campuses except UMM, UMPI from a credit hour perpective

   ➢ UM +7.4%, UMA +30.9%, UMF +6.9%, UMFK +1.4%, USM +6.6%

   ➢ Overall out of state up 8.4% headcount and 7% cr hrs

   ➢ Majority came from MA, CT, NH, NY, NJ; intnl: Canada, China, Nepal, India, Saudi Arabia

➢ Only USM showed in increase in in-state credit hour enrollment (In state overall down 0.7%)

   ➢ Overall in-state credit hour enrollment down 0.7%

   ➢ Largest in-state counties: Cumberland, Penobscot, Kennebec, Aroostook

➢ UM, UMA and USM up slightly NEBHE

Spring 2019 Enrollment: Overview

➢ Continuing to see an increase in graduate matriculated headcount and credit hours

➢ Full time credit hours increased 0.5%; part time decreased 2.3%

➢ Students over the age of 24: 33.9%

➢ Students under the age of 18: 11%

➢ Transfer enrollment increased 5.3% (+10.4% from MCCS)

  ➢ USM, UMA and UM are largest (in that order)

➢ Underrepresented enrollment increased 1.5%, +10% hispanic/latino

  ➢ Native American enrollment continues to decline

Spring 2019 Enrollment: Overview

➢ Distance education increased 9.1%

  ➢ Traditional on campus credit hrs declined 1.8%

  ➢ On line credit hours increased 10.5%, account for 23.8% of all cr hrs

  ➢ On line enrollment at campuses:

    ➢ UMA 59.5% of all credit hours

    ➢ UM 14%

    ➢ UMF 3%

    ➢ UMFK 49%

    ➢ UMM 40.9%

    ➢ UMPI 32.6%

    ➢ USM 25.1%

Spring 2019 Enrollment: Overview

➢ Early College:

➢ Three categories – Aspirations, Bridge, Dual/Concurrent

➢ All campuses except UMFK and UMPI saw increases

➢ 8.2% increase in credit hours

➢ 2.7% of all undergraduate credit hours

➢ Largest growth at UM

➢ EC represents 14.3% of undergraduate credit hrs at UMFK, 17.4% at UMPI

➢ All others with exception of UMM (5.6%) are under 4%

Adult Degree Completion: Recommendations and Implementation Plan

UMS BOARD OF TRUSTEES

MARCH 2019

PRESENTED BY: ROSA REDONNETT

Adult Degree Completion: Overview

➢ Brief Overview and Background

➢ 2018 Critical Recommendations, Implementation and Status

➢ Overview of remaining recommendations

➢ BOT and Leadership Role

Adult Degree Completion: Background

▶ Adult Credential and Degree attainment well established UMS priority – BOT resolution and now the BOT Declaration document (goal 2)

▶ State attainment goal of 60% by 2025

▶ Clear linkages to recent "Making Maine Work," MaineSpark and Maine Adult Promise

▶ Report examines progress since 2013 and provides recommendations for the critical next stages of work

▶ Detailed implementation plan with timeline, resource needs, responsibility areas and progress to date included within materials

Adult Degree Completion: Background

▶ Why Adult Credential and Degree attainment matters – some data

▶ Our challenge: "Culture trumps strategy"

  ▶ Higher education culture has been focused on educating/serving the traditional age population. All the good strategic thinking cannot survive in a culture unready to adapt to a changing landscape.

  ▶ We must focus on those campuses ready to serve adults to continue the momentum while working with other campuses to enhance their ability to serve this population

Adult Degree Completion Report: *Critical* Implementation Items

▶ Identify and Garner Internal and External Funding (Sp 19 – Ongoing)

  ▶ Governor's budget includes funding for ADC

  ▶ Lumina planning grant related to micro credentials

Adult Degree Completion Report: *Critical* Implementation Items

▶ Prioritize target academic programs (F 17 and ongoing)

   ▶ New/updated programs

      ▶ Collaborative Masters degrees (F 18 and ongoing; underway)

      ▶ Market Research – possible additions to program menu (F 18 and ongoing)

         ▶ Workforce engagement recommendations will create a structure for this.

      ▶ Connections to Program Integration – develop/pilot/evaluate models for collaborative offerings (Sp 17 and ongoing)

         ▶ Multi campus program integration teams – resolve student barriers

            ▶ Team formed, resolutions identified

         ▶ Incentivize program collaboration

            ▶ Program Innovation Fund includes criteria specific to adults and to development of flexible credential and degree options

Adult Degree Completion Report: *Critical* Implementation Items

- ▶ Further develop CBE programs (F18 and ongoing)
  - ▶ Under expansion
- ▶ Develop a path for stackable credentials (Sp 19 and ongoing)
  - ▶ Micro-credential Steering Committee formed, report/recommendations due May 2019
- ▶ Continue to align PLA practices (Sp 18 and ongoing)
  - ▶ Portfolio development
  - ▶ Better serve veterans and New Mainers
  - ▶ Explore PLA for licensure and corporate training
  - ▶ PLA 2.0
- ▶ Develop more flexible course schedules and accelerated course formats (Su 18 and ongoing)
  - ▶ Work underway with Academic Partnerships (6 session per year)
- ▶ Work toward implementation of the services and programs identified as part of the collaboration with Academic Partnerships (F 19 – F20)
  - ▶ Underway
- ▶ Identify an institution as a "completion college" and ensure development of sufficient completion programs (F 19 – Sp 20)
  - ▶ Exploratory discussions underway

Adult Degree Completion Report: *Critical* Implementation Items

▶ Develop Shared Student Support Delivery Model (Sp 19-F 20)

   ▶ Continue to strengthen the "navigator" role

      ▶ Have linked UMS navigators to MaineSpark, and to Maine Adult Promise professional development

   ▶ Further enhance face-to-face and online support services

      ▶ Develop an "on ramp" for adult students

      ▶ Explore development of a unified, cross-institution support team

      ▶ Conduct an updated assessment of current service and needs for those campuses identified as best serving adults

      ▶ Inventory other policies and procedures and determine other barriers

      ▶ Identify and implement best practice for online service delivery (the OPM process may aid in this)

Adult Degree Completion Report: *Critical* Implementation Items

▶ Launch Marketing and Communication Plan (Sp 19 – F 20)

  ▶ Firm linkage to MaineSpark and Maine Adult Promise

    ▶ UMS is part of team developing communication and web hub for Maine Adult Promise (active engagement with DOL, State Chamber, Educate Maine, MDF, etc.)

  ▶ Develop a comprehensive Systemwide outreach and communication plan

  ▶ Develop and invest in a single source, high quality interactive one-stop information resource website for the UMS (similar to learn.maine.edu)\

    ▶ Learn.maine.edu has been turned over to UMS, preliminary editing

  ▶ Develop partnerships with other service providers – "wrap around service" connection to Maine Adult Promise

Adult Degree Completion Report: *Critical* Implementation Items

▶ Marketing (continued)

  ▶ Develop a comprehensive outreach plan that reaches and targets adult learners, Gov, legislature, businesses

  ▶ Enhance marketing/communication expertise within the UMS

    ▶ Marketing Director job description developed and being evaluated

  ▶ Co-brand with MaineSpark

  ▶ Promote a more "activist" agenda specific to adult degree completion (ex Maine State Grant, etc)

    ▶ Underway in this legislative session

Adult Degree Completion Report: *Critical* Implementation Items

▶ Provide Financial Intervention and Scholarships (Sp 19 – Sp 20)

  ▶ Identify opportunities for additional funding (review underway)

    ▶ Eligibility for those with zero to 30 credits

    ▶ Eligibility for those continuing to a bachelors degree without a gap

    ▶ Eligibility for students pursuing updated credentials

  ▶ Expand outreach

  ▶ Develop a plan for small debt forgiveness

  ▶ Ensure that students know about emergency loan funds

  ▶ Explore more uniform adoption of Pell Promise

  ▶ Work within the state (and federal gov't) to promote economic and workforce development policies that better support adults (ex. DHHS HOPE program, PaS, Maine State Grant)

Adult Degree Completion: Additional Recommendations

▶ Additional Recommendations

   ▶ Executive Support and Sponsorship

   ▶ Appointment of UMS statewide leader for this effort

   ▶ Appoint and empower ADC Working Group to become Steering Committee

   ▶ Focus on those campuses most able to serve adults

      ▶ Identify ways other campuses can serve adults and build capacity

Adult Degree Completion: Additional Recommendations

▶ Support Faculty Professional Development

▶ Identify Target Audiences

▶ Develop an evaluation, assessment and improvement plan

Adult Degree Completion: BOT & Leadership Roles

How can we achieve this plan and best align with the BOT Strategic Priorities?

▶ Ensure that candidates for Chancellor support this initiative and its importance

▶ Engage the Governor, key legislative committees, new Trustees and new Presidents

▶ Identify resources if we do not prevail with the Governor's budget

▶ Include non-traditional students in any messaging about our student population

▶ Work statewide to message the value of credentials and degrees in the future of Maine

▶ Advocate for Gubernatorial and legislative support for adult credential and degree attainment in Maine (both in word and deed/resources)

▶ Strengthen UMS connections to business, industry, other IHE, NPOs and service orgs, key state departments (DOE, DOL, DECD, etc.)

▶ Continue to make a UMS education affordable and develop other ways to reduce the debt burden

▶ Keep the focus on this work. Be patient – this takes time!

Adult Degree Completion: Closing

▶ We identified this as a priority in 2013

▶ We have made some progress but not enough – this implementation plan puts us in position to move this along more rapidly

▶ We have been ahead of the curve in developing strategies to address the needs of this population and are committed to this

▶ We are closely allied to the statewide work of MaineSpark and Maine Adult Promise

▶ National work being done will support us in this, as will our own connections to national projects

▶ These students are critical for the sustainability of the UMS (enrollment)

▶ This is a critical initiative for Maine, its citizens and its communities.

Adult Degree Completion: Closing

▶ Questions?