UNIVERSITY OF MASSACHUSETTS – FY2020

ENTERPRISE RISK
MANAGEMENT REPORT

FEBRUARY 2021

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Letter from the President

Dear Colleagues,

I am pleased to present the University of Massachusetts Annual Enterprise Risk Management Report for Fiscal Year 2020.

Given the university's outsized contributions and importance to the Commonwealth of Massachusetts, it is imperative that we place continued emphasis on long-term sustainability and enterprise risk management with appropriate planning and procedures.

In Fiscal Year 2020, we onboarded a dedicated director of enterprise risk management and formalized the Enterprise Risk Management (ERM) program, expanding upon the important work completed across the university over the past several years. In addition, we brought additional transparency and clarity to the numerous strategies being implemented across the system to mitigate critical risks.

As soon as we formalized our ERM program, the coronavirus pandemic began its spread across the globe. As we experienced the realities of the unfolding pandemic, we leveraged our ERM program and capabilities to collaborate across the university, engaging in joint discussions with all campuses around the multitude of risks posed by the pandemic. This collaboration enabled UMass to collectively work through complex problems and make difficult decisions to protect the health and safety of our faculty, staff and students – all while maintaining the value and integrity of a UMass education. We also built upon ongoing, dynamic mitigation strategies to address significant impacts from the pandemic on the university. These strategies enabled us to efficiently adjust tactics in response to ever-changing circumstances. Our ERM program provided the tools that the university needed to quickly respond and adapt to that evolving situation.

As we look to the years ahead, we will continue to build upon lessons learned from and capabilities developed through our response to the pandemic to further mature our ERM program. This work will enable UMass to enhance how we inform our strategies, initiatives and decision-making and continue the delivery of top-quality, affordable, accessible higher education, foster diversity, equity and inclusion, and serve as a leader in the post-pandemic economic recovery of the Commonwealth.

Sincerely,

Martin T. Meehan
President, University of Massachusetts

Executive Summary

Fiscal Year (FY) 2020 has been a year of evolution for the University of Massachusetts (UMass) system-wide Enterprise Risk Management (ERM) program. The UMass President's Office (UMPO) and the UMass campuses have been working in partnership to enhance the system-wide ERM program and ensure its sustainability. These enhancements include the establishment of a formal ERM governance structure, an expanded risk assessment methodology, and a consolidated risk registry with 14 priority risks. Additionally, the program began identifying existing mitigation strategies for each of the priority risks.

I.   Scope of the Report

This report details the activities of the university's system-wide Enterprise Risk Management program during Fiscal Year 2020 (July 1, 2019 through June 30, 2020).

II.   About Enterprise Risk Management

Enterprise Risk Management (ERM) is a process-driven framework that enables the university's leadership to visualize, assess, and manage significant risks. Risk is the possibility of an issue, event or incident occurring and impacting the ability of the university to achieve its mission, strategic goals and objectives.

There are various types of risks:

- **Operational risk** is one that affects the university's ability to implement its operations

- **Health and safety risks** are those that may result in physical or emotional injuries or fatalities to students, faculty or staff

- **Financial risks** are those that may result in loss of assets or financial stability

- **Reputational risks** are those may affect the University's brand and/or reputation

- **Strategic risks** are those that may affect the University's ability to achieve its strategic goals

- **Compliance risks** are those that impact the University's ability to comply with internal and external regulations, policies and procedures

- **System-wide risk** is one that has university-wide effects, multiple campus effects, or significant effect on a single campus.

III. System-wide Enterprise Risk Management Program

The University of Massachusetts system-wide ERM Program guides and implements an ongoing process to:

- **Identify** risks
- **Assess** the potential impact of risks on core mission and strategic initiatives
- **Prioritize** risks
- **Implement mitigation actions** wherever appropriate
- **Monitor and report** risks and mitigation actions

The UMass ERM Program provides critical risk information to leadership across the university to enable informed decision-making about strategy, policies and programs.

a. History of Enterprise Risk Management

The University of Massachusetts instituted an ERM program in 2014. While the program initially focused on the President's Office, the program was expanded to include all campuses across the system in 2016. Since that time, a great deal of work has been done to support the implementation of the program, including a series of system-wide summits and focused planning meetings. See **Graphic 1** for additional detail.

b. Approach to Updating Our ERM Program

Since the Fall of 2020, significant efforts have been underway to solidify and implement a formal governance structure for the program, assess and prioritize risks across the system using an enhanced risk assessment methodology, and identify ongoing mitigation efforts around our priority risks. These efforts were built on expertise leveraged across the UMass system through more than 40 meetings with representatives from the UMass President's Office, the campuses - including the Vice Chancellors of Administration and Finance - and the members of the new ERM Working Group. In addition, a number of external partners were consulted, including peer institutions and ERM experts, to learn about their programs and obtain feedback and advice.

We learned that in the field of ERM, there is no single process, program or methodology. A number of guidelines exist, but every organization makes adaptations to these guidelines to ensure their ERM program works for their organization. This is especially true for colleges and universities.

As such, the updates to the UMass system-wide ERM program are in line with many other institutions of higher education. The UMass program is based on the ISO 31000 Risk Management Standard, creating and protecting value for the university through collaboration, transparency, integration, and continual improvement.

UMass engaged the firm Arthur J. Gallagher to validate our approach and ensure it is consistent with best practices standards.

Graphic 1: History of Enterprise Risk Management
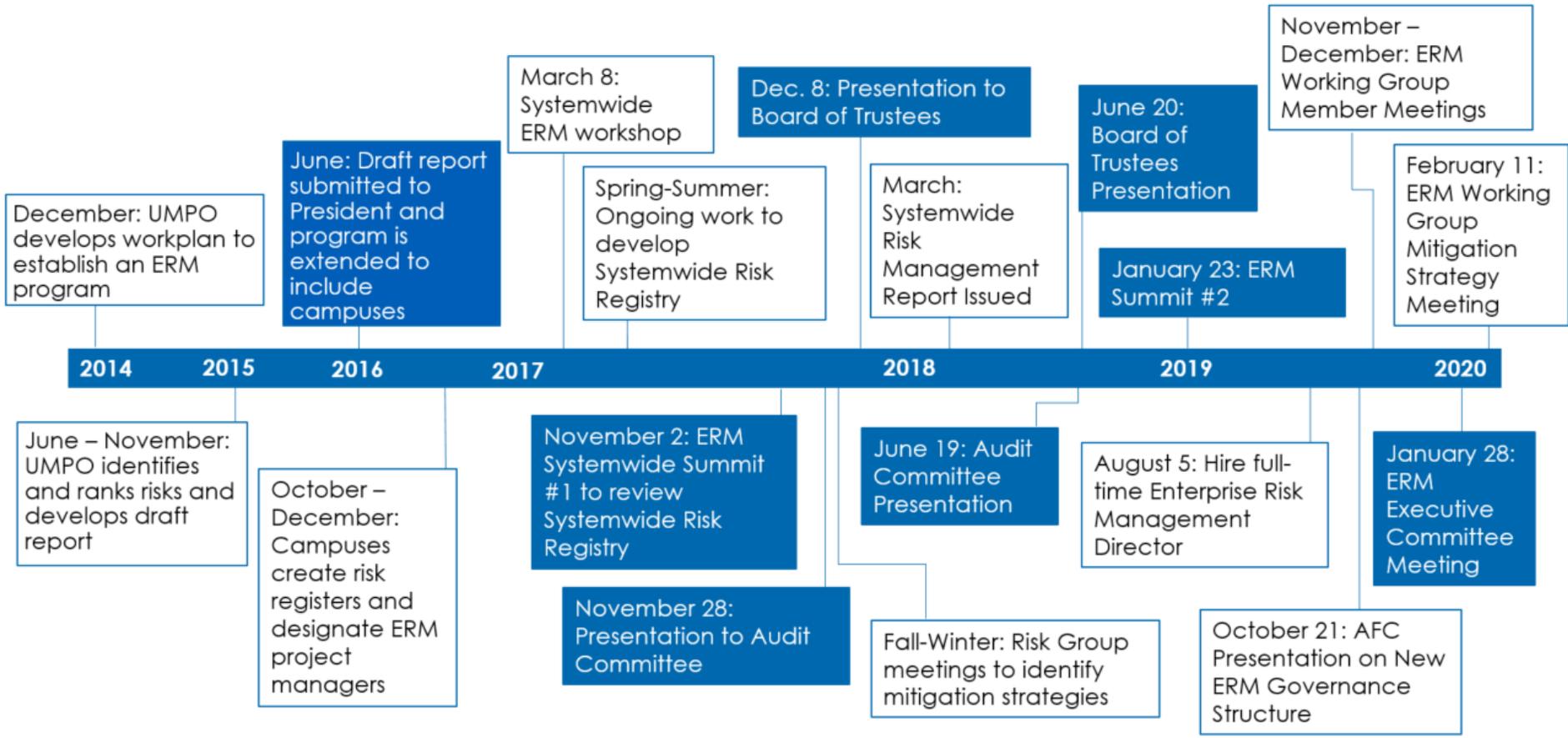
Key activities are highlighted in blue.

IV. Program Maturity

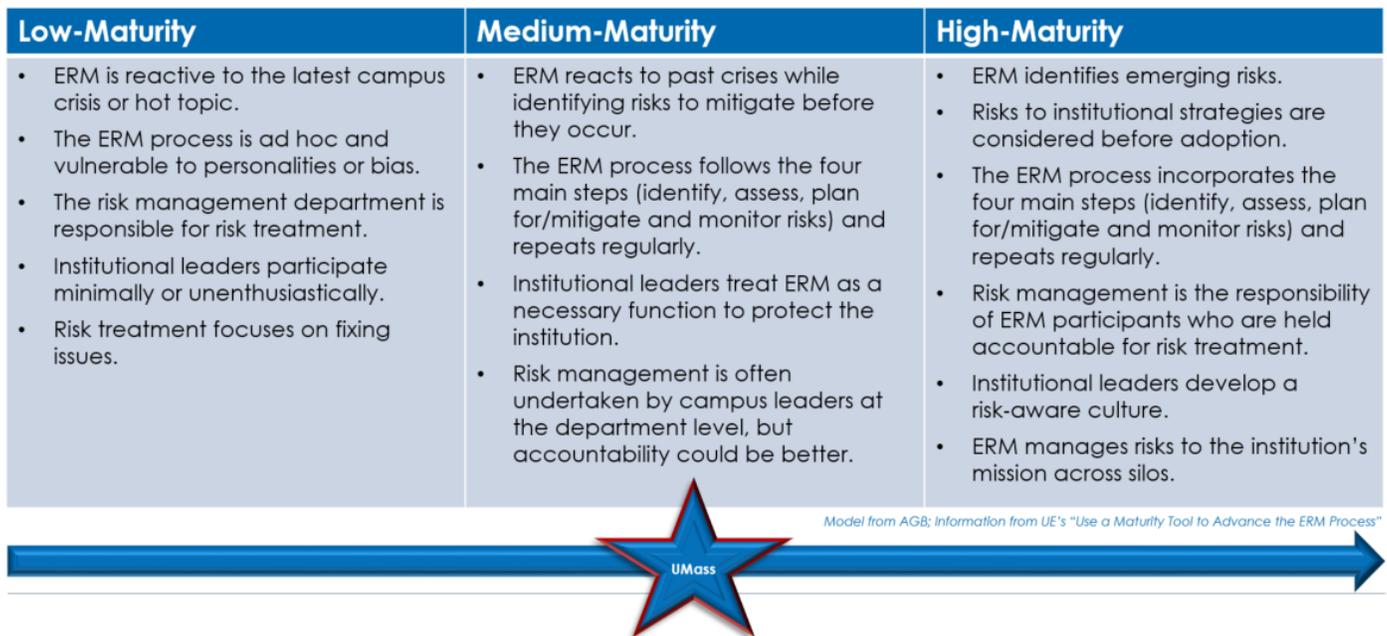The university continues to mature its system-wide enterprise risk management program. Using the Association of Governing Boards of Universities and Colleges (AGB)'s model for assessing program maturity (which is based on metrics from United Educators), the university's program is categorized in the mid-range of medium-maturity.

As UMass continues to work to further mature the program, its impact is becoming more apparent across the university, and risk assessment is increasingly entering the decision-making process. We will continue to strengthen the program to ensure it becomes a cornerstone to the university's strategic development and mission implementation.

Graphic 2: University Enterprise Risk Management Program – Program Maturity

Low-Maturity	Medium-Maturity	High-Maturity
• ERM is reactive to the latest campus crisis or hot topic. • The ERM process is ad hoc and vulnerable to personalities or bias. • The risk management department is responsible for risk treatment. • Institutional leaders participate minimally or unenthusiastically. • Risk treatment focuses on fixing issues.	• ERM reacts to past crises while identifying risks to mitigate before they occur. • The ERM process follows the four main steps (identify, assess, plan for/mitigate and monitor risks) and repeats regularly. • Institutional leaders treat ERM as a necessary function to protect the institution. • Risk management is often undertaken by campus leaders at the department level, but accountability could be better.	• ERM identifies emerging risks. • Risks to institutional strategies are considered before adoption. • The ERM process incorporates the four main steps (identify, assess, plan for/mitigate and monitor risks) and repeats regularly. • Risk management is the responsibility of ERM participants who are held accountable for risk treatment. • Institutional leaders develop a risk-aware culture. • ERM manages risks to the institution's mission across silos.

Model from AGB; Information from UE's "Use a Maturity Tool to Advance the ERM Process"

UMass

V. Real-World Implementation of Enterprise Risk Management: Our Pandemic Story

As the COVID-19 pandemic affected the University on an increasing scale beginning in January 2020, the university leveraged the system-wide Enterprise Risk Management program, its existing partnerships and its ongoing work to implement mitigation and response actions to battle the impacts of the pandemic. In doing so, this real-world implementation of the system-wide ERM program bolstered mitigation of several priority risks.

Crisis Communications Coordination: The university instituted system-wide collaboration on COVID-19 response and mitigation activities. Leadership from the President's Office and campuses conducted two daily virtual meetings to discuss unfolding events impacting our campuses and our communities around us; impacts to and guidance received from the Commonwealth, the nation and the globe; and the reverberating effects of the pandemic across the higher education sector. These meetings informed and synchronized decision-making and ensured timely and effective communications to our students, staff and faculty and to the public.

" As we watched the pandemic unfold, it became increasingly clear that coordinated, system-wide strategies were needed to inform the critical decisions we were faced with. We leveraged our ERM program and capabilities to collaborate across the university and engage in joint discussions with all campuses around the myriad of risks posed by the pandemic. This collaboration enabled the University to collectively work through complex problems, identifying the need to evacuate our campuses and transition to remote learning and working, while maintaining the value and integrity of our educational programs. The ERM program provided the tools we needed to quickly adapt to an evolving situation."

- Marty Meehan. President

International Activities: As the pandemic began to expand across the globe in February and March, campuses collaborated and began to implement real-world recall of students, staff and faculty who were located overseas. Campuses leveraged the system-wide Travel Registry to identify individuals who were traveling at that time, determine their locations, and to coordinate efforts to bring individuals back to the United States quickly as possible.

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Continuity Planning, **Information Security** and **IT Disaster Recovery**: As the university transitioned to a primarily remote workforce, we implemented continuity measures to ensure continued operation of the most critical functions. Although certain functions required continued in-person support, the majority of employees quickly transitioned to remote work. Because of the effective information security and IT disaster recovery capabilities and protocols put in place in recent years, employees were able to effectively reconstitute operations from a remote environment without interruption, readily obtaining secure access to internal networks and systems. In addition, campuses were able to effectively implement strategies to ensure continued education as campuses shifted to remote learning.

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Financial Sustainability: Building upon capacity developed in recent years, the university adjusted existing models to create projections for impacts to the budget and cash flow, including the identification of critical points when cash flow could fall below industry benchmarks. These models enabled the university to make adjustments in spending and spending reductions to ensure the fiscal year ended with a balanced budget and comply with the policies of the UMass Board of Trustees. In addition, the university worked with the Legislature to obtain legislative authority to secure a line of credit from financial institutions. Access to operating lines of credit will strengthen the university's liquidity position, provide a financial backstop, and better position the university to prepare for and respond to unforeseen events that could result in cash flow volatility.

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" The work we completed over the past several years on the financial sustainability risk provided a critical roadmap for navigating UMass through very difficult financial times generated by the pandemic. In fact, Moody's cited this work in the university's recent rating report by stating, 'UMass' improved multi-campus fiscal oversight and multi-year planning for financial stability has been essential to manage the financial disruptions associated with the coronavirus pandemic.' The financial management of these disruptions still required difficult decisions, but the scope of these necessary reductions was much smaller than it otherwise would have been without the strategies we had in place to support financial sustainability."

- Lisa Calise, Senior Vice President of Administration and Finance and Treasurer

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Enrollment: Leveraging work completed by the Advisory Committee on Financial Planning and the campuses, the university developed enrollment projections based on impacts from the pandemic, as well as a real-time enrollment tracking tool. Enrollment projections were used to forecast financial disruptions for FY21, and the real-time tool continues to be used to monitor enrollment levels.

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All-Hazards Planning: Beginning in February 2020, campuses began implementing real-world emergency response and infectious disease response actions to mitigate the spread of coronavirus. These actions included evacuating campuses to minimize exposure and spread, and implementing services to support residential students who were unable to return home. Looking ahead to Fall 2020, the ERM program, in partnership with the campuses, developed guidance and a checklist to ensure the operational plans campuses were developing met state and federal guidance. The guidance addressed protocols for social distancing, isolation and quarantine, and communication with the campus community. In addition, the ERM Program, in partnership with the campuses, developed a system-wide minimum standard for asymptomatic surveillance testing. The minimum standard requires testing of all returning students, and at least weekly testing of all residential students, student-facing faculty and student-facing staff. In addition, the standard required campuses to identify additional at-risk populations (such as commuter students frequently accessing a campus) for inclusion in the testing protocol.

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Student Mental Health and Health Support: In the Spring of 2020, the campuses expanded health services for students to include testing students who were displaying symptoms of COVID-19, and caring for students who tested positive for COVID-19. In addition, health and mental health services were expanded to ensure access through telehealth.

The university will continue to build upon lessons learned and capabilities developed through our response to the COVID-19 pandemic. These elements will continue to be incorporated into the system-wide Enterprise Risk Management program, our risk assessment process, and our mitigation strategies.

VI.   Governance Structure

A formal governance structure was established for the system-wide ERM program. This structure was created to ensure defined roles and responsibilities across the program, secure representation in the ERM process from across the system and across disciplines, and guarantee integration of efforts across the system.

In addition, the governance structure encompasses existing structures, coordination and collaboration across the system with committees reporting up to the Board of Trustees through the President's Council.

Graphic 3: University System-wide Enterprise Risk Management Program – Governance Structure
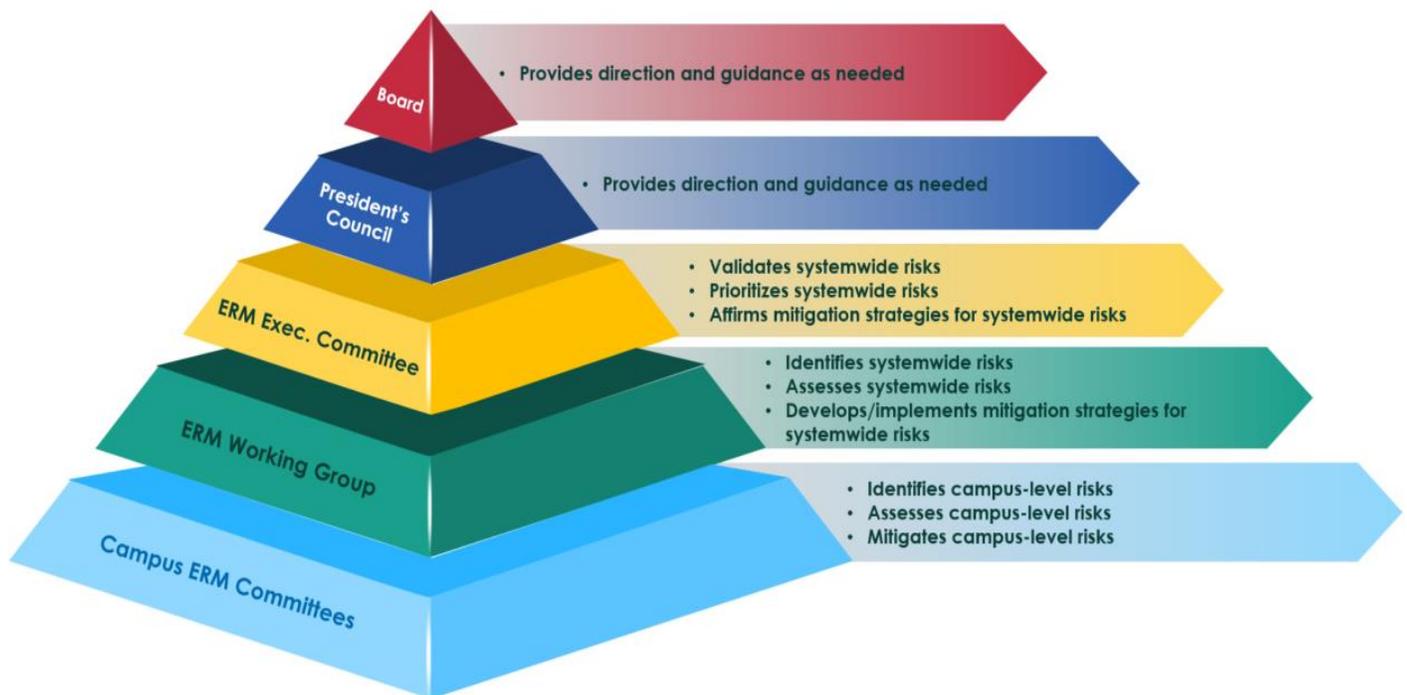
a.   Campus ERM Committees

At the foundational level are the campus enterprise risk management committees. These committees vary from campus to campus, but incorporating them allows us to build on the work being conducted at the campuses.

The campus ERM committees identify, assess and coordinate mitigation of campus-specific risks. Campuses have varying degrees of construct and formality to their ERM structures.

b. ERM Working Group

The ERM Working Group is truly the working body of system-wide Enterprise Risk Management Program. The ERM Working Group is responsible for identifying and assessing risk across the system.

The ERM Working Group consists of:

- **Director of Enterprise Risk Management**: The Director of Enterprise Risk Management serves as the chair of the working group.

- **Two representatives from each campus**: The campus representatives are typically the leads on their respective campus for enterprise risk management.

- **A designated subject matter expert for 15 identified focal areas**: The subject matter experts serve in lieu of the previous risk groups. These subject areas are as follows:
  - Academic affairs
  - Athletics
  - Communications
  - Controller
  - Facilities
  - Finance/Budget
  - Human resources
  - Information technology
  - Insurance
  - International activities
  - Procurement
  - Research
  - Safety and security
  - Student affairs
  - Tax

By bringing these voices together, we ensure a multi-disciplinary approach to identifying risks, as well as enabling comparative risk assessments across the system and across critical subject areas.

The ERM Working Group also encompasses **risk-specific mitigation subcommittees**. Mitigation subcommittees are established to develop, implement and monitor risk mitigation strategies for priority risks.

Each mitigation subcommittee will develop desired outcomes and milestones for mitigating the specific risk around which it was organized. It will capture ongoing work, identify any potential for new activity, facilitate implementation of strategies, and provide regular

updates on the progress of mitigation strategies. Each risk will then be re-evaluated against its mitigation strategies.

Members of the mitigation subcommittee vary with each risk, but each relevant subject matter expert participates, and we have the ability to pull in stakeholders that may not formally be part of the ERM working group, who may be critical to mitigating the risk. This also brings mitigation activities under the formal ERM governance structure.

c.   ERM Executive Committee

The ERM Executive Committee is the decision-making body of the ERM Program and is responsible for validating the system-wide risks identified and assessed by the ERM Working Group and prioritizing those risks. The Executive Committee is also responsible for affirming proposed mitigation strategies for priority risks and for approving the ERM annual report, ensuring it is provided to the Board of Trustees.

The ERM Executive Committee is comprised of leadership from across the system:

- **Director of Enterprise Risk Management, Chair**
- **A representative from each campus as appointed by its leadership team**
- **Leadership from the President's Office:**
    - Senior Vice President, Administration and Finance
    - Associate Vice President, Administration and Finance
    - Senior Vice President, Academic Affairs
    - Associate Vice President, Academic Affairs
    - Chief Information Officer
    - General Counsel
    - Director, Internal Audit
    - A member representing research

VII. Program Cycle

The system-wide ERM Program has a formal program cycle aligning with the fiscal year calendar to ensure a consistent cycle of reviewing and assessing risk and supporting mitigation strategies.

Graphic 4: University Enterprise Risk Management Program – Program Cycle

The following are key steps in the program cycle:

- At the beginning of each fiscal year, the Working Group convenes to review existing risks, identify new and emerging risks, and assess them.

- Risks are then presented to the Executive Committee for approval and prioritization

- Once risks are prioritized, the Working Group identifies the membership for mitigation subcommittees

- Mitigation subcommittees evaluate ongoing mitigation strategies, and identify and facilitate new mitigation strategies where they are needed

- The fiscal year culminates with an annual report on the program that will be provided to the Board and the public.

This is an iterative process, and the university will continually re-evaluate timeframes to ensure relevancy and to adjust as needed.

VIII. Risk Assessment

Risk assessment is the process for evaluating risk. There are three key components to the ERM Program's risk evaluation process: **risk criteria**, **risk rating** and **risk score**.

a.   Risk Criteria

Risk criteria are specific aspects of a risk that are evaluated to determine how greatly a risk may affect the university. The ERM Program evaluates three risk criteria: **impact**, **probability** and **urgency**.

- **Impact** evaluates the degree to which the risk impacts the university's operations, finances, reputation, health and safety and strategic objectives and goals.

- **Probability** assesses the likelihood of the risk to occur.

- **Urgency** assesses the pace with which the university needs to respond to the risk. This risk factor was added to the risk assessment process to enable us to better compare risks and more accurately identify and prioritize top risks. The urgency risk factor is based on the EAB[1]'s best practices principal of "velocity," and has been validated by Arthur J. Gallagher.

b. Risk Rating

Risk rating is the numerical value assigned to a risk criteria based on the degree to which the risk affects the university. The following sections detail the methodology for rating each risk criteria for identified risks.

i.   Impact

The rating methodology for the impact risk criteria evaluates five categories of impact and assigns a numerical value to each category based on a pre-determined scale. The numerical values are added together for a total impact rating (Graphic 5). The total impact rating is then assessed against the impact rating scale to generate an overall impact rating for the risk (Graphic 6).

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[1] EAB is an organization nationally recognized as an expert in Enterprise Risk Management

Graphic 5: Impact Risk Criteria Assessment Tool

Impact Risk Criteria Assessment					
	A	**B**	**C**	**D**	**E**
Risk Category	**Strategic (S)**	**Reputational (R)**	**Operational (O)**	**Health and Safety (H)**	**Financial (F)**
5 **Catastrophic**	Incident would call into question the viability of UMass	National publicity >3 days, resignations, drop in rankings **OR** long-term impact across many stakeholder groups	Total failure of service or disablement of the entire UMass campus	Multiple fatalities may occur	The financial viability of UMass is significantly impaired **OR** loss of >$10M
4 **Critical (High)**	Incident would call into question the viability of several major mission critical goals	National publicity or press interest **OR** multi-year impact to two or more critical stakeholder groups	Serious disruption to service or serious disruption to the entire UMass campus	Life altering injuries up to and including death to many	The financial viability of UMass is significantly impaired **OR** loss of >$1M and <$10M
3 **Substantial (Medium)**	Incident would call into question the viability of a single major mission, critical goal, or several minor mission critical goals	Local public and press interest **OR** impact <1 year to mission critical stakeholder group	Disruption to service or disablement to part of the UMass campus	Major injury or death to 1 or more	The financial viability of UMass is unlikely to be called into question **OR** loss <$500K and <$1M
2 **Moderate (Low)**	Incident would call into question the viability of a single minor mission critical goal	Contained within department but known by UMass **OR** short-term impact to non-mission critical stakeholder	Some moderate impact on service	Multiple minor injuries	Extremely unlikely that the financial viability of UMass will be called into question **OR** loss of >$50K and <$500K
1 **Minor (Negligible)**	Incident within acceptable or reasonable range associated with day-to-day activities in terms or mission critical goals	Contained within the department **OR** limited impact to non-critical stakeholders	Very minor impact on campus or service	Single minor injury	The financial viability of UMass never called into question **OR** loss of <$50K
Assessed value					
Total Impact Rating (add together the assessed values):					

Impact Level	Range
Catastrophic	21-25
Critical (High)	16-20
Substantial (Medium)	11-15
Moderate (Low)	6-10
Minor (Negligible)	0-5

Please see Appendix A for a demonstration of the assessment of fictional Risk A.

ii.   Probability

The rating methodology for the probability risk criteria evaluates the likelihood of the risk to occur. Each risk is assigned a numerical value in accordance with the probability rating tool.

Graphic 7: Probability Risk Criteria Rating Tool

Probability Risk Criteria Assessment		
Level		**Definition**
5	Almost Certain	Event is expected to occur in most circumstances
4	Likely	Event will probably occur in most circumstances
3	Possible	It is possible the event will occur at some time
2	Unlikely	It is unlikely that the event will occur at some time
1	Rare	Event may occur only in exceptional circumstances

Please see Appendix A for a demonstration of the assessment of fictional Risk A.

iii.   Urgency

The university has added an additional risk criteria against which to assess risk urgency. The urgency risk criteria evaluates the speed of onset of a risk, or the timeframe in which the risk must be addressed (but not necessarily fully mitigate the

risk). The addition of the urgency risk criteria helps to ensure the most urgent risks are appropriately prioritized.

To assess the urgency risk criteria, a risk is assigned a numerical value in accordance with the Urgency Risk Criteria Rating Tool.

Graphic 8: Urgency Risk Criteria Rating Tool

Urgency Risk Criteria Assessment		
Level		**Timeframe**
3	**Immediate**	12 - 18 months
2	**Near-term**	18 months - 5 years
1	**Long-term**	More than 5 years

Please see Appendix A for a demonstration of the assessment of fictional Risk A.

c.   Risk Ranking

The ERM program is also in the process of ranking risks through the quantification of a risk score for each risk. The risk score compiles all risk criteria into a single metric unit, enabling UMass to better compare risks across categories and disciplines across the system to more accurately identify top risks.

The risk score is quantified by calculating the product of the impact, probability and urgency risk criteria ratings.

Graphic 9: Risk Score Calculation Tool

Impact Risk Criteria Rating	X	Probability Risk Criteria Rating	X	Urgency Risk Criteria Rating	=	Risk Score

This scoring approach gives UMass the ability to effectively prioritize risks using a unique score, thus overcoming the common obstacle of having too many risks in a specific quadrant of a heat map. This also provides the ability to sort risks based upon specific risk criteria, enabling the university to better identify trends and themes to support more strategic risk mitigation approaches.

Please see Appendix A for a demonstration of the assessment of fictional Risk A.

IX. Risk Registry

The ERM Working Group proposed 32 risks for inclusion in the FY2020 system-wide risk registry. Under the new program, adjustments were made to the previous system-wide risk registry, including a consolidation of similar risks (such as those related to emergency management planning and response, finance, international activities, information security, emergency communications and facilities), and the creation of an impact statement for each risk to ensure appropriate context.

Each risk was assessed by the ERM Working Group, evaluating impact, probability and urgency, to generate a risk score. The proposed FY20 system-wide risk registry was presented to and approved by the ERM Executive Committee in January 2020.

Please see Appendix B for details on the 32 risks included in the system-wide risk registry.

a. Priority Risks

Priority risks are risks that are prioritized for focused mitigation activities for the identified fiscal year.

Priority risks are determined by the risk score: Risks with a score of 100 or greater are proposed to the ERM Executive Committee for prioritization. For FY20, the ERM Executive Committee prioritized 14 risks. FY2020 priority risks are detailed in the table below and are listed in order of priority.

Table 1: FY20 Priority Risks

Risk Rank	Risk Name	Impact Statement
1	**Enrollment**	Failure to maintain or increase enrollment levels as the higher education market faces a demographic decline that will shrink the pool of college-age students and may lead to increased competition and higher tuition discounting by private and other public institutions. Lower enrollments result in loss of financial revenue and decreased financial sustainability.
2	**Information Security**	Unauthorized access to data and/or information systems - whether unintentional or malicious - by foreign or domestic actors, or vendors with whom the University works, may result in violation of data security regulations, fines and penalties, loss of funding, legal action, impacts to IT infrastructure and operations, and impacts to the University's reputation.
3	**Continuity Planning**	Lack of effective continuity planning, as part of an integrated emergency management program, which identifies the most critical operations the university must maintain as well as the resources and personnel needed to maintain those operations, could result in the university being unable to effectively maintain critical university operations at a time they are most needed. This could result in operational, financial and reputational impacts.
4	**Facilities and Deferred Maintenance**	Inability to maintain (including ongoing and deferred maintenance) and develop facilities and infrastructure that will attract and retain students, staff and faculty and support critical research may impact the university's finances (ability to obtain and compete for research and operational funding, students, and faculty), operations, and ability to set and implement strategic goals and objectives. Lack of facilities could also harm the university's reputation for being a premier academic and research institution.
5	**Inadequate and Aging Radio Infrastructure**	Inadequate and aging radio infrastructure at four campuses (Boston, Dartmouth, Lowell and Medical School) hinders emergency communications and public safety operations on the campus, and could impact effective coordination of emergency response and/or public safety operations for large planned events.

Risk Rank	Risk Name	Impact Statement
6	All-hazards Planning	Failure to maintain all-hazards preparedness, response and mitigation planning as part of an integrated emergency management program for the university as a system and for each campus, could result in ineffective response to an emergency or crisis resulting in injury, loss of life, and/or harm to the university's reputation. Hazards include but are not limited to hazardous weather, chemical, biological, radiological, nuclear or explosives (CBRNE) incidents, active shooter threats and incidents, infectious disease outbreaks, acts of civil disobedience, acts of bias and hate, and any other threats/hazards that require evacuation of campus facilities or an entire campus.
7	Data Management	Lack of consistency in retaining, maintaining and sharing data impacts the university's ability to identify trends, anticipate issues, and effectively and efficiently strategize on addressing issues and setting strategic goals and objectives.
8	Financial Sustainability	Inability of the university to adapt its business model to meet changes on the horizon could negatively impact the university's financial sustainability.
9	Student Mental Health and Health Support	Lack of capabilities to support the physical and mental health, development and well-being of students could result in injury or death, and/or harm to the university and/or campus's reputation.
10	Sexual Assault Policies and Response Procedures	If the university does not implement consistent protocols and processes to prevent, detect, prepare for and respond to acts of sexual violence, the university could lose funding, insurance coverage and be fined/penalized for lack of compliance with Title IX, Violence Against Women Act (VAWA), and the Clery Act.
11	International Activities	Inability to coordinate international activities related to tax compliance, export controls, data and data systems, and university and intellectual property can impact the university's finances and reputation. In addition, lack of consistency in managing and supporting students, staff and faculty traveling abroad could result in physical or emotional harm to the traveler, and could impact the university's reputation.
12	Alcohol and Substance Abuse	Lack of capabilities to prevent and detect alcohol and substance abuse on campuses, meet federal regulations, and support impacted students could result in injury or death, fines and penalties, and/or harm to the university and/or campus's reputation.

Risk Rank	Risk Name	Impact Statement
13	**Crisis Communications Coordination**	Lack of a coordinated, university-wide crisis communications protocols and processes could result in uncoordinated information-sharing with the media and with impacted students, parents, faculty and staff In addition, lack of coordinated protocols and processes may hinder the campuses' ability to develop surge capacity during an emergency to support information-sharing (call centers, web traffic, etc.). This may harm the university's reputation, impacting enrollment, fundraising, and state funding.
14	**IT Disaster Recovery**	A disruption in technology services may have significant impact on the university's operations.

X.   Mitigation Strategies for Priority Risks

The university has ongoing mitigation strategies for each of the FY2020 priority risks. These strategies, described in Table 2, complement and are in addition to everyday operational activities such as internal audits, compliance reviews and others.

Table 2: Ongoing Mitigation Strategies for FY20 Priority Risks

Risk Rank	Risk Name	Mitigation Strategies
1	**Enrollment**	• Advisory Working Group on Financial Planning[2] analyzes enrollment trends to develop projections and inform enrollment strategies • Created real-time tracking tools for enrollment • Continue to conduct biweekly meetings with staff from budget, data management, marketing and academic affairs regarding enrollment data planning • Continue to conduct a once per semester system-wide meeting of the Vice Chancellors of Enrollment
2	**Information Security**	• Maintain comprehensive Cyber Insurance Coverage • Planned a system-wide cyber security tabletop exercise (postponed due to COVID) • Continually evaluate trends and adjust technology based on current threats • Evaluated our systems and controls against the Center for Internet Security (CIS) 20 controls, which is recognized as an industry standard • Conduct routine external penetration tests and address vulnerabilities • Real-time scanning of all systems for vulnerabilities and exploits • Completed mandatory cyber security awareness training • Continual improvement of the cyber incident management process • Addressed Zoom-related privacy issues • Reoccurring audits on information security in compliance with annual audit plan • Regular ongoing information sharing among the Chief Information Security Officers across the system

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[2] The Advisory Working Group on Financial Planning, which consists of three members of the Board of Trustees, the Executive Vice President, the Senior Vice President for Administration and Finance, the UMass Amherst Chancellor, the Vice Chancellors for Administration and Finance from Amherst, Boston, Dartmouth, Lowell and the Medical School, and the System Chancellor/Senior Vice President of Academic Affairs, is charged with researching, analyzing and studying issues related to the university's ability to rethink its business model to become more efficient and effective; preserve access and affordability; ensure short-term and long-term financial sustainability; and make strategic investments to maintain or improve quality of a UMass education.

Risk Rank	Risk Name	Mitigation Strategies
3	**Continuity Planning**	• Campuses maintain continuity plans • Internal Audit review of Amherst and Lowell • Real-world implementation of continuity operations in response to COVID (transition to remote learning and remote workforce), including the identification of the necessary numbers of employees to maintain essential functions

4	**Facilities and Deferred Maintenance**	• Established a Capital Policy
		• Facilities Effectiveness and Efficiency Committee:
		  • Tracks deferred maintenance with peer comparisons through work with Sightlines
		  • Prioritizes backlog reduction in capital planning
		  • Leverages third party funding for deferred maintenance (state, utility company incentives)
		• Continue to engage in efforts to amend MGL Chapter 29 §30 to allow UMass to insure any University/state owned property
		• Where applicable, take advantage of a recent amendment to MGL Chapter 29 §30, which allows state agencies in limited circumstances to procure property insurance. More specifically, a state agency may insure a building when property insurance is an eligibility requirement for FEMA disaster reimbursement funding.

5	**Aging Radio Infrastructure and Interoperability**	• Campuses met with Statewide Interoperability Coordinator for guidance • Amherst, Lowell and Medical School have funded projects to enhance their infrastructure • Boston has included a project in its five-year capital plan
6	**All-hazards Planning**	• Ongoing and continuous preparedness and planning efforts • Positioned campuses to effectively coordinate COVID response and mitigation activities
7	**Data Management**	• Hired Chief Data Strategist to help drive consistency in standards in how data is managed • Ongoing Better Together initiative which fosters alignment of data • Ongoing project to implement a system-wide UMass Integration Platform to provide more robust data management and movement capabilities • Ongoing exploration of cloud services to increase resilience of data reporting and analytics capabilities

Risk Rank	Risk Name	Mitigation Strategies
8	**Financial Sustainability**	• Ongoing work of the Advisory Group on Financial Planning[3] • Established analytics • Created Administration and Finance Executive Dashboard • Instituted Position Management • Rolled out UM Plan system-wide to support the development of the annual budget • Implemented Five-year Financial Forecasting • Implemented Reserve Policy • Established standard ratios for all financial reporting • Developed cash flow forecasting
9	**Student Mental Health and Health Support**	• Coordinated with campuses regarding changes to the Student Health Insurance Program • Expanded international travel insurance coverage to include remote mental health services • Evaluating increased demand in wrap-around services • Continued conducting system-wide monthly meetings with the Vice Chancellors of Student Affairs, who have oversight of campus health services
10	**Sexual Assault Policies and Procedures**	• Coordinated with each campus to ensure administrative standards and policies were in compliance with requirements set by our insurance provider • Enabled the University to renew insurance coverage • Weekly meetings of the system-wide Title IX coordinators • Enlisted an external consultant to assist the University in adapting to the new US. Department of Education Title IX regulations
11	**International Activities**	• EY developed a Global Risk Assessment Report (tax and regulatory compliance) for the University • Implemented travel registry • Conduct ongoing bi-monthly meeting of the International Business Group • Conduct congoing monthly system-wide meeting of campus study abroad and other international travel programs • Coordination across the system on the impacts to the University resulting from changes to immigration rules and practices • Coordination of activities related to visas for staff and students • Continued coordination across the system to enhance on export control practices and processes

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[3] Ibid

Risk Rank	Risk Name	Mitigation Strategies
		• Continued bimonthly meetings of the International Relational Advisory Committee (IRAC)
12	Alcohol and Substance Abuse	• Conducting ongoing campus alcohol and substance abuse prevention and response programs in accordance with federal requirements • Continued conducting system-wide monthly meetings with the Vice Chancellors of Student Affairs
13	Crisis Communications Coordination	• Began discussions on approach to developing a system-wide crisis coordination and communications plan
14	IT Disaster Recovery	• Numerous back-ups and redundancies in place • Cyber Insurance Coverage • Developing tabletop exercise on data recovery • Effectively and efficiently transitioned to remote work for the majority of employees across the system • Effectively and quickly transitioned from in-person to remote learning campuses

XI. Insurance as a Mitigation Strategy

Insurance is a critical mitigation strategy employed by the university against a number of risks. In collaboration with our insurance advisor and our insurance broker, UMass regularly reviews its insurance coverage and conducts an annual procurement process to obtain and renew insurance coverage.

a. Insurance Partners

The university's insurance advisor assists in evaluating and competitively procuring insurance brokerage services, represents UMass in the procurement and renewal of policies, analyzes coverage, recommends changes and refinements to coverage, and presents alternatives. Our insurance broker advises UMass on insurance market trends and industry conditions and develops underwriting and marketing strategies to competitively secure coverage.

b. Risk Based Insurance Evaluation Process

The university uses a risk-based evaluation process to assess the adequacy of our insurance coverage and identify coverage needs. This process allows us to conduct a more extensive evaluation of insurance needs based upon our risk profile and risk tolerance and includes an assessment of available limits and retention options for our insurance policies. This risk-based approach has resulted in increasing limits on general and excess liability policies and obtaining policy-specific coverage for particular risks.

i.   Insurance Procurement Cycle

The annual cycle for insurance procurement begins in December of each year and concludes in July with finalized policies. There are several steps to the procurement cycle:

- **Pre-Renewal Activities:** Series of meetings in December and January with the insurance advisor, insurance broker, and university stakeholders to:
  - Discuss market conditions
  - Review program structure and coverage gaps
  - Develop renewal and marketing strategy
  - Discuss risk tolerance and alternative program options
  - Conduct peer benchmarking

- **Application Development:** Throughout January and February, data needed to complete insurance applications is collected, analyzed and refined for underwriting submission.

- **Marketing:** During February and March, submissions are made to underwriters. The university's broker works with the applicable insurance markets on our behalf. Meetings are held as needed between the university, broker, advisor and underwriters.

- **Selection Process:** During March and April, the broker analyzes and presents quotes to the UMass. Revisions to the final renewal terms are made and the university moves forward with binding the policies.

- **Policy Review:** In May and June, the university receives policies and reviews them for accuracy.

- **Policy Finalization:** In July, policies and endorsements are finalized.
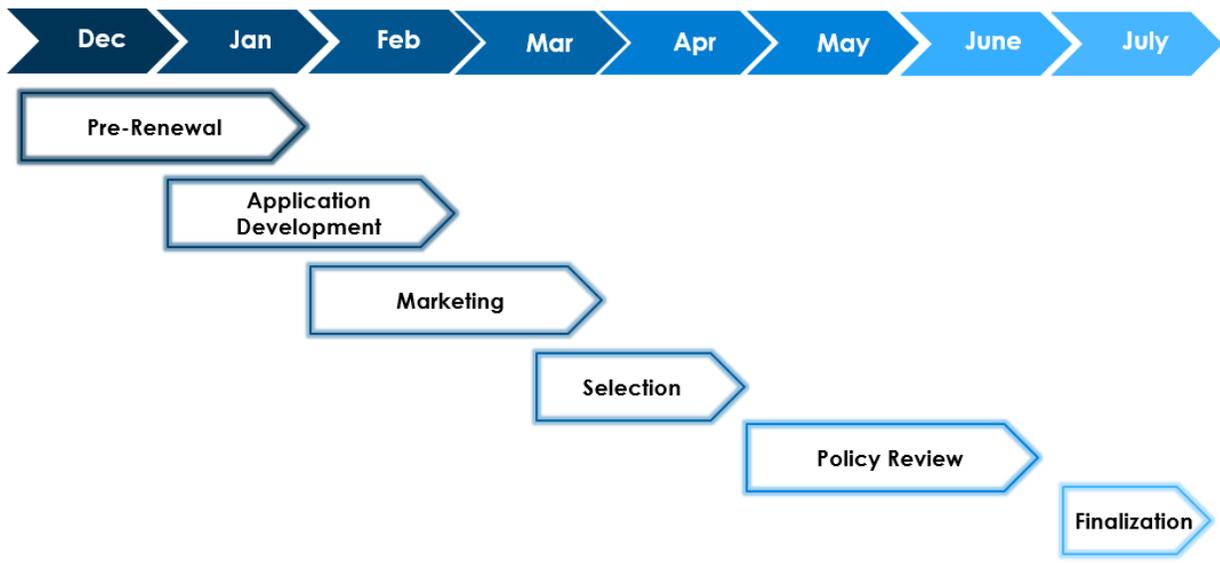
ii.   **Insurance Management Process**

The university conducts around-the-year activities to manage its insurance portfolio. This includes biweekly calls with the advisor and broker to maintain relationships, conduct ongoing review of coverage, obtain updates on market conditions, identify new coverage opportunities and needs, control losses and manage claims.

XII. Conclusion

FY2020 was an active year for the university system-wide enterprise risk management program. UMass focused on formalizing and enhancing the program, and readily transitioned to real-world implementation and response to the ongoing coronavirus pandemic. The university will continue to assess and enhance the program, identifying risks impacting and opportunities to support our mission.

Appendix A: Assessing Risk A

Step 1: Quantifying the Total Impact Rating of Risk A

Using the Impact Criteria Risk assessment tool, Risk A is evaluated to have a substantial strategic impact (3), a catastrophic reputational impact (5), a critical impact on operations (4), a moderate impact on health and safety (2), and a substantial financial impact (3). The assessed values for each category are then added to generate a total impact rating of 17 (3+5+4+2+3=17).

Graphic A-1: Impact Risk Criteria Assessment Tool

	Impact Risk Criteria Assessment				
	A	B	C	D	E
Risk Category	**Strategic (S)**	**Reputational (R)**	**Operational (O)**	**Health and Safety (H)**	**Financial (F)**
5 Catastrophic	Incident would call into question the viability of UMass	**National publicity >3 days, resignations, drop in rankings OR long-term impact across many stakeholder groups**	Total failure of service or disablement of the entire UMass campus	Multiple fatalities may occur	The financial viability of UMass is significantly impaired **OR** loss of >$10M
4 Critical (High)	Incident would call into question the viability of several major mission critical goals	National publicity or press interest **OR** multi-year impact to two or more critical stakeholder groups	**Serious disruption to service or serious disruption to the entire UMass campus**	Life altering injuries up to and including death to many	The financial viability of UMass is significantly impaired **OR** loss of >$1M and <$10M
3 Substantial (Medium)	**Incident would call into question the viability of a single major mission, critical goal, or several minor mission critical goals**	Local public and press interest **OR** impact <1 year to mission critical stakeholder group	Disruption to service or disablement to part of the UMass campus	Major injury or death to 1 or more	**The financial viability of UMass is unlikely to be called into question OR loss <$500K and <$1M**
2 Moderate (Low)	Incident would call into question the viability of a single minor mission critical goal	Contained within department but known by UMass **OR** short-term impact to non-mission critical stakeholder	Some moderate impact on service	**Multiple minor injuries**	Extremely unlikely that the financial viability of UMass will be called into question **OR** loss of >$50K and <$500K
1 Minor (Negligible)	Incident within acceptable or reasonable range associated with day-to-day activities in terms or mission critical goals	Contained within the department **OR** limited impact to non-critical stakeholders	Very minor impact on campus or service	Single minor injury	The financial viability of UMass never called into question **OR** loss of <$50K
Assessed value	3	5	4	2	3
Total Impact Rating (add together the assessed values):				17	

Step 2: Identifying Overall Impact Rating of Risk A

The total impact rating is then assessed against the impact rating scale to general an overall impact rating for the risk. Based on the scale, Risk A is assessed to have a ***critical impact*** on the University.

Graphic A-2: Impact Rating Scale

Impact Level	Range
Catastrophic	21-25
Critical (High)	16-20
Substantial (Medium)	11-15
Moderate (Low)	6-10
Minor (Negligible)	0-5

Step 3: Quantifying the Probability of Risk A

Using the Probability Risk Rating tool to assess the likelihood of Risk A occurring, Risk A is determined to have a "possible" probability rating (3).

Graphic A-3: Probability Risk Criteria Rating Tool

PROBABILITY RISK CRITERIA ASSESSMENT		
Level		**Definition**
5	Almost Certain	Event is expected to occur in most circumstances
4	Likely	Event will probably occur in most circumstances
3	Possible	It is possible the event will occur at some time
2	Unlikely	It is unlikely that the event will occur at some time
1	Rare	Event may occur only in exceptional circumstances

Step 4: Quantifying the Urgency of Risk A

Using the Urgency Risk Rating tool to assess the urgency of the risk, Risk A is determined to have a near-term urgency level, meaning the risk should begin to be addressed within the next 18 months to five years.

Graphic A-3: Probability Risk Criteria Rating Tool

Urgency Level		Timeframe
3	Immediate	12 - 18 months
2	Near-term	18 months - 5 years
1	Long-term	More than 5 years

Step 5: Calculating the Risk Score for Risk A

To calculate the risk score for Risk A, the impact, probability and urgency risk criteria ratings are multiplied. Risk A is determined to have a risk score of 102. Risk A will then be compared against other identified and assessed risks using the Risk Score.

Impact Risk Criteria Rating	X	Probability Risk Criteria Rating	X	Urgency Risk Criteria Rating	=	Risk Score
17		3		2		102

Appendix B: University of Massachusetts FY20 System-wide Risk Registry

Rank	Risk Name	Impact Statement	Impact	Impact - Total Rating	Probability	Probability Rating	Urgency Rating	Risk Score: Impact x Probability x Urgency
1	Enrollment	Failure to maintain or increase enrollment levels as the higher education market faces a demographic decline which will shrink the pool of college-age students and may lead to increased competition and higher tuition discounting by private and other public institutions. Lower enrollments result in loss of financial revenue and decreased financial sustainability.	High	17	Likely	4	3	**204**
2	Information Security	Unauthorized access to data and/or information systems - whether unintentional or malicious - by foreign or domestic actors, or vendors with whom the University works, may result in violation of data security regulations, fines and penalties, loss of funding, legal action, impacts to IT infrastructure and operations, and impacts to the University's reputation.	Medium	13	Almost Certain	5	3	**195**
3	Continuity Planning	Lack of effective continuity planning, as part of an integrated emergency management program, which identifies the most critical operations the university must maintain as well as the resources and personnel needed to maintain those operations, could result in the University being unable to effectively maintain critical university operations at a time they are most needed. This could result in operational, financial and reputational impacts.	High	16	Likely	4	3	**192**
4	Facilities and Deferred Maintenance	Inability to maintain (including ongoing and deferred maintenance) and develop facilities and infrastructure that will attract and retain students, staff and faculty and support critical research may impact the University's finances (ability to obtain and compete for research and operational funding, students, and faculty), operations, and ability to set and implement strategic goals and objectives. Lack of facilities could also harm the University's reputation for being a premier academic and research institution.	Medium	15	Likely	4	3	**180**
5	Aging Radio Infrastructure and Interoperability	Aging radio infrastructure at four campuses (Boston, Dartmouth, Lowell and Medical School) hinders emergency communications and public safety operations on the campus, and could impact effective coordination of emergency response and/or public safety operations for large planned events.	Medium	15	Likely	4	3	180

Rank	Risk Name	Impact Statement	Impact	Impact - Total Rating	Probability	Probability Rating	Urgency Rating	Risk Score: Impact x Probability x Urgency
6	All-hazards Planning	Failure to maintain all-hazards preparedness, response and mitigation planning as part of an integrated emergency management program for the university as a system and for each campus, could result in ineffective response to an emergency or crisis resulting in injury, loss of life, and/or harm to the University's reputation. Hazards include but are not limited to hazardous weather, CBRNE incidents, active shooter threats and incidents, infectious disease outbreaks, acts of civil disobedience, acts of bias and hate, and any other threats/hazards that require evacuation of campus facilities or an entire campus.	High	20	Likely	4	2	**160**
7	Data Management	Lack of consistency in retaining, maintaining and sharing data impacts the University's ability to identify trends, anticipate issues, and effectively and efficiently strategize on addressing issues and setting strategic goals and objectives.	Medium	13	Likely	4	3	**156**
8	Financial Sustainability	Inability of the University to adapt its business model to meet changes on the horizon could negatively impact the University's financial sustainability.	High	17	Possible	3	3	**153**
9	Student Health Support	Lack of capabilities to support the physical and mental health, development and well-being of students could result in injury or death, and/or harm to the University and/or campus's reputation.	High	17	Possible	3	3	**153**
10	Sexual Assault Policies and Response Procedures	If the University does not implement consistent protocols and processes to prevent, detect, prepare for and respond to acts of sexual violence, the University could lose funding, insurance coverage and be fined/penalized for lack of compliance with Title IX, VAWA, and the Clery Act.	High	17	Possible	3	3	**153**
11	International Activities	Inability to coordinate international activities related to tax compliance, export controls, data and data systems, and university and intellectual property can impact the University's finances and reputation. In addition, lack of consistency in managing and supporting students, staff and faculty traveling abroad could result in physical or emotional harm to the traveler, and could impact the University's reputation.	High	16	Possible	3	3	**144**

Rank	Risk Name	Impact Statement	Impact	Impact - Total Rating	Probability	Probability Rating	Urgency Rating	Risk Score: Impact x Probability x Urgency
12	Alcohol and Substance Abuse	Lack of capabilities to prevent and detect alcohol and substance abuse on campuses, meet federal regulations, and support impacted students could result in injury or death, fines and penalties, and/or harm to the University and/or campus's reputation.	Medium	15	Possible	3	3	**135**
13	Crisis Communications Coordination	Lack of a coordinated, university-wide crisis communications protocols and processes could result in uncoordinated information-sharing with the media and with impacted students, parents, faculty and staff In addition, lack of coordinated protocols and processes may hinder the campuses' ability to develop surge capacity during an emergency to support information-sharing (call centers, web traffic, etc.). This may harm the University's reputation, impacting enrollment, fundraising, and state funding.	High	16	Likely	4	2	**128**
14	IT Disaster Recovery	A disruption in technology services may have significant impact on the University's operations.	Medium	13	Possible	3	3	**117**
15	Vendor Management	Failure to ensure vendors, including subcontractors, comply with contract requirements, including completing background and CORI checks when required, ensuring Title IX and other training requirements are complete, maintaining any required insurance coverage, and providing adequate deliverables under their contracted scope of work, may negatively impact the University's operations, finances and reputation, and result in non-compliance with grant terms and conditions. Could also result in penalties, fines and/or legal action.	Medium	12	Likely	4	2	**96**
16	Compliance with Policies/Procedures Regarding Minors on Campus	Failure to establish and remain in compliance with policies and procedures related to minors on campus could result in injury to minors, possible fines/penalties, and harm to the University's reputation.	High	16	Possible	3	2	**96**
17	Attract, Recruit, Retain Faculty and Staff	Lack of qualified and well-regarded staff and faculty could impact the University's reputation, programs and impact the ability for the University to grow and enhance research and grant opportunities.	Medium	15	Possible	3	2	**90**

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Rank	Risk Name	Impact Statement	Impact	Impact - Total Rating	Probability	Probability Rating	Urgency Rating	Risk Score: Impact x Probability x Urgency
18	Labor Relations	Failure to maintain positive labor and employee relations may impact the University's operational capacity and/or harm the University's reputation and ability to develop strategies around the University's mission and services.	Medium	14	Possible	3	2	**84**
19	Building Code Compliance	Failure to comply with building codes and regulations, including ADA accessibility requirements, may result in fines and penalties and may hard the University's reputation.	Medium	13	Possible	3	2	**78**
20	Information Privacy	Failure to comply may result in fines and penalties, and impact the University's reputation.	Medium	12	Possible	3	2	**72**
21	Uninsured Loss	The lack of legal authority for the University to obtain insurance on its facilities may result in financial impacts to the University.	Medium	11	Possible	3	2	**66**
22	Clery Act Compliance	Lack of compliance with the Clery Act may result in fines, penalties, and loss of federal funding, and may negatively impact the University's reputation.	Low	10	Possible	3	2	**60**
23	Compliance with Employment Law/Regulations	Non-compliance with federal and state employment laws and regulations, including tax laws, may result in penalties and fines, legal action, impact the University's operations and employees, and harm to the University's reputation.	High	18	Possible	3	1	**54**
24	Compliance with Environmental, Health and Safety Regulations	Failure to comply with environmental, health and safety regulations may result in fines and penalties, and could negatively impact the University's finances and reputation.	Low	9	Possible	3	2	**54**
25	Oversight of Student Organizations	Failure to maintain oversight of student organizations may harm the University's reputation if the acts of the student organization result in harm to students, faculty or staff.	Low	10	Almost Certain	5	1	**50**

Rank	Risk Name	Impact Statement	Impact	Impact - Total Rating	Probability	Probability Rating	Urgency Rating	Risk Score: Impact x Probability x Urgency
26	Compliance with NCAA Regulations	Failure to comply with NCAA regulations, including athletic recruiting guidelines, could impact the health and safety of student athletes, cause financial impacts to the University, cause harm to the University's reputation and athletic programs, and result in fines and penalties.	Medium	15	Possible	3	1	**45**
27	Compliance with Immigration Rules	Failure to comply with federal immigration rules may result in fines and penalties and impact student, faculty and staff experiences.	Medium	12	Possible	3	1	**36**
28	Compliance with Immunization Requirements	Failure to comply with immunization requirements for undergraduate and graduate students may result in illness of students and harm the University's reputation.	Low	9	Possible	3	1	**27**
29	Unauthorized Use of Brand	Unauthorized use of the University's brand(s) may negatively impact the University's brand and/or reputation	Low	8	Possible	3	1	**24**
30	Compliance with Health Insurance Requirements	Failure to comply with health insurance requirements may harm the University's reputation.	Medium	11	Unlikely	2	1	**22**
31	Fraud, Waste, Abuse	Instances of fraud, waste and abuse can negatively impact the University's finances, reputation, and may result in fines, penalties and legal action.	Low	7	Possible	3	1	**21**
32	Academic Quality and Standards	Failure to maintain academic quality and standards may result in academic probation and loss of accreditation, and restrict growth opportunities.	High	19	Rare	1	1	**19**

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