# BOARD OF REGENTS OF THE UNIVERSITY OF WISCONSIN SYSTEM

# **Education Committee**

Thursday, February 6, 2020 9:00 a.m. – 10:30 a.m. UW-Madison Union South, Varsity Hall II 1308 W. Dayton Street Madison, Wisconsin

- A. Calling of the Roll
- B. Declaration of Conflicts
- C. Proposed Consent Agenda
  - 1. Approval of the Minutes of the December 5, 2019 Meeting of the Education Committee
  - UW-Green Bay, UW-La Crosse, UW-Oshkosh, UW-Parkside, UW-Platteville, UW-River Falls, UW-Stevens Point, and UW-Superior, with support from UW Extended Campus: Approval of the Collaborative Online Master of Science in Cybersecurity
  - 3. UW-Madison: Approval of the Master of Science in Clinical and Health Informatics
  - 4. UW-Madison: Approval of the Bachelor of Business Administration in Business: Supply Chain Management
  - 5. UW-Platteville: Approval of the Bachelor of Science in Data Science
  - 6. UW-Whitewater: Approval of the Master of Science in Cybersecurity
  - 7. UW-Whitewater: Approval of the Master of Science in Instructional Design and Learning Technology
- D. Approval to Rescind RPD 4-2, "Inter-institutional Cooperative Agreements Between UW Institutions and Private Colleges"
- E. Approval to Rescind RPD 4-5, "Principles on Accreditation of Academic Programs," and RPD 5-1, "Academic Quality Program Assessment," and Create a New Regent Policy Document titled: "Accreditation and Assessment of Student Learning"
- F. Approval of Changes to Regent Policy Document 4-19, "Naming of University Academic Units"
- G. Report of the Vice President for Academic and Student Affairs
  - 1. Update on the Task Force for Advancing Teachers and School Leaders for Wisconsin
  - 2. Discussion Regarding Developmental Education Within the UW System, pursuant to RPD 4-8: "Remedial Education Policy"

- 3. Resolution Directing the UW System President to Explore Funding and Solutions in Support of the UW System Remedial Education Programs and the UW System Task Force for Advancing Teachers and School Leaders for Wisconsin
- H. UW-Milwaukee Office of Charter Schools: Approval of Contract Renewal for La Casa de Esperanza Charter School
- I. UW System Administration Office of Educational Opportunity: Approval of Contract for Milestone Democratic Charter School
- J. Update: Freshwater Collaborative of Wisconsin
- K. UW-Madison Host Campus Presentation: High Impact Practices (HIPS) in Unexpected Places

February 6, 2020

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# NEW PROGRAM AUTHORIZATION (IMPLEMENTATION) COLLABORATIVE ONLINE MASTER OF SCIENCE IN CYBERSECURITY,

UW-GREEN BAY UW-LA CROSSE UW-OSHKOSH UW-PARKSIDE UW-PLATTEVILLE UW-RIVER FALLS UW-STEVENS POINT UW-SUPERIOR

# WITH SUPPORT FROM UW EXTENDED CAMPUS

## **REQUESTED ACTION**

Adoption of Resolution C.2., authorizing the implementation of the Collaborative Online Master of Science in Cybersecurity at UW-Green Bay, UW-La Crosse, UW-Oshkosh, UW-Parkside, UW-Platteville (lead campus), UW-River Falls, UW-Stevens Point, and UW-Superior, with administrative and financial support from the University of Wisconsin Extended Campus.

**Resolution C.2.:** That, upon the recommendation of the Chancellors of UW-Green Bay, UW-La Crosse, UW-Oshkosh, UW-Parkside, UW-Platteville, UW-River Falls, UW-Stevens Point, and UW-Superior, and the President of the University of Wisconsin System, the Chancellors are authorized to implement the Collaborative Online Master of Science in Cybersecurity at their respective campuses, with administrative and financial support from the UW Extended Campus.

## SUMMARY

The University of Wisconsin-Platteville, as lead campus and on behalf of the defined academic partners, UW-Green Bay, UW-La Crosse, UW-Oshkosh, UW-Parkside, UW-River Falls, UW-Stevens Point, and UW-Superior seeks to establish a Collaborative Online Master of Science in Cybersecurity, with administrative and financial support from the University of Wisconsin Extended Campus.

## **Program Description**

The development of this program responds to the recognized shortage of cybersecurity professionals throughout the state and region. Strong support for the degree has already been realized through interactions with leaders from over 30 state, regional and national companies, government agencies and professional associations.

This program represents a comprehensive, multidisciplinary curriculum that prepares students to advance their careers and pursue their academic ambitions through leadership and management positions within the cybersecurity field. In addition, the program offers four unique tracks to assist students in tailoring their coursework to meet their career goals: digital forensics, cyber response, governance and leadership, and security architecture. Students will gain the skills needed to effectively develop, implement, and maintain a security strategy within diverse organizations and industry sectors. Core courses will provide students with a solid foundation in data and network security, compliance, strategic planning, program design and management, legal and ethical issues in cybersecurity, cryptography, risk management, and technical communications. Graduates will embody the core competencies required to assume a variety of roles across a wide range of industries to include cybersecurity analyst, security consultant, cybersecurity manager, computer system analyst, security application analyst, and information technology specialist.

The curriculum was developed in alignment with defined requirements of the National Centers of Academic Excellence in Cyber Defense (CAE-CD) and several established and recognized industry certifications to include the Certified Information Security Manager (CISM), Certified Information Systems Security Professional (CISSP), Certified Ethical Hacker (CEH), and CompTIA Security+ certifications. On behalf of the academic partners, UW-Platteville will seek program accreditation through the Higher Learning Commission (HLC).

### **Collaborative Nature of the Program**

The M.S. in Cybersecurity is a collaborative degree program that benefits from the shared academic and administrative resources of all partnering institutions. UW System encourages and supports system-wide, cooperative, and collaborative efforts among institutions as a means to develop need-based programs of mutual interest, benefit, and

value to all partners; add to the existing base of quality academic offerings within the UW System; leverage limited resources; and more effectively and efficiently address the needs of both traditional and nontraditional learners, as well as employers within the state. This degree, like other collaborative programs currently offered within the UW System, provides each of the participating academic institutions the ability to offer a high-quality, sustainable graduate program without a requirement to extend significant local resources or a risk of compromising existing programs.

UW Extended Campus will provide administrative and financial support for the program. Faculty and staff from eight partner institutions (UW-Green Bay, UW-La Crosse, UW-Oshkosh, UW-Parkside, UW-Platteville, UW-River Falls, UW-Stevens Point, and UW-Superior) collectively developed and approved the program curriculum, program competencies, student learning outcomes, and admission requirements. These partner institutions will be responsible for identifying qualified faculty and instructional staff to deliver coursework, assess student learning, and conduct program review.

Each partner institution will appoint an academic program director who will work with their respective academic units to implement the program. Collaboratively, these directors, along with a designated campus continuing education representative or designate and the UWEX program manager, will comprise the program workgroup. This team will oversee the ongoing growth, development and performance of the M.S. in Cybersecurity degree program. The committee will meet quarterly in person and via teleconferencing, as needed. Instructional development and delivery of the online courses will be supported and hosted by UWEX. This cohesive development and offering of courses will ensure students have a consistent experience even though the faculty reside at multiple partner institutions.

Students will choose a home institution from where their degree will be conferred. All courses will be listed in each of the partner institution's course catalog and registration system. The student record will be maintained in the student information system of the home institution. Local program stakeholders, to include academic directors, continuing education staff, host department representatives, academic support office leads, and business office personnel from each institution, will also meet biannually to review local processes and concerns and to make adjustments as necessary. Program evaluation regarding the collaborative nature of the model will help assess processes critical to the success of the collaboration, such as the financial model, marketing, student recruitment and advising, admission and enrollment processes and trends, and curriculum and course design. UWEX will regularly report on program performance. All partners will share equally in the net revenues from the program, once realized.

UW Extended Campus will coordinate external engagement, input, and advice through a program advisory board consisting of 12 to 15 representatives from industry who will also serve as advisors, ambassadors and referral agents to the program. The academic directors from each of the eight partner institutions will also hold seats on the board. The

M.S. in Cybersecurity Advisory Board will meet biannually. The board members will play a critical role in ensuring that the program and the curriculum stay relevant to trends in the field. Members will be asked to help host students working on capstone projects and to help create school-to-work transitions so that as students graduate from the program, they will move to gainful employment. The program manager will provide assistance to the board, coordinate meetings, and so on. The academic directors of the program and the program manager will engage with board members and ensure that the board is connected to the program in constructive and positive ways. Board meetings will provide opportunities to present program progress and successes and to gather feedback regarding changes in the industry and how those changes may affect program graduates.

One of the many recognized and significant benefits of the collaborative program model is the extended reach or scope of contacts provided through the involvement of multiple academic partners located within unique markets throughout the state. The academic partners have established significant relationships, reputation, and strength-of-brand within their individual regions, which has proven valuable in identifying regional interest in the program and will help raise awareness of this opportunity throughout the state and expand program reach. This will ultimately result in greater success in reaching and serving students throughout the state, supporting student and regional business needs and interests, promoting program growth, and positioning the program for sustainability.

## Mission

The online M.S. in Cybersecurity degree program contributes directly to the institutional mission of the University of Wisconsin System, which clearly defines a commitment to discover and disseminate knowledge and to extend knowledge and its application beyond the boundaries of its institutions. Students will develop advanced knowledge and skills that will enable them to serve an important function and role within the cybersecurity workforce. It is a degree targeted at adult and nontraditional students possessing a bachelor's degree, and thus broadens access for alumni and others to advanced study within the UW System. The M.S. in Cybersecurity also supports the institutional missions of the eight academic partner institutions by building upon the undergraduate experience of working adults in the state and region by advancing proficiencies in communication, critical thinking, problem solving, analytical skills, leadership, teamwork, and collaboration skills. Furthermore, this multidisciplinary degree will serve to build bridges between disciplines and develop students' abilities to think in terms of systems and interrelationships and within complex organizations.

## **Market and Student Demand**

Similar to other need-based, collaborative online programs developed and administered through UW Extended Campus, the M.S. in Cybersecurity represents a program designed to satisfy a recognized workforce gap within the state of Wisconsin. In fall 2018, UW

Extended Campus commissioned the *Center for Research and Marketing Strategy* at the University Professional and Continuing Education Association (UPCEA) to conduct a Feasibility Analysis for the possible development of an online Master of Science in Cybersecurity.

The analysis included a review of industry trends, occupational demographics, internet and library scans, an analysis of the competitive marketplace, and in-depth interviews with key opinion leaders from the cybersecurity industry representing a variety of organizations in several different states. Key findings from the report include the following:

- There is a strong demand for qualified cybersecurity professionals, and the University of Wisconsin is well positioned to develop a graduate degree program that responds accordingly.
- The state of Wisconsin is projected to experience a 9% increase in cybersecurityrelated jobs over the next decade.
- Information security analysts have the highest forecasted growth between 2018 and 2028 with predictions of 25% growth in both the state and region.
- There is a significant shortage of women in global cybersecurity, accounting for only 11% of the global cybersecurity workforce.
- There is consensus among the opinion leaders interviewed that there is a significant need for a master's in cybersecurity that prepares working professionals to succeed in leadership and management positions within the industry and noted that it is often difficult to find qualified applicants for cybersecurity positions.
- A majority of opinion leaders surveyed do not feel that colleges, universities or others are meeting the current cybersecurity educational needs of students.
- Opinion leaders identified support for an online program based, in part, on its accessibility and flexibility for working professionals.
- The current competitive marketplace for a master's degree in cybersecurity is growing rapidly due to the job shortage of cybersecurity professionals.
- A favorable environment exists for launching the online graduate degree program in Cybersecurity.<sup>1</sup>

It is anticipated that the online M.S. in Cybersecurity will predominantly attract adult and nontraditional students who possess a minimum of a completed bachelor's degree, currently work in the field, and have a desire to continue their education toward a master's degree primarily to expand knowledge and specialized skills in the field and for career advancement. Not all students will have a bachelor's degree in a technology area. Student demand for this degree is greatly influenced by market demand as indicated by current and future employment opportunities within the cybersecurity field.

<sup>&</sup>lt;sup>1</sup> University Professional and Continuing Education Association (UPCEA), Center for Research and Marketing Strategy (February 2019). *Feasibility Analysis: Online Master of Science in Cybersecurity*. Commissioned by the University of Wisconsin Extended Campus.

## **Credit Load and Tuition**

The M.S. in Cybersecurity represents a fully online, asynchronous curriculum comprised of 34 credits to include a culminating, project-based capstone experience. The M.S. in Cybersecurity represents a fully online, asynchronous curriculum comprised of 34 credits to include seven core courses, three concentration or track courses, a capstone preparation course, and a project-based capstone course. Students will be able to complete more than one program track. Graduates of the program will gain the core corganizations. UW-Green Bay, UW-La Crosse, UW-Oshkosh, UW-Parkside, UW-Platteville, UW-River Falls, UW-Stevens Point, and UW-Superior will offer the program jointly. The required capstone course, which represents the culminating experience in the program, will provide students with the opportunity to apply skills acquired from coursework to a project-based experience in their track/concentration area.

Program tuition for the M.S. in Cybersecurity program will be set at \$850 per credit for 2020-21 and will be identical at all eight partner institutions. The tuition rate is based on market demand estimates as well as comparisons with other master's-level, online programs offered by the University of Wisconsin (UW) System and nationally, and will be charged outside the credit plateau, if approved by the Board of Regents. The pricing structure will follow the UW System pricing guidelines for distance education programs provided in UW System Administration Policy (SYS) 130.<sup>2</sup> Segregated fees for students enrolled in this program would be waived by all of the partner institutions. Students will not be required to pay any additional fees as part of the program, except for the cost of their books. There is no tuition differential for out-of-state students.

## BACKGROUND

This proposal is presented in accord with the procedures outlined in Academic Planning and Program Review (SYS 102, revised July 2016, available at <u>https://www.wisconsin.edu/program-planning/</u>).

## **Related Policies**

• Regent Policy Document 4-12: Academic Program Planning, Review, and Approval in the University of Wisconsin System

<sup>&</sup>lt;sup>2</sup> University of Wisconsin System (2001). UW System Administration Policy 130: Programming for the Non-Traditional Market in the University of Wisconsin System. Retrieved from <u>https://www.wisconsin.edu/uw-policies/uw-system-administrative-policies/programming-for-the-non-traditional-market-in-the-uw-system/</u>

• UW System Administration Policy 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting

# ATTACHMENTS

- A) Request for Authorization to Implement a Collaborative Online Master of Science in Cybersecurity at UW-Green Bay, UW-La Crosse, UW-Oshkosh, UW-Parkside, UW-Platteville, UW-River Falls, UW-Stevens Point, and UW-Superior
- B) Cost and Revenue Projections Worksheet
- C) Cost and Revenue Projections Narrative
- D) Provosts' Letter

**Attachment A** 

# REQUEST FOR AUTHORIZATION TO IMPLEMENT A COLLABORATIVE ONLINE MASTER OF SCIENCE IN CYBERSECURITY AT

UW-GREEN BAY UW-LA CROSSE UW-OSHKOSH UW-PARKSIDE UW-PLATTEVILLE UW-RIVER FALLS UW-STEVENS POINT UW-SUPERIOR

# WITH SUPPORT FROM UW EXTENDED CAMPUS PREPARED BY UW-PLATTEVILLE

# ABSTRACT

The University of Wisconsin-Platteville, as lead campus and on behalf of the defined academic partners, UW-Green Bay, UW-La Crosse, UW-Oshkosh, UW-Parkside, UW-River Falls, UW-Stevens Point, and UW-Superior, proposes to establish a collaborative online Master of Science in Cybersecurity (M.S. in Cybersecurity). The development of this program responds to the recognized shortage of cybersecurity professionals throughout the state and region. This program represents a comprehensive, multidisciplinary curriculum that prepares students to advance their careers and pursue their academic ambitions through leadership and management positions within the cybersecurity field. The program will equip students with the skills needed to effectively develop, implement and maintain a security strategy within diverse organizations and industry sectors. Core courses provide students with a solid foundation in data and network security, compliance, strategic planning, program design and management, legal and ethical issues in cybersecurity, cryptography, risk management, and technical communications. In addition, the program offers four unique tracks to assist students in tailoring their coursework to meet their career goals: Digital Forensics, Cyber Response, Governance and Leadership, and Security Architecture. The M.S. in Cybersecurity represents a fully online, asynchronous curriculum comprised of 34 credits to include a culminating, project-based capstone experience. Graduates of the program will gain the core competencies required to assume a variety of roles across a wide range of industries to include cybersecurity analyst, security

consultant, cybersecurity manager, computer system analyst, security application analyst, and information technology specialist. The curriculum was developed in alignment with defined requirements of the Center for National Centers of Academic Excellence in Cyber Defense (CAE-CD) and several established and recognized industry certifications to include the Certified Information Security Manager (CISM), Certified Information Systems Security Professional (CISSP), Certified Ethical Hacker (CEH), and CompTIA Security+ certifications.

# **PROGRAM IDENTIFICATION**

## **Institution Names**

University of Wisconsin-Green Bay University of Wisconsin-La Crosse University of Wisconsin-Oshkosh University of Wisconsin-Parkside University of Wisconsin-Platteville University of Wisconsin-River Falls University of Wisconsin-Stevens Point University of Wisconsin-Superior

With administrative and financial support from University of Wisconsin Extended Campus

### Title of Proposed Program

Master of Science in Cybersecurity

## **Degree/Major Designations**

Master of Science

### **Mode of Delivery**

UW System Collaborative (HLC Consortial); exclusively distance delivery

### **Department or Functional Equivalent**

The schools/colleges and departments that will offer courses for this program at each institution are as follows:

- UW-Green Bay, Department of Computer Science
- UW-La Crosse, Department of Communication Studies
- UW-Oshkosh, Department of Computer Science
- UW-Parkside, Department of Computer Science
- UW-Platteville, Department of Computer Science and Software Engineering
- UW-River Falls, Computer Science and Information Systems Department
- UW-Stevens Point, Department of Computing and New Media Technologies
- UW-Superior, Mathematics and Computer Science Department

UW Extended Campus will provide administrative and financial support for the program. UW-Platteville is seeking authorization from UW System and program accreditation through the Higher Learning Commission (HLC) on behalf of the academic partners.

## College, School, or Functional Equivalent

- UW-Green Bay, College of Science, Engineering and Technology, Resch School of Engineering
- UW-La Crosse, College of Arts, Social Sciences, & Humanities
- UW-Oshkosh, College of Letters and Science
- UW-Parkside, College of Business, Economics, and Computing
- UW-Platteville, College of Engineering, Math and Science
- UW- River Falls, College of Business and Economics
- UW-Stevens Point, College of Letters and Science
- University of Wisconsin-Superior

## Proposed Date of Implementation

September 2020 pending approval of the Higher Learning Commission (HLC)

## Projected Enrollments and Graduates by Year Five

Table 1 represents enrollment and graduation projections for students entering the program over the next five years and is based, in part, on experience with comparable University of Wisconsin collaborative online programs. It is assumed that the majority of students will enroll part-time. As shown, the universities anticipate strong enrollments with 340 students enrolling in the program and 48 students having graduated from the program by the end of Year 5. Based on experience with similar collaborative online, graduate-level programs across the UW System, it is anticipated that the average annual attrition rate will be approximately 20% once the program becomes established (Years 4 and 5).

Students/Year	Year 1	Year 2	Year 3	Year 4	Year 5
New Students	35	70	75	80	80
Continuing Students		31	83	126	152
Total Enrollment	35	101	158	206	232
Graduating Students	0	0	4	16	28

Table 1: Five-Yea	r Degree	Program	Enrollment	Projections
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## **Tuition Structure**

Program tuition for the M.S. in Cybersecurity program will be set at \$850 per credit for 2020–21 and will be identical at all eight partner institutions. The tuition rate is based on market demand estimates as well as comparisons with other master's-level, online programs offered by the University of Wisconsin (UW) System and nationally, and will be charged outside the credit plateau, if approved by the Board of Regents. The pricing structure will follow the UW System pricing guidelines for distance education programs provided in UW System Administration Policy (SYS) 130.<sup>1</sup> Segregated fees for students enrolled in this program would be waived by all of the partner institutions. Students will not be required to pay any additional fees as part of the program, except for the cost of their books. There is no tuition differential for out-of-state students.

## **DESCRIPTION OF PROGRAM**

### **Overview of the Program**

The M.S. in Cybersecurity represents a fully online, asynchronous curriculum comprised of 34 credits to include seven core courses, three concentration or track courses, a capstone preparation course, and a project-based capstone course. Students will be able to complete more than one program track. Graduates of the program will gain the core competencies required to serve in a variety of cybersecurity roles within diverse organizations. UW-Green Bay, UW-La Crosse, UW-Oshkosh, UW-Parkside, UW-Platteville, UW-River Falls, UW-Stevens Point, and UW-Superior will offer the program jointly. The required capstone course, which represents the culminating experience in the program, will provide students with the opportunity to apply skills acquired from coursework through a project-based experience in their track/concentration area.

## **Student Learning Outcomes and Program Objectives**

The learning outcomes for the M.S. in Cybersecurity degree were developed in alignment with defined requirements of the Center for National Centers of Academic Excellence in Cyber Defense (CAE-CD). Students completing the program will gain advanced skills and be able to:

Analyze and resolve security issues in networks and computer systems to secure an IT infrastructure:

- Interpret and analyze operating systems and machine level structures.
- Interpret and analyze network protocols.
- Design, evaluate, and test systems including networks, computers, and hardware for security requirements.

<sup>&</sup>lt;sup>1</sup> University of Wisconsin System (2001). UW System Administration Policy 130: Programming for the Non-Traditional Market in the University of Wisconsin System. Retrieved from <u>https://www.wisconsin.edu/uw-policies/uw-system-administrative-policies/programming-for-the-non-traditional-market-in-the-uw-system/</u>

Design, develop, test, and evaluate secure software:

- Implement best practices in secure software development.
- Implement effective cryptographic systems and assess their vulnerabilities.
- Assess security implications for emerging software technologies.

Develop policies and procedures to manage enterprise security risks:

- Conduct security risk management assessments.
- Develop and implement threat management frameworks.
- Evaluate and create security policies and processes for an organization and apply appropriate security frameworks.
- Implement identity and access management controls.

Evaluate and communicate the human role in security systems with an emphasis on ethics, social engineering vulnerabilities, and training:

- Assess trends in computer criminology and social behaviors related to technology use including physical security.
- Engage in ethical decision-making and apply ethical principles to cybersecurity.
- Engage in professional collaboration and communication with technical and nontechnical stakeholders on issues related to security.

Interpret and forensically investigate security incidents:

- Develop and implement an incident response strategy.
- Identify and assess attacks through forensics.
- Interpret legal implications of security incidents and conduct investigations using industry best practices.

## **Program Requirements and Curriculum**

Admission requirements for the M.S. in Cybersecurity program will include a bachelor's degree and a 3.0 undergraduate GPA. Program prerequisites will include the following:

- Introduction to Computer Science
- Calculus or Statistics

It is expected this program will draw students from diverse academic backgrounds. The intent of the program prerequisites is to ensure students have the necessary knowledge and mathematical/programming maturity to be successful across all courses. It is assumed that most students coming from a technical background will have completed a course in either Calculus or Statistics as part of their prior education. In addition, course sequencing and internal prerequisites within the M.S. in Cybersecurity program have been structured to enable students to build sufficient knowledge before they enroll in advanced courses. The Introduction to Computer Science course prerequisite should show evidence of programming and database competencies. Students will be required to satisfy all program prerequisites prior to formal admission into the program. There will be no required aptitude tests for admission in the program (e.g., GRE, GMAT, other). Students must maintain an overall cumulative GPA of 3.0 or better to graduate.

Table 2 illustrates the 34-credit curriculum for the proposed M.S. in Cybersecurity program. Students will complete seven core, three track, and two capstone courses (a 1-credit capstone preparation course and a 3-credit capstone course) to satisfy degree requirements. There are four tracks offered within the curriculum. Students must complete one track; however, they may choose to complete more than one track. The 3-credit capstone course requirement, which represents the culminating experience for relevant students, must be taken in the final semester of study. A capstone preparation course (1-credit) will be taken the semester prior to the capstone course and will provide the student the opportunity to prepare a capstone proposal for an applied, project-based, self-directed experience.

The proposal will be reviewed and approved by the capstone instructor and the home campus academic director for implementation in the capstone course. Students may implement and complete capstone projects within their current place of employment or through another host organization. The program advisory board, made up of industry representatives, will have a significant role and responsibility for recommending possible projects and possibly hosting capstone students at their organizations.

Course Number	Course Title	Number of Credits	Campus			
	Core Courses					
CYB 700	Fundamentals of Cybersecurity3UW-Superior		UW-Superior			
CYB 703	Network Security	3	UW-Green Bay			
CYB 705	Sociological Aspects of Cybersecurity	3	UW-Stevens Point			
CYB 707	Cybersecurity Program Planning and Implementation	3	UW-Parkside			
CYB 710	Introduction to Cryptography	3	UW-Oshkosh			
CYB 715	Managing Security Risk	3	UW-Platteville			
CYB 720	Communication in Cybersecurity	3	UW-La Crosse			
Track 1 – Digital Forensics						
CYB 725	Computer Forensics and Investigations	3	UW-Stevens Point			
CYB 730	Computer Criminology	3	UW-Stevens Point			
CYB 735	Network Forensics		UW-Parkside			

### Table 2: M.S. in Cybersecurity Program Curriculum

Track 2 – Cyber Response (Defense, Incident & Attack Response)				
CYB 740	Incident Response and Remediation	3	UW-River Falls	
CYB 745	Secure Operating Systems	3	UW-Oshkosh	
CYB 750	Offensive Security and Threat Management	3	UW-River Falls	
Track 3 – Governance & Leadership (Communication, Management, Policy, Compliance)				
CYB 755	Security Administration	3	UW-River Falls	
CYB 760	Cybersecurity Leadership and Team Dynamics	3	UW-La Crosse	
CYB 765	Cybersecurity Management	3	UW-River Falls	
Track 4 – Security Architecture (Systems, Software, Data)				
CYB 770	Security Architecture	3	UW-Platteville	
CYB 775	Applied Cryptography	3	UW-Superior	
CYB 780	Software Security	3	UW-Green Bay	
CYB 785	Cyber Physical System Security	3	UW-Platteville	
Capstone Courses				
CYB 789	Cybersecurity Pre-capstone	1	UW-Superior	
CYB 790	Cybersecurity Capstone	3	UW-Superior	

### **Assessment of Outcomes and Objectives**

The assessment of student learning outcomes for the M.S. in Cybersecurity degree program will be managed by the academic program directors from each partner campus as well as the UW Extended Campus (UWEX) program manager. This assessment team will identify and define measures and establish a rubric for evaluating how well students are meeting the program's five main learning objectives. The team will also identify what data will be needed and serve as the collection point for the data. As a part of the course development process, the assessment team will determine which examples of student work will be most appropriate to demonstrate competency.

The team will receive data collected from institutions by UWEX each semester. UWEX will also monitor data on new enrollments, retention rates, and graduation rates. The assessment team will compile these various sources of data and complete annual reports summarizing the data, the assessment of the data, and decisions regarding improvements to the curriculum, structure, and program delivery. The report will be shared with the faculty of the program and other stakeholders at each partner institution. The assessment team is responsible for ensuring that recommendations for improvement are implemented.

#### Diversity

The collaborative online program model was established, in part, to increase access to higher education for primarily nontraditional students and to maximize the educational benefits of diversity. The universities have a continually expanding cadre of highly motivated faculty across campuses and disciplines trained to combine the latest educational technologies and insights from education research to promote inclusive excellence. This community creates modular, interactive online curriculum and learning experiences to serve multiple curricular and developmental goals for students. The annual Collaborative Online Faculty Symposium, which serves as an opportunity for over 200 faculty from across programs to network and share best practices in online teaching and learning, represents one part of a systematic process and effort to challenge faculty members to adopt assessment endpoints to include higher-order thinking skills, adaptability, and inclusiveness. Faculty work to provide students with a range of learning experiences including readings, field trips, guest speakers, capstone projects and a range of other learning activities designed to promote diversity and to encourage students to share their individual and personal life stories and experiences which serve to expand their perspectives beyond their own life experiences and promote understanding and acceptance of their counterparts in the virtual classroom. The online curriculum and digital technologies allow for virtual access to people, places and resources that are in many ways more varied and diverse than what can be afforded students in a face-to-face setting.

Many students from underrepresented minority groups, first-generation Americans, first-generation college students, and low-income students are included in the definition of nontraditional students. Nontraditional students may have family or work responsibilities that prevent them from attending school in traditional formats. The online delivery format will provide opportunities to those students who are time and place bound, and do not reside within close proximity to an existing UW institution. The program design recognizes that nontraditional students come to the learning environment from diverse backgrounds, with unique knowledge and experiences, and looking for opportunities to share that knowledge with others. The strength of this program and the success of its students is, in large part, based on the ability to attract and retain a diverse adult student audience through program completion.

UWEX has several initiatives currently underway to attract more students from underrepresented groups into the UW System. Through UW HELP, brochures and materials specific to Hispanic and Hmong students are sent to those respective potential student groups. The program manager for the M.S. in Cybersecurity program employed by UWEX will conduct outreach, working with employers to encourage and support the education of their employees, especially focusing on underrepresented minorities. In addition, a dedicated program advisory board (described below) will provide support in this area by helping the program extend its reach to diverse prospective students and communities. Ensuring that diverse student populations enter the M.S. in Cybersecurity program is important, but equally important is providing the support services that enable all students to feel comfortable and to succeed. The UWEX success coach will work closely with all students to self-identify barriers to their success, either to help them overcome those barriers directly or to point them to home campus and other resources that will be of assistance to them. UWEX will maintain online student environments that will allow individuals from diverse ethnic backgrounds to connect with other students over both cultural similarities and programmatic interests to help build points of commonality and understanding. The Student Resource Lounge serves to connect students with a wealth of resources and information to support their persistence in the program. Social media opportunities for student connection will be made available through Facebook, Twitter, and LinkedIn, to name a few. Simply put, an essential goal of this program is to increase both the access for diverse audiences to this degree and the success of those students once they enter the program.

While the proposed degree does not project a significant number of new faculty and staff, the partner institutions will continue to be committed to recruiting a culturally diverse campus community. The program will work toward achieving equity in the gender distribution of faculty, and faculty of color will be encouraged to participate in this program.

#### **Collaborative Nature of the Program**

The M.S. in Cybersecurity is a collaborative degree program that benefits from the shared academic and administrative resources of all partnering institutions. UW System encourages and supports system-wide, cooperative and collaborative efforts among institutions as a means to develop need-based programs of mutual interest, benefit, and value to all partners; add to the existing base of quality academic offerings within the System; leverage limited resources; and more effectively and efficiently address the needs of both traditional and nontraditional learners, as well as employers within the state. This degree, like other collaborative programs currently offered within the UW System, provides each of the participating academic institutions the ability to offer a high-quality, sustainable graduate program without a requirement to extend significant local resources or a risk of compromising existing programs.

Faculty and staff from eight partner institutions (UW-Green Bay, UW-La Crosse, UW-Oshkosh, UW-Parkside, UW-Platteville, UW-River Falls, UW-Stevens Point, and UW-Superior) collectively developed and approved the program curriculum, program competencies, student learning outcomes, and admission requirements. These partner institutions will be responsible for identifying qualified faculty and instructional staff to deliver coursework, assess student learning, and conduct program review.

Each partner institution will appoint an academic program director who will work with their respective academic units to implement the program. Collaboratively, these directors, along with a designated campus continuing education representative or designate and the UWEX program manager, will comprise the program workgroup. This team will oversee the ongoing growth, development and performance of the M.S. in Cybersecurity degree program. The committee will meet quarterly in person and via teleconferencing, as needed. Instructional development and delivery of the online courses will be supported and hosted by UWEX. This cohesive development and offering of courses will ensure students have a consistent experience even though the faculty reside at multiple partner institutions.

Students will choose a home institution from where their degree will be conferred. All courses will be listed in each of the partner institution's course catalog and registration system. The student record will be maintained in the student information system of the home institution. Local program stakeholders, to include academic directors, continuing education staff, host department representatives, academic support office leads, and business office personnel from each institution, will also meet biannually to review local processes and concerns and to make adjustments as necessary. Program evaluation regarding the collaborative nature of the model will help assess processes critical to the success of the collaboration, such as the financial model, marketing, student recruitment and advising, admission and enrollment processes and trends, and curriculum and course design. UWEX will regularly report on program performance. All partners will share equally in the net revenues from the program, once realized.

UWEX will coordinate external engagement, input, and advice through a program advisory board consisting of 12 to 15 representatives from industry who will also serve as advisors, ambassadors and referral agents to the program. The academic directors from each of the eight partner institutions will also hold seats on the board. The M.S. in Cybersecurity Advisory Board will meet biannually. The board members will play a critical role in ensuring that the program and the curriculum stay relevant to trends in the field. Members will be asked to help host students working on capstone projects and to help create school-to-work transitions so that as students graduate from the program, they will move to gainful employment. The program manager will provide assistance to the board, coordinate meetings, and so on. The academic directors of the program and the program manager will engage with board members and ensure that the board is connected to the program in constructive and positive ways. Board meetings will provide opportunities to present program progress and successes and to gather feedback regarding changes in the industry and how those changes may affect program graduates.

One of the many recognized and significant benefits of the collaborative program model is the extended reach or scope of contacts provided through the involvement of multiple academic partners located within unique markets throughout the state. The academic partners have established significant relationships, reputation, and strength-ofbrand within their individual regions, which has proven valuable in identifying regional interest in the program and will help raise awareness of this opportunity throughout the state and expand program reach. This will ultimately result in greater success in reaching and serving students throughout the state, supporting student and regional business needs and interests, promoting program growth, and positioning the program for sustainability.

## **Projected Time to Degree**

Students may enter the program in the spring, summer, or fall semester and advance at their own pace. Based on experience with similar collaborative offerings within the UW System and the typical adult, online student profile, it is assumed that most students will enroll part-time and take an average of three to four courses per year. At this rate, the majority of students would complete the program within three to four years. Students will be encouraged to take courses in sequence and as influenced by defined internal course prerequisites. The capstone, which represents the culminating experience for students, must be taken in the final semester of study.

## **Program Review**

Program review and evaluation occur on a more frequent schedule than in traditional academic programs. As previously discussed, assessment relative to student learning will be reviewed each academic semester and annually. The M.S. in Cybersecurity program will go through an internal three-year review focusing on program outcomes and administrative and fiscal matters. In addition, the program will conduct a comprehensive five-year review. Academic directors, faculty, and administrators from all partners will have input into programmatic changes and upcoming needs. UWEX, as the fiscal agent for this program, will manage resources to ensure that funds are available to support scheduled program reviews and to invest in the program as deemed necessary and valuable. The decision about how to invest in the program will be made collaboratively by all partners, as will recommendations related to the continuation of the program. Data collected, analyzed, and reported as part of the above-defined processes will be shared with each of the partner institutions for inclusion in their unique local, comprehensive, academic program review processes.

## Accreditation

Partners will be securing authorization to offer this program as a consortial online degree from the Higher Learning Commission, the regional accrediting body for all eight partner institutions. The program will also be pursuing external accreditations from organizations such as the Center for National Centers of Academic Excellence in Cyber Defense (CAE-CD). This program is intended to provide the necessary background for students to achieve certifications such as the following:

- Certified Information Security Manager (CISM)
- Certified Information Systems Security Professional (CISSP)
- Certified Ethical Hacker (CEH)
- CompTIA Security+

## JUSTIFICATION

#### **Rationale and Relation to Mission**

The online M.S. in Cybersecurity degree program contributes directly to the institutional mission of the University of Wisconsin System which clearly defines a commitment to discover and disseminate knowledge, to extend knowledge and its application beyond the boundaries of its institutions. Students will develop advanced knowledge and skills that will enable them to serve an important function and role within the cybersecurity workforce. It is a degree targeted at adult and nontraditional students possessing a bachelor's degree and thus broadens access for alumni and others to advanced study within the UW System. The M.S. in Cybersecurity also supports the institutional missions of the eight academic partner institutions by building upon the undergraduate experience of working adults in the state and region by advancing proficiencies in communication, critical thinking, problem solving, analytical skills, leadership, teamwork, and collaboration skills. Furthermore, this multidisciplinary degree will serve to build bridges between disciplines and develop students' abilities to think in terms of systems and interrelationships and within complex organizations. Strong support for the degree has already been realized through interactions with leaders from over 30 state, regional and national companies, government agencies and professional associations. The following statements defining the relationship of the program have been provided by each of the partner campuses:

"The MS in Cybersecurity closely aligns with the UW-Green Bay Select Mission, particularly the offering of exemplary master's programs that are problem focused, promote critical thinking, and lead to career success and economic development. Participation in this program also follows our core values of embracing partnerships, collaborative faculty scholarship, and innovation."

"At UW-La Crosse, the proposed M.S. in Cybersecurity strongly aligns with its current mission statement by responding to a recognized shortage of cybersecurity professionals throughout the state and region and preparing students to take their place in a constantly changing world community. The multidisciplinary curriculum of this program advances UW-La Crosse's commitment to life-long learning through collaboration and innovation."

"The mission of the University of Wisconsin Oshkosh is to provide high-quality education in order to prepare students to become successful leaders in an increasingly diverse and global society. The proposed MS in Cybersecurity fulfills several aspects of this mission. It will offer a quality education that will serve the state and the region by providing the skills and knowledge necessary to guard against and respond to cybersecurity threats, a growing threat to both the public and private sectors. Since both the source of these threats and the response to them are based within a global, diverse technological community, the program will prepare students to work within a diverse and global society." "The University of Wisconsin-Parkside is committed to high-quality educational programs, creative and scholarly activities, and services responsive to its diverse student population, and its local, national and global communities. Consistent with this mission, MS in Cybersecurity will be a new high-quality graduate program offered by UW-Parkside to address the needs of the employers and job-seekers in the region as well [as] globally."

"The proposed program also aligns with UW-Platteville's mission to promote excellence by using a personal, hands-on approach to empower each student to become broader in perspective, intellectually more astute, ethically more responsible, and to contribute wisely as an accomplished professional and knowledgeable citizen in a diverse global community. This degree provides a balance of technical training and the development of critical thinking and problem-solving skills, an understanding of the impact of data and data security on society and provides opportunity to work with students from diverse backgrounds."

"At UW-River Falls, the collaborative online MS in Cybersecurity aligns well with the mission of the River Falls campus. Both the program and the campus mission aim to prepare students for productive careers as informed, ethical, and engaged citizens with critical knowledge in the areas such as those at the intersection of technology, business, and security."

"This degree matches UW-Stevens Point's mission of...educating students and citizens to constructively engage in local, regional and global communities. UWSP provides master's degrees in select areas clearly associated with the university's undergraduate emphasis. The Master's Degree in Cybersecurity aligns directly with the undergraduate degree track in Networking and Information Assurance in UWSP's well-regarded Computer Information Systems program, and provides a new graduate level program in a rapidly emerging field."

"The collaborative online MS in Cybersecurity is associated with UW-Superior's Computer Science and Information Technology degrees and closely complements and supports the mission of the institution. Specifically, the program allows the university the opportunity to offer a graduate program in an area which complements an area of undergraduate emphasis and strength on our campus and extend its undergraduate and graduate resources beyond the boundaries of the campus."

#### Institutional Program Array

There is consensus among the eight academic partners that the M.S. in Cybersecurity degree program will serve as a valuable complement to the existing graduate program array at each of their institutions and will not compete with any program currently offered. Statements of support have been provided by each of the partner campuses as follows: "At UW-Green Bay, the MS in Cybersecurity would be the first graduate program in the newly formed Resch School of Engineering. This degree provides a natural progression for undergraduate students in our rapidly growing computer science program, particularly those with an emphasis in cybersecurity."

"At UW-La Crosse, the proposed M.S. in Cybersecurity strongly aligns with its current graduate program array. UW-La Crosse has a strong history of academic success with its current graduate programs. With professional communication being one part of the core of the M.S. in Cybersecurity program, the Communication Studies department at UW-La Crosse will be a strong partner in this multi-disciplinary degree."

"At UW Oshkosh, the proposed M.S. in Cybersecurity aligns with the current program array within the College of Letters and Science, and the College of Business. UWO has successfully offered graduate programs in the STEM and professional fields, including existing graduate programs in Biology, Psychology, Data Science, and new graduate programs in Applied Biotechnology and Information Technology Management."

"At UW-Parkside, the proposed M.S. in Cybersecurity complements the current graduate programs offered by the Department of Computer Science in the College of Business, Economics, and Computing. The Computer Science department offers an MS in Computer Information Systems (MSCIS) and also an MS in IT Management (MS-ITM, a collaborative online degree). MSCIS is offered in the face-to-face delivery mode. MSCIS has a track in Cybersecurity; though it exposes students to concepts in cybersecurity, the curriculum is not as extensive as the proposed MS in Cybersecurity. MS-ITM has one course in cybersecurity. Because MS in Cybersecurity is delivered completely online and provides a rigorous curriculum with 34 credits for students who want a specialized, advanced degree in Cybersecurity, it is expected that this program will complement rather than compete with our existing programs."

"At UW-Platteville, the proposed M.S. in Cybersecurity aligns very well with its current and future program setting within the Department of Computer Science and Software Engineering (CSSE). The CSSE department currently offers a Bachelor of Science in Computer Science and an ABET-accredited Bachelor of Science in Software Engineering major. Starting from spring 2021, a new Bachelor of Science in Cybersecurity will also be offered by the department. The proposed M.S. in Cybersecurity will provide the graduates from CSSE with a great opportunity to further their study in the fast-growing, in-demand area of computing."

"At UW-River Falls, the proposed M.S. in Cybersecurity both complements and aligns with the current program array within the Department of Computer Science and Information Systems. UWRF has undergraduate programs in Computer Science, Information Systems, and Data Science that prepare students for career entry and graduate education. UWRF also has a Master of Science in Computer Science (MSCS) graduate program that provides students with skills in leading technologies such as Machine Learning, Data Science, Software Engineering, Cloud Computing, Mobile Computing and Information Security. The institution does not currently offer graduate level programs in Cybersecurity."

"At UW-Stevens Point, the proposed Master of Science in Cybersecurity program will complement the existing program array offered by the Computing and New Media Technologies department, which includes a traditional on-campus B.S. in Computer Information Systems with a track in Networking and Information Assurance, and the online programs in B.S. in Applied Computing, B.S. in Health Information Management and Technology, M.S. in Data Science, and M.S. in Information Technology Management. The institution does not currently offer online graduate programs for students to specialize in cybersecurity."

"At UW-Superior, the proposed Masters in Cybersecurity is a welcome addition to the suite of graduate programs offered by the campus community. UW-Superior serves a large geographic region in northern Wisconsin and contributing to this program establishes a resource for professionals to enhance their career prospects and build upon existing expertise. The online program also enables faculty to extend their expertise to a broad range of individuals seeking an advanced post-baccalaureate degree."

### Other Programs in the University of Wisconsin System

There are currently no graduate degree programs in Cybersecurity offered within the UW System. In January 2019, several of the UW institutions involved in the development of the collaborative online M.S. in Cybersecurity program responded with concerns that there was potential duplication with the developing collaborative introduced to campuses for interest in participation. In June 2019, UW-Whitewater distributed a Notice of Intent (NOI) to develop and offer an M.S. in Cybersecurity. Based on follow-up discussions resulting from the NOI process, institutions from the two developing programs agreed to work together to distinguish the two degrees. Since that time, the two groups have engaged in formal communications to include the following:

- A presentation from the UW-Whitewater faculty to the collaborative online M.S. in Cybersecurity Curriculum Planning Workgroup (July 2019) on initial plans for the program to include core courses, specialty tracks/concentrations, program learning outcomes, faculty specializations, target audience(s), external partners, and additional program details.
- A follow-up teleconference in August 2019 following the conclusion of the curriculum planning process for the collaborative online M.S. in Cybersecurity where partners shared similar information on the proposed program to include program competencies and student learning outcomes, course titles and descriptions, external and internal prerequisites, campus assignments, admission requirements and other information, and responded to questions from UW-Whitewater faculty and administrators on the program. There was also consensus established that the

programs are presenting as unique and will serve to expand the UW's influence and reach, and provide prospective students with options in this high need and growing career field.

As expected, there are some similarities between the two proposed academic programs with the primary overlap occurring in the core courses which represent the common body of knowledge in the cybersecurity field. Based on the above discussions and planning to date, the primary differentiators between the two proposed offerings include the following:

- Distinct Professional Tracks: The UW-Whitewater program will offer two primary specialization tracks for students: Security Engineering (technology track) or Cyber Resilience (management track). The collaborative online program offers four track options for students: Digital Forensics, Cyber Response, Governance and Leadership, and Security Architecture. Though the Governance and Leadership and Security Architecture tracks have some overlap with UW-Whitewater tracks, Digital Forensics and Cyber Response tracks offer curricular aspects that are distinct from UW-Whitewater programs.
- *Distinct Target Audiences*: The UW-Whitewater program will serve both professionals and recent college graduates. The collaborative online program will primarily serve working adults/professionals with a statewide focus consistent with the geographical locations of the eight academic partners. The collaborative program will also allocate significant resources toward recruiting women into the program.
- Distinct Campus Specializations and Internal Resources: UW-Whitewater serves as home to a specialty center, the Cyber Security Center for Small Business (CSCSB), which provides the institution with a valuable connection to this niche audience and will likely translate to increased interest from professionals working in the small business environment.

Many of the UW campuses, to include those participating and those choosing not to participate in the collaborative online M.S. in Cybersecurity program, have resources and other non-M.S. degree offerings in the area of cybersecurity. As demonstrated in the established curriculum for the collaborative online program, the comprehensive and combined resources of eight campuses participating in the collaborative online program have provided partners the opportunity to offer prospective students throughout the state and region with unique options for professional specialization in this area.

#### Need as Suggested by Current Student Demand

It is anticipated that the online M.S. in Cybersecurity will predominantly attract adult and nontraditional students who possess a minimum of a completed bachelor's degree, currently work in the field, and have a desire to continue their education toward a master's degree primarily to expand knowledge and specialized skills in the field and for career advancement. Not all students will have a bachelor's degree in a technology area. Student demand for this degree is greatly influenced by market demand as indicated by current and future employment opportunities within the cybersecurity field (see Market Demand data below). The degree addresses a recognized high-need area as supported by research that included extensive input from employers and industry representatives throughout the state. Similar to other need-based, collaborative online programs developed and administered through UWEX, the M.S. in Cybersecurity represents a program designed to satisfy a recognized workforce gap within the state and region as defined through research conducted and/or commissioned by UWEX to include industry focus groups and interviews with cybersecurity professionals, some of whom self-identified as prospective students for a M.S. in Cybersecurity degree program.

## Need as Suggested by Market Demand

The Bureau of Labor Statistics reports that employment of information security analysts is projected to grow 28% from 2016 to 2026, much faster than the average for all occupations. Employment of information security analysts is projected to grow 56% in computer systems design and related services from 2016 to 2026. The median annual wage for information security analysts was \$98,350 in May 2018.<sup>2</sup>

In fall 2018, UWEX commissioned the Center for Research and Marketing Strategy at the University Professional and Continuing Education Association (UPCEA) to conduct a Feasibility Analysis for the possible development of an online Master of Science in Cybersecurity. The analysis included a review of industry trends, occupational demographics, internet and library scans, an analysis of the competitive marketplace, and in-depth interviews with key opinion leaders from the cybersecurity industry representing a variety of organizations in several different states. Key findings from the report include the following:

- There is a strong demand for qualified cybersecurity professionals and the University of Wisconsin is well positioned to develop a graduate degree program that responds accordingly.
- The state of Wisconsin is projected to experience a 9% increase in cybersecurityrelated jobs over the next decade.
- Information security analysts have the highest forecasted growth between 2018 and 2028 with predictions of 25% growth in both the state and region.
- There is a significant shortage of women in global cybersecurity, accounting for only 11% of the global cybersecurity workforce.
- There is consensus among the opinion leaders interviewed that there is a significant need for a master's in cybersecurity that prepares working professionals to succeed in leadership and management positions within the industry and noted that it is often difficult to find qualified applicants for cybersecurity positions.

<sup>&</sup>lt;sup>2</sup> Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Information Security Analysts. Retrieved from <u>https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm</u>.

- A majority of opinion leaders surveyed do not feel that colleges, universities or others are meeting the current cybersecurity educational needs of students.
- Opinion leaders identified support for an online program based, in part, on its accessibility and flexibility for working professionals.
- The current competitive marketplace for a master's degree in cybersecurity is growing rapidly due to the job shortage of cybersecurity professionals.
- A favorable environment exists for launching the online graduate degree program in Cybersecurity.<sup>3</sup>

A recent real-time labor market report from Burning Glass Technologies on the current state of cybersecurity jobs identified a growing number of positions and a persistent talent shortage in this area. The report recognized that the number of cybersecurity job postings has grown 94% since 2013, compared to only 30% for IT positions overall. Nationally, the number of unfilled cybersecurity jobs grew to over 300,000 in 2018. Cybersecurity jobs account for 13% of all information technology jobs. On average, however, cybersecurity jobs take 20% longer to fill than other IT jobs, and they pay 16% more.<sup>4</sup>

<sup>&</sup>lt;sup>3</sup> University Professional and Continuing Education Association (UPCEA), Center for Research and Marketing Strategy (February 2019). *Feasibility Analysis: Online Master of Science in Cybersecurity*. Commissioned by the University of Wisconsin Extended Campus.

<sup>&</sup>lt;sup>4</sup> Burning Glass Technologies (June 2019). *Recruiting Watchers for the Virtual Walls: The State of Cybersecurity Hiring.* Retrieved from <u>https://www.burning-glass.com/research-project/cybersecurity/</u>.

	University of Wis	sconsin-Collab	orative	•,		
	Costs and Revenue Projec	tion For M.S.	in Cybersec	urity		
	ltems	EV 20 21	EX 21 22	Projections	EV.02.24	EX 04 05
		FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25
T		Year 1	Year 2	Year 3	Year 4	Year 5
1	Enrollment (New Student) Headcount	35	/0	/5	80	80
	Enrollment (Continuing Student) Headcount	-	31	83	126	152
	Enrollment (New Student) FTE	13	25	27	29	29
	Enroliment (Continuing Student) FTE	-	11		45	
п	Total Naw Cuadit Hanna Eans llad	276	027	1 208	1 761	1.044
11	Courses Offered/Taught	270	22	1,398	1,701	1,944
	Courses Student Enrollments	9	23	166	587	648
	Evisting Student Credit Hours	)2	219	+00	507	040
	Existing Student Credit Hours					
ш	FTF of Faculty/Instructional Staff	2	4	3	4	4
	FTE of Admin Staff	3		6		
		5	0	0	0	0
IV	Revenues					
•	From Tuition (\$850 per credit)	234,600	711,450	1,188,300	1,496,850	1,652,400
	From Fees	- ,	,,	,,	, )	, ,
	Program Revenue - Grants					
	Program Revenue - Other					
	Allocation of GPR & Program Revenue Balances	693,370	417,127			
	Total Revenue	927,970	1,128,577	1,188,300	1,496,850	1,652,400
V	NewExpenses					
	Salaries plus Fringes					
	UW Partner Institution Academic and Student	Support Activi	ties			
	Academic Director / Program Support	211,088	211,088	211,088	211,088	211,088
	Faculty Course/Content Development	65,965	72,562	0	0	0
	Faculty Course/Content Revisions	0	0	27,705	27,705	27,705
	Faculty Course Instruction	106,863	273,095	320,590	356,211	391,832
	Student Services	52,772	52,772	52,772	52,772	52,772
	UW Extended Campus Administrative Support					
	Program Management	49,030	49,030	49,030	49,030	49,030
	Instructional & Media Design	177,772	177,772	132,762	132,762	132,762
	Student Engagement	44,278	44,278	44,278	44,278	44,278
	Marketing & Recruitment	43,912	43,912	43,912	43,912	43,912
	Other Direct Expenses					
	Instructional Supplies and Expenses	4,500	11,500	13,500	15,000	16,500
	Curriculum Software and Hosting	10,222	31,000	51,778	65,222	72,000
	Marketing Supplies and Expenses	136,000	136,000	136,000	136,000	136,000
	General Supplies and Expenses	25,568	25,568	24,757	24,757	24,757
	Total Expenses	927,970	1,128,577	1,108,172	1,158,737	1,202,636
VI	Net Revenue			00.100	000 110	440 - 61
		-	-	80,128	338,113	449,764
Notes to the Cost and Revenue Projections:				10.1		
1. Program deticits, expenditures greater than revenues, will be absorbed and funded with UW Extended Campus carryforward funds.				ard tunds.		
2. Program surpluses, revenues greater than expenditures, will be shared equally among the nine partners with the intent of those funds						
to be reinvested back into growing the program.						
3. See attach	ned narrative for more information on the assumptions	used to build th	e Costs and I	cevenue Proje	ctions.	
			D (			
Provost's Sig	nature:		Date:			
	Please see Provost joint letter of commitment					

### **University of Wisconsin Extended Campus Collaborative Online M.S. in Cybersecurity Cost and Revenue Projections** Participating Campus Chief Business Officer Signatures/Sign-off

As required by UW System, the following Chief Business Officers from the campuses participating in the collaborative online Master of Science in Cybersecurity have reviewed and endorse the Cost and Revenue Projections document as submitted.

Approved by:

Sheryl Van Gruensven, Chief Business Officer, UW-Green Bay

RAJ. 15

Bob Hetzel, Chief Business Officer, UW-La Crosse

Stetcher

James Fletcher, Chief Business Officer, UW-Oshkosh

Amp 1/12/2020

Scott Menke, Chief Business Officer, UW-Parkside

Paige Smith, Chief Business Officer, UW-Platteville

Haberh a Jul Elizabeth Frueh, Chief Business Officer, UW-River Falls

Uclert

Christina Rickert, Chief Business Officer, UW-Stevens Point

Jeff Kahler, Chief Business Officer, UW-Superior

# COST AND REVENUE PROJECTIONS NARRATIVE UNIVERSITY OF WISCONSIN COLLABORATIVE ONLINE DEGREE MASTER OF SCIENCE (M.S.) IN CYBERSECURITY

UW-GREEN BAY UW-LA CROSSE UW-OSHKOSH UW-PARKSIDE UW-PLATTEVILLE UW-RIVER FALLS UW-STEVENS POINT UW-SUPERIOR

# WITH SUPPORT FROM UW EXTENDED CAMPUS

## Introduction

The M.S. in Cybersecurity will be implemented as a collaborative program. Each UW partner institution will provide qualified faculty, develop curriculum, deliver a share of the instruction, assess student learning, and conduct academic program review. Partner institutions will also provide local administrative support and direct academic and student support services. The UW Extended Campus (formerly UW-Extension Office of Continuing Education, Outreach & E-Learning (CEOEL)) will provide the administrative management and resources to provide ongoing implementation support to convene academic, industry and government expertise to discuss relevant curriculum; provide instructional design and media support services to faculty in the development and delivery of online courses; market and recruit students to the program; provide student services from admissions through graduation; and serve as the fiscal agent for the program to include accounting, budgeting, forecasting, analysis, and reporting.

A zero-based budgeting model was used to create the cost and revenue projections. While GPR and other program revenue sources will be used to establish the program, the program is expected to be self-supporting through tuition revenues within three to five years of enrolling students, thus leading to revenue sharing among the partner campuses.

Tuition is established and annually reassessed following guidelines from marketbased pricing as outlined in SYS 130 Appendix B: Service-Based pricing Guidelines and Procedures, and SYS 130 Appendix C: Principles for Pricing Distance Education Credit Courses, Degree and Certificate Programs. Tuition is assessed annually to monitor consistent market pricing so that future increases do not forward to the Board of Regents for approval.

#### Section I – Enrollment

Approximately 35-80 new students will enroll in the program each year. Retention is expected to be approximately 80% based on a review of similar programs. It is anticipated that the vast majority of students will enroll part-time. Further, tuition revenues will be based on projected credit and course enrollment, and charged outside of the credit plateau.

It is difficult to estimate the student FTE enrollments, given the anticipated course enrollment patterns of nontraditional students. Based on enrollment data for other collaborative online programs, the vast majority of students will enroll part-time. Further, students may vary the number of courses in which they enroll each term. For the purposes of this proposal, headcount is converted to FTE by identifying the total credit hours enrolled per student (headcount) each year and dividing this number by 24 credit hours. Twelve credit hours per each fall and spring semester is used by the UW System to convert headcount to student FTE.<sup>1</sup> Based on this formula, the mean conversion quotient calculated over five years is 0.36.

### Section II – Credit Hours

Nine courses will be offered/taught in the first academic year. Fifteen of the 21 courses will be offered and taught during the second academic year, and beginning in Year 3, each of the 21 courses will be offered and taught at least once during the academic year. Offerings will increase as enrollment grows; this is reflected in the *Cost and Revenue Projection Model*. It is anticipated that each student will enroll in three to five courses each year. Projected total credit hours represent projected student course enrollments multiplied by 3 credit hours per course.

### Section III – Faculty and Staff Appointments

The FTE faculty and instructional staff in this section reflect contributions that will be made by several faculty and staff who hold current appointments at one of the partnering UW institutions. Faculty teaching workload that is contributed to the delivery of the proposed program will constitute a proportion of their workload. Faculty and instructional staff positions listed in this section reflect the aggregated FTE required to develop online course content, review course content, and deliver instruction and student evaluation. Each of the 21 courses will be developed over a two-year period and will be reviewed and revised every two to three years.

Similarly, administrative staff figures reflect the aggregated FTE attributable to several positions. FTE administrative staff positions at UW Extended Campus listed in this section represent the program manager, instructional and media design staff, student

<sup>&</sup>lt;sup>1</sup> See UW System Administration Accountability Dashboard technical notes available at https://www.wisconsin.edu/accountability/access/.

coordinator and technical support staff, and marketing and recruitment staff. At the partner institutions, these positions include an academic director and student services staff.

#### **Section IV – Program Revenues**

Revenue will accrue from tuition charged at the rate of \$850 per credit, and will not include segregated fees. Tuition revenue is calculated based on the total number of projected credit hours in which students will be enrolled.

#### Section V – Program Expenses

#### Salary and Fringe Expenses

Expenses are separated into academic and student support activities, as implemented at the UW partner institutions and the administrative activities as provided by UW Extended Campus. Note: Although the FTEs listed in Section III represent a number of current appointments, the FTE contribution at each institution will be accounted as a direct program expense.

#### Academic and Student Support (UW Partner Campuses):

Each partner institution will receive \$20,000 per year, plus fringe at \$6,386, to support the assignment of an academic director to coordinate the program at the respective campus. Faculty and instructional staff salary and fringe costs will be attributable to course development, revision, and instruction, and paid to faculty and staff as an ad hoc sum on a per-course rate. The 21 online courses will be developed over a two-year period at a cost of \$5,000 per course developed, plus fringe. Courses will be reviewed and revised every two to three years, with seven course revisions occurring each year at a cost of \$3,000 per revision, plus fringe. Online instructional salary costs are anticipated to be \$9,000 per course, plus fringe. Finally, each partner institution will receive \$5,000, plus fringe, to cover the cost of student support services. All figures represent salary and fringe costs calculated at the rate of 31.93% of salary.

#### Administrative Support (UW Extended Campus):

Administrative staff salary and fringe costs will be attributable to services provided by UW Extended Campus. All figures represent salary plus fringe costs calculated at the rate of 34.33% of salary. Expenses include program management, online instructional and media design, student engagement, and marketing and recruitment staff. A 0.50 FTE dedicated program manager will direct the overall delivery of the program at a cost of \$49,030 per year.

UW Extended Campus places a high value and investment in the instructional and media design services provided to UW institutional partners as a means to assist faculty in development, review and revision of online coursework. Online courses offered in this program will be media-rich and offer students a highly interactive learning experience. This award-winning instructional and media design serves to best engage students, and subsequently support student retention and success. In turn, this student success record yields a return on investment that sustains the delivery of quality educational programming. Further, instructional and media design staff provide ongoing professional development and support to UW partner faculty and instructional staff who develop course content and provide instruction. Development of the 21 online courses will occur over a two-year period at a cost of \$177,772 per year for the first two years, and thereafter the cost to support the review and revision will occur at a cost of \$132,762 per year.

A 0.50 FTE dedicated student coordinator will support student success through extensive student services and proactive advising. In addition, a help desk will provide support to students for the learner management system and other technologies used in online coursework. The cost of providing these student engagement services per year is \$44,278. Finally, UW Extended Campus will provide dedicated marking and recruitment staff who will be assigned to the program at a cost of \$43,912 per year.

#### Other Direct Expenses

Projected expenses related to instructional supplies and expenses are estimated to be \$500 per course section taught. Each partner campus will receive \$7,000 per year to locally promote and market the program. UW Extended Campus will broadly promote and market the program using search engine optimization, websites, email, direct mail, and other strategies at an estimated cost of \$80,000 per year. General supplies and expenses represent costs associated with program meetings and supporting UW Extended Campus staff assigned to the program.

#### Section VI – Net Revenue

As part of the Adult Student Initiative, General Purpose Revenues (GPR) allocated to UW Extended Campus (formerly UW-Extension Office of Continuing Education, Outreach & E-Learning) will be used as temporary start-up funding to cover the expenses associated with the development and initial delivery of the proposed M.S. in Cybersecurity program. The projected contribution from these revenue sources will offset program losses reflected in Section VI. It is expected that the program will become self-supporting from its tuition program revenues within five years of enrolling students.

Academic expenditures for the UW partner campuses will initially be funded with three years of GPR from UW Extended Campus. The GPR serves two purposes: (1) to pay for the costs associated with planning and developing the curriculum in Year 1 and (2) to pay the instructional and program support costs related to offering the degree program in Years 2 and 3. It is expected that by the third year of enrolling students and beyond, the program will be generating sufficient program revenues to pay for the academic expenditures at the partner campuses.

UW Extended Campus program support expenditures will be funded from a combination of program revenues and GPR, and will eventually transition to being funded

exclusively from program revenues generated by the program. Program deficits, expenditures greater than revenues, will be absorbed and funded with UW Extended Campus carryforward funds. Program surpluses, revenues greater than expenditures, will be shared equally among the nine partners with the intent that those funds be reinvested into growing the program.

The collaborative partners will meet annually to review and discuss program trends and financial results. The partner institutions will jointly develop and implement programming strategies aimed at growing the program and designed for moving the program to be self-supporting within three to five years of enrolling students, and thus leading to revenue sharing among the partner campuses. December 6, 2019

То:	Anny Morrobel-Sosa Vice President for Academic and Student Affairs University of Wisconsin System
From:	D. Joanne Wilson Provost and Vice Chancellor for Academic Affairs University of Wisconsin-Platteville

Collaborative Online M.S. in Cybersecurity

On behalf of Michael Alexander, UW-Green Bay; Betsy Morgan, UW-La Crosse; John Koker, UW-Oshkosh; Robert Ducoffe, UW-Parkside; David Travis, UW-River Falls; Greg Summers, UW-Stevens Point; and, Maria Cuzzo, UW-Superior, I request authorization to implement the *Master of Science in Cybersecurity*. This program represents a 34-credit collaborative, online degree offered jointly by the eight UW comprehensive universities defined above. UW Extended Campus will provide administrative and financial support. Students entering the program will select an academic home institution from among the eight degree-offering partner campuses.

Each of these institutions has strongly embraced the collaborative program model; has contributed greatly to the development of this new, innovative and exciting degree program; has made resource commitments to ensure program success to include faculty, curriculum, materials and required academic supports for students; and has secured support and approval from each of their faculty governance bodies to offer the program. In addition, each Provost listed below endorses the submitted UW System budget template developed for this collaborative program offering. Finally, this program will be integrated into each institution's assessment and accreditation processes and program review procedures.

Approved by:

Re:

Aaron Brower, Executive Director, UW Extended Campus, and Senior Associate Vice President, University of Wisconsin System

Michael Alexander, Provost and Vice Chancellor for Academic Affairs, UW-Green Bay

Betsy Morgan, Provost and Vice Chancellor for Academic Affairs, UW-La Crosse

John Koker, Provost and Vice Chancellor for Academic Affairs, UW-Oshkosh

Robert Ducoffe, Provost and Vice Chancellor for Academic and Student Affairs, UW-Parkside

12/02/2019

D. Joanne Wilson, Provost and Vice Chancellor for Academic Affairs, UW-Platteville

David Travis, Provost and Vice Chancellor for Academic Affairs, UW-River Falls

Greg Summers, Provost and Vice Chancellor for Academic Affairs, UW-Stevens Point

Maria Cuzzo, Interim Provest and Vice Chancellor for Academic Affairs, UW-Superior

Academic Affairs

Dr. D. Joanne Wilson, Provost | 2507 Ullsvik Hall | 1 University Plaza | Platteville WI 53818-3099 608.342.1261 | wilsonj@uwplatt.edu | www.uwplatt.edu/provost
February 6, 2020

# NEW PROGRAM AUTHORIZATION (IMPLEMENTATION) MASTER OF SCIENCE IN CLINICAL AND HEALTH INFORMATICS, UW-MADISON

# **REQUESTED ACTION**

Adoption of Resolution C.3., authorizing the implementation of the Master of Science in Clinical and Health Informatics at UW-Madison.

**Resolution C.3.:** That, upon the recommendation of the Chancellor of UW-Madison and the President of the University of Wisconsin System, the Chancellor is authorized to implement the Master of Science in Clinical and Health Informatics at the University of Wisconsin-Madison.

## SUMMARY

The University of Wisconsin-Madison seeks to establish a Master of Science in Clinical and Health Informatics.

## **Program Description**

The University of Wisconsin-Madison proposes to establish a Master of Science (M.S.) in Clinical and Health Informatics (CHI). There is growing demand for clinical healthcare leaders to utilize informatics not only to solve complex healthcare problems, but also to contribute to the quality and delivery of healthcare. Hence, this program responds to projected industry expansion of the informatics workforce. The program is structured to serve working professionals in the healthcare industry through a 30 credit, fully online curriculum. The degree program will meet the development needs of two types of professionals: (1) healthcare professionals who want to further their knowledge and training in health informatics, and its use in clinical practice and healthcare operations; and (2) non-healthcare professionals seeking to gain knowledge about the healthcare system, and the application of informatics in a healthcare setting to improve patient care and population health. Students will gain management expertise in population health, biomedical informatics, industrial systems engineering, nursing, pharmacy, and healthcare operation. Course development will leverage cross-disciplinary expertise from the Schools of Medicine and Public Health, Nursing, Pharmacy, and Business, and the College of Engineering. Graduates will possess a strong foundation in healthcare decision-making using informatics methods to create innovative solutions and to improve current practices in health policy, clinical practice, security, and biomedical and health information systems that will contribute to the quality and delivery of health care.

# Mission

This program will support the UW-Madison and UW System missions by generating knowledge that contributes to solving the immediate and long-range healthcare needs of society. By inspiring learners to use information to optimize healthcare delivery, this program embodies the UW-Madison goal to improve the quality of life for all, and the larger UW System mission to extend knowledge and its application beyond the boundaries of its campuses. The online format of the proposed program will support the strategic goals to improve access (through online delivery) and "build innovative professional master's-level degrees and other lifelong learning experiences."

The program also is part of the School of Medicine and Public Health's strategic vision and planning mission to create vital connections between basic discovery and clinical/ translational research. Hence, an overarching goal for M.S. in CHI is to create strategic programming and research partnerships that improve public health by translating basic research discoveries into direct, practical improvements in clinical care and healthcare delivery systems.

# **Market and Student Demand**

The need for this program is clear. Healthcare has even greater data integration, system interoperability, and reporting needs than ever before, and healthcare clinical informatics skills are required to demonstrate outcomes for Medicare reimbursement and reform. The demand for these skills is driving new online programming across the country.

UW-Madison is poised to become a leader in this space. The timing is right as healthcare employers are actively seeking analytics expertise, with a 37% increase in informatics jobs stipulating data analytics skills from 2013 to 2016. The overall projected growth in the healthcare analytics market from 2015 to 2020 is over 11 billion, with four out of five hospital systems citing value-based care as a key analytical driver. The need for data skills are increasingly becoming a necessity in the healthcare industry.<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> Morris, M, et al., "Health Systems Analytics," Deloitte LLP, 2015; BCC Research, "Healthcare Analytics," 2015; PwC UK, "My Health, Connected," http:// www.

According to the U.S. Department of Labor, Bureau of Labor Statistics, the healthcare industry will have produced more new IT jobs through 2022, than any other industry.<sup>2</sup> Projected occupational vacancies within the healthcare industry related to this field will continue to grow. Between 2018 and 2028, 10.7% growth is expected for computer occupations overall. Even greater growth is expected for specific fields within this occupational area.<sup>3</sup> Furthermore, the 2017 Leadership and Workforce study conducted by the research arm of the Healthcare Information and Management Systems Society (HIMSS) found that 61% of healthcare organizations and vendors are expecting to increase hiring in the upcoming few years.<sup>4</sup>

In Wisconsin alone, information technology and healthcare clinical informatics is a growing field with more than 900 job postings, seeking people with three to five years of clinical experience and a master's in data analytics.<sup>5</sup> Local employers include Deloitte, General Electric, Vital Tech Solutions, UW Health, and Epic. Conversations between Epic staff and M.S. in CHI development team members indicated that there was interest in the online M.S. in CHI. Epic staff suggested the degree would be a good fit for employees who need to work in a clinical setting, leadership teams that use health informatics for decision-making, and technical service teams that provide customer support.

# **Credit Load and Tuition**

This 30-credit M.S. in CHI is designed as an entirely online program for working professionals. The program offers the flexibility to complete the program in two to three years on a part-time basis. Per-credit tuition of \$1,600 under the distance-delivered, service-based pricing tuition policy (SYS 130) is proposed. Program pricing was determined based on a market analysis of similar programs. Other than the cost for required textbooks, no additional required fees will be charged.

pwcmegatrends.co.uk/mylifeconnected/health.html; Burning Glass Labor/Insight; EAB interviews and analysis.

<sup>&</sup>lt;sup>2</sup> https://www.bls.gov/opub/mlr/2013/article/occupational-employment-projections-to-2022.htm

<sup>&</sup>lt;sup>3</sup> U.S. Department of Labor, Bureau of Labor Statistics. National employment projections by healthcare industry and occupation retrieved January 2020 from

https://data.bls.gov/projections/nationalMatrix?queryParams=620000&ioType=i.

<sup>&</sup>lt;sup>4</sup> HIMSS (2018). U.S. Leadership and Workforce Survey. Retrieved from https://www.himss.org/2018himss-leadership-and-workforce-survey.

<sup>&</sup>lt;sup>5</sup> Burning Glass Labor/Insight; EAB interviews and analysis created for UW-Madison, 2018.

# BACKGROUND

This proposal is presented in accord with the procedures outlined in Academic Planning and Program Review (SYS 102, revised July 2016, available at <a href="https://www.wisconsin.edu/program-planning/">https://www.wisconsin.edu/program-planning/</a>).

#### **Related Policies**

- Regent Policy Document 4-12: Academic Program Planning, Review, and Approval in the University of Wisconsin System
- UW System Administration Policy 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting
- UW System Administration Policy 130: Programming for the Non-Traditional Market in the UW System

# ATTACHMENTS

- A) Request for Authorization to Implement a Master of Science in Clinical and Health Informatics at UW-Madison
- B) Cost and Revenue Projections Worksheet
- C) Cost and Revenue Projections Narrative
- D) Provost's Letter

**Attachment A** 

# REQUEST FOR AUTHORIZATION TO IMPLEMENT A MASTER OF SCIENCE IN CLINICAL AND HEALTH INFORMATICS AT UNIVERSITY OF WISCONSIN-MADISON PREPARED BY UW-MADISON

# ABSTRACT

The University of Wisconsin-Madison proposes to establish a Master of Science (M.S.) in Clinical and Health Informatics (CHI). The development of the program responds to industry findings indicating healthcare organizations and vendors are expecting to significantly expand their information workforce in the coming years. The interdisciplinary M.S. in CHI will provide students with population health, biomedical informatics, industrial systems engineering, nursing, pharmacy, and healthcare operations management expertise. Graduates will possess a strong foundation in healthcare decision-making using informatics methods to create innovative solutions or improve current practices in health policy, clinical practice, security, and biomedical and health information systems. The M.S. in CHI will serve working professionals in the healthcare industry through a fully online curriculum. The program seeks to become Wisconsin's first master's program accredited by the Commission on Accreditation for Health Informatics and Information Management Education. The program will be comprised of 30 credits, which will include online, collaborative coursework for working professionals. Students admitted to the program are expected to have three to five years of clinical or information technology-related work experience, preferably in a healthcare setting, and should have a statistics background.

# **PROGRAM IDENTIFICATION**

**Institution Name** University of Wisconsin-Madison

**Title of Proposed Academic Program** Clinical and Health Informatics

**Degree/Major Designations** Master of Science

**Mode of Delivery** Single institution; 100% distance delivery

#### **Department or Functional Equivalent**

Institute for Clinical and Translational Research

#### **College, School, or Functional Equivalent**

School of Medicine and Public Health

#### **Proposed Date of Implementation**

Fall 2020

#### **Projected Enrollments and Graduates by Year 5**

Table 1 represents enrollment and graduation projections for students entering the program over the next five years. For the purposes of this estimate, students are projected to be enrolled in 15 credits each year across the fall, spring, and summer semesters and to complete the program in two full years. The retention rate is projected to be 95%, which is similar to other UW-Madison online programs for professional audiences. By the end of Year 5, an estimated 146 students will be enrolled annually, and more than 150 students will have graduated from the program.

Students/Year	Year 1	Year 2	Year 3	Year 4	Year 5
New Students	25	50	50	75	75
Continuing	0	24	48	48	71
Total Enrollment	25	74	98	123	146
Graduating	0	24	48	48	71

Table 1: Five-Year Degree Program Enrollment Projections

#### **Tuition Structure**

For students enrolled in the M.S. in CHI program, per-credit tuition of \$1,600 under the distance-delivered, service-based pricing tuition policy (SYS 130) is proposed. The pricing for this program has been determined based on a market analysis of similar programs. The total annual tuition cost for the 30-credit hour program will be \$48,000. Other than the cost for required textbooks, no additional required fees will be charged.

#### **DESCRIPTION OF PROGRAM**

#### **Overview of the Program**

This 30-credit M.S. in CHI is designed as an entirely online program for working professionals. The program offers the flexibility to complete the program in two to three years on a part-time basis. The M.S. in CHI is focused on meeting the educational and professional development needs of two types of learners: (1) healthcare professionals who want to further their knowledge and training in health informatics and its use in clinical practice and healthcare operations and (2) non-healthcare professionals seeking to gain

knowledge about the healthcare system and the application of informatics in a healthcare setting to improve patient care and population health.

# **Student Learning Outcomes and Program Objectives**

The M.S. in CHI program learning outcomes are based on the American Medical Informatics Association Health Informatics Core Competencies for the Commission on Accreditation for Health Informatics and Information Management Education:

- 1. **Health:** Describe and explain background knowledge of the history, goals, methods and challenges of the major health sciences, including human biology, genomics, clinical and translational science, healthcare delivery, personal health and population health.
- 2. **Information Science and Technology:** Demonstrate background knowledge of concepts, terminology, methods and tools of information science and technology for managing and analyzing data, information and knowledge.
- 3. **Social and Behavioral Science:** Evaluate the effects of social, behavioral, legal, psychological, management, cognitive, and economic theories, methods, and models applicable to health informatics from multiple levels including individual, social group, and society.
- 4. **Health Information Science and Technology:** Determine concepts and recognize tools for managing and analyzing biomedical and health data, information, and knowledge. Key foci include systems design and development, standards, integration, interoperability, and protection of biomedical and health information.
- 5. **Human Factors and Socio-technical Systems:** Apply social behavioral theories and human factors engineering to better understand the interaction between users and information technologies within the organizational, social, and physical contexts of their lives, and apply this understanding in information system design.
- 6. **Social and Behavioral Aspects of Health:** Evaluate and apply social determinants of health and patient-generated data to analyze problems arising from health or disease, to recognize the implications of these problems on daily activities, and to recognize and/or develop practical solutions to managing these problems.
- 7. Social, Behavioral, and Information Science and Technology Applied to Health: Appraise diverse foundation concepts and facets in order to develop integrative approaches to the design, implementation, and evaluation of health informatics solutions.
- 8. **Professionalism:** Demonstrate conduct that reflects the aims or qualities that characterize a professional person encompassing especially a defined body of knowledge and skills and their lifelong maintenance as well as adherence to an ethical code.
- 9. **Interprofessional Collaborative Practice:** Exhibit behavior that reflects the foundations of values/ethics, roles/responsibilities, interprofessional communication practices, and interprofessional teamwork for team-based practice.
- 10. **Leadership:** Demonstrate the following characteristics: credibility, honesty, competence, ability to inspire, and ability to formulate and communicate a vision.

## **Program Requirements and Curriculum**

Applicants must meet the minimum requirements of the UW-Madison Graduate School, which include an undergraduate degree with a GPA of 3.0 in the last 60 semester hours or a master's degree with a minimum cumulative GPA of 3.00. Standardized entrance exams or scores are not required for admission into the program (i.e., GRE, GMAT, or other). For admission to the program, applicants must: (1) demonstrate a focused area of interest in informatics, data analytics, clinical care, research, health information technology, or similar fields; (2) hold a health professional degree or bachelor's degree in information technology, statistics, computer science, or similar field; (3) have three to five years of clinical or information technology work experience, preferably in a healthcare setting; and (4) have completed a college-level statistics course or equivalent work. The Faculty Admissions Committee, comprised of M.S. in CHI program faculty, will consider all aspects of each application.

The M.S. in CHI program will be comprised of 30 credits, which will include online, collaborative coursework for working professionals. Table 2 illustrates the 11 required courses and the UW-Madison schools/colleges from where the course will be delivered.

Course	Course Title	School or College	Credits
POPHLTH 709	Translational and Outcomes	School of Medicine and	2 65
	Research in Health and Health Care	Public Heath (SMPH)	5 Cr.
PHM PRAC 617	Health System Pharmacy and Data	School of Pharmacy	2 cr
	Analysis and Informatics		2 (1.
EPD 706	Change Management	School of Engineering	1 cr.
POP HLTH 795	Principles of Population Health	SMPH	) cr
	Sciences		5 Cr.
NURSING 772	Leadership and Organizational	School of Nursing	2 cr
	Decision Making in Health Care		5 Cr.
I SY E 557	Human Factors Engineering for	College of Engineering	2 cr
	Healthcare Systems		50.
BMI 573	Foundations of Data-Driven	SMPH	2 cr
	Healthcare		50.
NURSING 702	Health Promotion and Disease	School of Nursing	2 cr
	Prevention		3 Cr.
OTM 753	Healthcare Operations Management	Wisconsin School of	2 cr
		Business	50.
NURSING 715	Evaluation of Health Informatics	School of Nursing	2 cr
	Solutions		50.
BMI 750	Cumulative Capstone in Clinical and	SMPH	2 cr
	Health Informatics		50.
<b>Total Credits</b>			30 cr.

Table 2: M.S. in Clinical and Health Informatics Program Curriculum

#### **Assessment of Outcomes and Objectives**

The M.S. in CHI academic director will coordinate the implementation of the assessment plan annually and work with faculty and staff advisors to complete all direct assessments. The M.S. in CHI capstone course will be the primary source for comprehensive direct assessment of student learning outcomes. In addition, the capstone will conclude with final presentations that showcase student work and are evaluated by sponsoring industry partners, the capstone project stakeholders, the capstone project mentors, and other instructors for the program. Comprehensive evaluations of the capstone projects will occur at the end of the fall and spring semesters. In addition, formative assessments in the form of case-study presentations, strategic planning, and decision-making across interprofessional teams will be evaluated. Feedback will be provided to the students. Due to the online, part-time learners expected to enroll in this M.S. in CHI, the summative view of the learning outcomes will be assessed at the end of the program once per year within the capstone, beginning in spring 2022.

Indirect assessment of student learning will, in part, be conducted using a predegree survey that will assess familiarity and prior experience with the learning outcomes. The academic director will work with the Division of Continuing Studies to conduct the preand post-survey indirect assessments. Similarly, a post-degree assessment will assess students' self-reported level of preparation on each learning outcome. This will occur for every enrollment and graduation term to track student learning at the program level, to track learning goals and expectations, and to assess how the program is preparing students for their degree goals/needs. Additional indirect assessment measures will include student evaluations of teachers and classes. These evaluations will provide an important source of program assessment data that can inform program and course design, instructional strategies, and program improvement.

Assessment data will be forwarded to the Steering Committee for evaluation and further dissemination. The annual September Steering Committee meeting will review assessment results, compiled by the Student Services coordinator. The Steering Committee will produce an assessment summary to be presented at the All Faculty Department meeting held early in the fall (usually scheduled in October) of each academic year. After reviewing the assessment summary and comments from the All Faculty Department meeting, the M.S. in CHI Steering Committee will identify actionable items within the findings. The Executive Director will provide a report of those plans and the assessment summary to the Office of the Provost.

Actionable items will be discussed during Steering Committee meetings held in late fall of the semester. Proposals will be developed and will follow governance steps at that time. If approved, any curricular/programmatic/co-curricular changes will be implemented by the following summer semester. The M.S. in CHI academic director will monitor all new implementations annually, with a more comprehensive report being compiled during the appropriate student learning outcome assessment year (within the three-year timeline). During the implementation phase, the M.S. in CHI will also carefully monitor student access to courses to ensure growth of course capacity to meet student demand, as well as student engagement and success to inform program, course, and instructional design.

#### Diversity

The M.S. in CHI advances curriculum excellence to promote diversity and equity in several ways. Disease prevention efforts as well as access to care in the nation's hospitals and clinics can vary greatly for different populations and groups, resulting in health disparities that impact the health status of vulnerable populations. The M.S. in CHI curriculum poses several questions to students across courses that will require them to critically analyze why outcomes vary so greatly by socioeconomics, race, ethnicity and gender, education, age, and other social determinants. Data-driven healthcare analysis examines patient care across a variety of variables to analyze cost-effective measures to improve data-driven decision-making to support the equitable distribution of resources.

Across the curriculum, social determinants of health and patient-generated data will be used to analyze complex problems, support integrative solutions, and design and implement health informatics solutions across healthcare institutions and patient populations. Furthermore, students will develop human factors engineering skills to improve understanding of the interaction between users and information technology and consider organizational, social, and physical contexts as principles of good design and implementation.

Ethical and professional conduct will be key components of the M.S. in CHI curriculum and will highlight the necessity to protect biomedical and health information across all users. The M.S. in CHI curriculum will focus on the professional and ethical conduct, leadership development, interprofessional teamwork, and organizational decision-making skills that ensure the ethical use of data to support the health outcomes of all people across the lifespans.

The proposed program will be accessible to a wide and diverse student population. By offering flexible schedules and removing geographic boundaries, online graduate and professional programs, such as the M.S. in CHI, increase access for nontraditional learners. The M.S. in CHI is targeted to working professionals that represent a range of geographic areas, experiences, and backgrounds, adding to the richness and overall diversity of the student population as well as the student experience.

Equity in student recruitment, access, and retention will actively be pursued by program faculty and staff by working closely with the Graduate School and the Division of Continuing Studies marketing and recruitment teams. As a degree that promotes public health, recruiting students who represent the diverse needs in healthcare delivery, datadriven medicine, and data informatics is critical. Recruitment strategies will ensure that potential students, representative of all forms of diversity including socio-economic, gender, sexuality, race, ethnicity, and religion, are recruited. Marketing materials and content will reflect a diverse student body. Materials will include graduating students' insights about the program through interviews, videos, and testimonials. Testimonials will feature graduates' program experience working in interprofessional collaborative teams to solve real healthcare problems and interact with professionals who have varied experience and backgrounds. Efforts will be made by program staff to develop relationships with potential students at conferences, networking events, and clinical settings that support the diversity efforts and goals of the program. Moreover, once the program has program revenue resources, scholarships targeted at underrepresented groups will be awarded to close equity gaps and promote the diversity and equity goals of the program.

Academic support is essential for the retention and success of all students. Academic support services for the M.S. in CHI will be designed to meet the needs of a diverse adult student population. The academic director and the Student Services coordinator will be the primary contacts for all students and will help support advising as well as both academic and career resources for all learners. An online *Community of Practice* will provide program resources, tutoring support, peer-to-peer sharing, and goalsetting strategies for career success. The *Community of Practice* will offer an inclusive virtual environment where students from diverse backgrounds will interact and build a community of learners around common academic and professional interests. Webinars targeting stress, work-life balance, career exploration, and effective time management and organization will be shared, along with UW resources that can support and guide professional development. All students will have a faculty mentor in the program to guide and support individualized needs and goals.

While the program does intend to support the hiring of new faculty in participating departments, it does not anticipate adding a significant number of faculty or staff. The program will be committed to recruiting culturally diverse faculty, lecturers, and staff.

#### **Collaborative Nature of the Program**

The M.S. in CHI leverages cross-disciplinary expertise from the schools and college that are contributing courses: the Schools of Medicine and Public Health, Nursing, Pharmacy, and Business, and the College of Engineering. No collaborations with other University of Wisconsin institutions or campuses are planned for this program.

#### **Projected Time to Degree**

It is expected that most students will work and attend the program part-time and take an average of four to six courses per year. At this rate, the majority of students will complete the program in two to three years. Students may complete the program in two full years if they are enrolled in 15 credits each year during the fall (two courses), spring (two courses), and summer (one course) semesters. Students will only be able to enter the program in the fall and will take courses in sequence.

#### **Program Review**

The M.S. in CHI will follow the Academic Program Review Guidelines established for all new UW-Madison graduate programs. Three years following program implementation, the M.S. in CHI will complete a Three-Year Check-In document that will be reviewed by the Graduate Faculty Executive Committee. A full program review will be conducted five years after implementation. Subsequently, the program will be reviewed at least once every ten years. Elements of graduate program review include program mission and goals, learning assessment and evaluation of curriculum, enrollment management, student advising and support, program completion and time to degree, post-graduation outcomes, student funding, and professional development opportunities for graduate students. The M.S. in CHI Steering Committee will review the recommendations from these periodic reviews and will work with the academic director and participating department chairs to implement the changes resulting from these recommendations.

#### Accreditation

This program will seek accreditation to support the mission and vision of the next generation of informatics professionals. The Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) guidelines for accreditation require that a program application for accreditation be submitted no earlier than six months before the first graduating class. The target date for applying for accreditation for the M.S. in CHI will be the spring semester of Year 3. The CAHIIM accreditation process will take one to two years from the time of first application for consideration, through candidacy, a self-assessment, a site visit, and the final determination.

## JUSTIFICATION

#### **Rationale and Relationship to Mission**

This program will support the UW-Madison and UW System missions by generating knowledge that contributes to solving the immediate and long-range healthcare needs of society. By inspiring learners to use information to optimize healthcare delivery, this program embodies the UW-Madison goal to improve the quality of life for all and the larger UW System mission to extend knowledge and its application beyond the boundaries of its campuses. The online format of the proposed program will support the strategic goals to improve access (through online delivery) and "build innovative professional master's-level degrees and other lifelong learning experiences."

There is a growing need for a clinical healthcare focus for leaders and managers to use informatics to solve complex healthcare problems. This is part of the School of Medicine and Public Health's strategic vision and planning mission to create vital connections between basic discovery and clinical/translational research. The overarching goal for M.S. in CHI is to create strategic programming and research partnerships that improve public health by translating basic research discoveries into direct, practical improvements in clinical care and healthcare delivery systems. UW-Madison will leverage the institution's cutting-edge work in the School of Medicine and Public Health, where medical and population health research already have a strong record to inform best practices in the clinical setting to develop and offer the M.S. in CHI to meet the growing demand for clinical and health informatics professionals who will contribute to the quality and delivery of healthcare.

The Institute for Clinical and Translational Research (ICTR), where this program will be housed, is interdisciplinary (and interdepartmental) by design. Within the integrated School of Medicine and Public Health, ICTR is the home to the Clinical and Health Informatics Institute (CHI<sup>2</sup>), which is designed to foster applied clinical health informatics activities. ICTR provides links to the Schools of Nursing, Veterinary Medicine, and Pharmacy, the College of Engineering and the Department of Biostatistics and Medical Informatics. The overarching mission of M.S. in CHI is to offer ICTR members and partners throughout the entire institution, as well as external professionals in the region, to translate best practices in applied clinical informatics to improve clinical care. This program is poised to be a leader in clinical and health informatics with a proven record of accelerating research into outcomes that can be applied to improve health in the United States. The M.S. in CHI will utilize the expertise of faculty across the university to fill a growing need to leverage informatics expertise in the healthcare space where evidence-based, data-informed care are essential. Students will graduate with skills to enhance their professional practices in the clinical healthcare setting and as business and informatics leaders, drawing from operational and healthcare management, health informatics, and information technology skills to solve complex problems of the social-behavioral aspects of health.

The need for this program is clear. Healthcare has even greater data integration, system interoperability, and reporting needs than ever before, and healthcare clinical informatics skills are required to demonstrate outcomes for Medicare reimbursement and reform. The demand for these skills is driving new online programming across the country. UW-Madison is poised to become a leader in this space. The timing is right as healthcare employers are actively seeking analytics expertise, with a 37% increase in informatics jobs stipulating data analytics skills from 2013 to 2016. The overall projected growth in the healthcare analytics market from 2015 to 2020 is over 11 billion, with four out of five hospital systems citing value-based care as a key analytical driver. The need for data skills are increasingly becoming a necessity in the healthcare industry.<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> Morris, M, et al., "Health Systems Analytics," Deloitte LLP, 2015; BCC Research, "Healthcare Analytics," 2015; PwC UK, "My Health, Connected," http:// www.

pwcmegatrends.co.uk/mylifeconnected/health.html; Burning Glass Labor/Insight; EAB interviews and analysis.

The growing trends and opportunities in healthcare and informatics have prompted many major universities to create program offerings and certificates. The University of Illinois at Chicago has recently created a Master of Science in Health Informatics and a post-master's Certificate in Health Informatics. Other institutions with health informatics programming include University of Cincinnati, Northwestern University-Feinberg School of Medicine, Johns Hopkins University, University of Texas, and the University of Washington School of Nursing and School of Medicine.

#### Institutional Program Array

There are a number of programs at UW-Madison that offer related content, but do not have a CAHIIM-accredited, online program for adult learners. UW-Madison offers an M.S. in Biomedical Data Science. This program prepares graduates to understand key concepts and methodologies from computer sciences and statistics to contribute to the solutions central to computational problems in biomedicine. This program is face-to-face and is geared for students interested in data structures and algorithms, with a strong aptitude for math and computer science. The program is research- and thesis-based and designed for students interested in building algorithms and simulations for population health research, statistical genetics, and biomedical informatics. Additionally, the M.S. in Statistics named option in Biostatistics at UW-Madison serves students who work in the theory, methodology, and application of statistics. This program focuses primarily on the statistics of biomedical sciences and differs from informatics in that it focuses on the computation and mathematical application of how to design experiments and survey samples in the biomedical field.

Informatics, in contrast to biomedical data science and statistics, focuses on the interaction between humans and information. Informatics as a field is a branch of information engineering focused on information systems and how they interface with organizations, technologies, systems, and statistics as a subfield. However, informatics as a whole is much more inclusive to the study of the social aspects of how information technologies are applied in the healthcare space. The M.S. in CHI also differs in that receiving accreditation from CAHIIM, which incorporates the American Medical Informatics, will be a strategic priority for the program. In addition, all courses are offered online for working healthcare professionals and are focused primarily on the application and applied tools used in a clinical or healthcare setting. M.S. in CHI curriculum does not include a thesis option. Rather, it incorporates and builds the applied skills needed to translate data science into workable processes at the healthcare system level.

#### Other Programs in the University of Wisconsin System

Currently, there is just one graduate-level health science in the UW System. UW-Milwaukee offers a master's degree in Health Care Informatics. The UW-Milwaukee program focuses on the automation of medical data and information, and closely aligns with IT network design rather than clinical decision-making. The courses are face-to-face and online for working IT professionals.

Two UW institutions offer a certificate program in this domain area. UW-Milwaukee offers a Certificate in Health Care Informatics, which is offered as a cooperative program among the College of Health Sciences, the Department of Health Informatics Administration, and the School of Information Studies. The certificate allows students to explore the three disciples to build foundational knowledge across fields. According to the program's website, neither the degree nor the certificate is accredited. UW-Oshkosh offers a Healthcare Informatics Certificate. The program serves healthcare nurses interested in integrating computer science and information science to improve patient outcomes. The program is online with a required clinical practicum. Because the program serves nurses, this certificate allows students to be eligible to take the American Nursing Credentialing Center (ANCC) Informatics Nursing Certification exam.

As potentially the only CAHIIM-accredited master's program in Wisconsin, the proposed program will serve a different audience, including healthcare professionals with clinical or information technology experience interested in managing healthcare enterprise solutions and implementing system-based solutions to improve patient outcomes. Students are required to have work experience in clinical healthcare or an information technology/management area. They are also required to have a degree in a clinical discipline (M.D., R.N., PharmD, etc.) or a degree in information technology (other areas such as computer science, statistics, etc., will also be considered) and proficiency with basic statistics.

# Need as Suggested by Current Student Demand

The M.S. in CHI will serve an audience outside of the traditional school structure, offering all courses online and providing the flexibility of completing the program on a parttime basis. Prospective students will include healthcare professionals and information technology professionals with a strong interest and/or background in healthcare informatics, data analytics, clinical care or research, and health information technology. Trends in academic programs for nontraditional students at University of Wisconsin-Madison demonstrate the demand for degree–granting programs for this student population, with continual increases in the number of programs, enrollment, and student credit hours from 2009 to 2018. Similarly, distance education course enrollments for graduate and clinical degrees increased by 46.6% over the same period.<sup>2</sup>

Market research conducted by the Division of Continuing Studies (DCS) determined that demand for an online professional master's degree in the field of clinical and health informatics is strong and will be driven, in part, by market demand. Research findings indicated a steady 5.7% annual growth in the regional job market for Clinical and Health

<sup>&</sup>lt;sup>2</sup> https://apir.wisc.edu/data-digest/

Informatics positions from 16,000 to 21,000 jobs yearly between 2015 and 2019 (Burning Glass). The top employers included hospitals, healthcare providers, insurance carriers, and scientific/technical services. The M.S. in CHI program anticipates CAHIIM accreditation, and the flexibility of an online degree modality will differentiate it from other programs. It is expected that students will be willing to pay the \$1,600 per credit for this degree.

### Need as Suggested by Market Demand

Expertise in clinical and health informatics is required in the top tier of job openings that involve electronic health record analysis, database design and clinical operational management, health modeling, and healthcare data security. The American Medical Informatics Association reports that the average salary among all its members is \$181,174.<sup>3</sup> According to the Educational Advisory Board Report on Health Professions, the national market demand in 2016, exceeded 35,000 job postings for applicants with informatics skills.<sup>4</sup>

According to the U.S. Department of Labor, Bureau of Labor Statistics, the healthcare industry will have produced more new IT jobs through 2022, than any other industry.<sup>5</sup> Projected occupational vacancies within the healthcare industry related to this field will continue to grow. Between 2018 and 2028, 10.7% growth is expected for computer occupations overall. Even greater growth is expected for specific fields within this occupational area.<sup>6</sup> Furthermore, the 2017 Leadership and Workforce study conducted by the research arm of the Healthcare Information and Management Systems Society (HIMSS) found that 61% of healthcare organizations and vendors are expecting to increase hiring in the upcoming few years.<sup>7</sup>

According to data provided by Burning Glass' labor insights and analyses, since 2015, over 900 job postings in Wisconsin show a demand for employees with master's degrees in Clinical and Health Informatics. According to data provided, Epic, a Wisconsinbased company, now works with over 50 IT vendors seeking health informatics specialists in over 20 states. Informational technology and healthcare clinical informatics is a growing field with more than 900 job postings in Wisconsin alone, seeking people with three to five years of clinical experience and a master's in data analytics.<sup>8</sup> Local employers include

<sup>6</sup> U.S. Department of Labor, Bureau of Labor Statistics. National employment projections by healthcare industry and occupation retrieved January 2020 from

<sup>&</sup>lt;sup>3</sup> AMIA-Career Advancement Subcommittee. 2018 Salary Survey of AMIA Members-Initial Findings. https://www.amia.org/sites/default/files/AMIA-2018-Salary-Survey-20181031.pdf

<sup>&</sup>lt;sup>4</sup> Kulokowski, CA et al., "AMIA Board White Paper," Journal of American Medical Informatics Association, 19, No. 6 (2012): 931-8; Burning Glass Labor/Insight; EAB interviews and analysis.

<sup>&</sup>lt;sup>5</sup> https://www.bls.gov/opub/mlr/2013/article/occupational-employment-projections-to-2022.htm

https://data.bls.gov/projections/nationalMatrix?queryParams=620000&ioType=i.

<sup>&</sup>lt;sup>7</sup> HIMSS (2018). U.S. Leadership and Workforce Survey. Retrieved from https://www.himss.org/2018himss-leadership-and-workforce-survey.

<sup>&</sup>lt;sup>8</sup> Burning Glass Labor/Insight; EAB interviews and analysis created for UW-Madison, 2018.

Deloitte, General Electric, Vital Tech Solutions, UW Health, and Epic. Recent job titles for careers in clinical healthcare informatics include medical informatics project directors, researchers, systems analysts, clinical informatics directors, specialists, coordinators, and analysts. Conversations between Epic staff and M.S. in CHI development team members indicated that there was interest in the online M.S. in CHI. Epic staff suggested the degree would be a good fit for employees who need to work in a clinical setting, leadership teams that use health informatics for decision-making, and technical service teams that provide customer support.

	University of Wisconsin - Madison					
	Cost and Revenue Projections For MS Clinical and Health Informatics					
	Items	Projections				2024.25
		2020-21 Voor 1	2021-22 Voor 2	2022-23 Voor 2	2023-24 Voor 4	2024-25 Voor 5
т	Enrollmont (Now Student) Headcount	1 ear 1 25	1 ear 2	1 cal 5	1 cal 4 75	1 ear 5 75
1	Enrollment (Continuing Student) Headcount	23	24		19	75
	Enrollment (Now Student) FTF	12.5	24	40 25 0	40	27.5
	Enrollment (Continuing Student) FTE	12.5	23.0	23.0	27.5	37.5
	Enronment (Continuing Student) FTE	0.0	11.9	23.8	23.0	55.0
Π	Total Credit Hours (HC * 15 credits per year)	375	1106	1463	1838	2194
111	FTE of Faculty	0.31	0.92	1.22	1.53	1.83
	FTE of Instructional Academic Staff	0.31	0.92	1.22	1.53	1.83
	FTE of Faculty Program Director	0.25	0.25	0.25	0.25	0.25
	FTE of Administrative Program Director	1.0	1.0	1.0	1.0	1.0
	FIE of Graduate/Student Services Coordinator	0.5	0.75	1.0	1.0	1.0
		0.25	0.25	0.25	0.25	0.25
	FIE of Marketing Specialist	0.5	0.5	0.5	0.5	0.5
	FIE of Administrative Support Staff	0.25	0.25	0.25	0.25	0.25
IV	Revenues					
	From Tuition	\$600.000	\$1 770 000	\$2 340 000	\$2 940 000	\$3 510 000
	Adjustment for tuition waivers (5% of gross tuition)	-\$30,000	-\$88 500	-\$117,000	-\$147,000	-\$175 500
	Net Tuition Revenue	\$570,000	\$1.681.500	\$2.223.000	\$2,793,000	\$3,334,500
	Marketing Funds - DCS	\$160.000	\$40,000	\$40,000	\$40,000	\$40,000
	Course Development Startup Funds - DCS	\$60,000	\$0	\$0	\$0	\$0
	Total New Revenue	\$790,000	\$1,721,500	\$2,263,000	\$2,833,000	\$3,374,500
			, ,	, in the second s		,
V	Expenses					
	Salaries plus Fringes					
	Instruction - Faculty	\$46,875	\$141,047	\$190,198	\$243,746	\$296,823
	Instruction - Instructional Staff	\$25,000	\$75,225	\$101,439	\$129,998	\$158,306
	Faculty Program Director	\$37,500	\$38,250	\$39,015	\$39,795	\$40,591
	Administrative Program Director	\$80,000	\$81,600	\$83,232	\$84,897	\$86,595
	Graduate/Student Services Coordinator	\$36,000	\$55,080	\$74,909	\$76,407	\$77,935
	Advisor	\$19,500	\$19,890	\$20,288	\$20,694	\$21,107
	Marketing Specialist	\$39,000	\$39,780	\$40,576	\$41,387	\$42,215
	Administrative support staff	\$10,000	\$10,200	\$10,404	\$10,612	\$10,824
	Fringe benefits on all salaries - 35%	\$102,856	\$161,375	\$196,021	\$226,638	\$257,039
	Subtotal Salaries and Fringes	\$396,/31	\$622,447	\$756,081	\$8/4,1/3	\$991,435
	Other Expenses	£95.000	¢55.000	¢55.000	¢20.500	¢20.500
	Course Development and Mathlehance	\$85,000 \$45,600	\$33,000	\$33,000 \$177,840	\$38,300	\$38,300
	Scholarships (8% 0) tullon revenue)	\$43,600	\$154,520	\$177,840 \$150,000	\$225,440	\$200,700
	Markeling	\$100,000	\$150,000	\$130,000	\$40,000	\$40,000
	Total Exponses	\$37,000 \$744,331	\$106,130	\$222,300 \$1,361,221	\$279,300	\$333,430 \$1,670,145
	Total Expenses	\$744,331	\$1,130,117	\$1,301,221	\$1,435,415	\$1,070,145
VI	Net Revenue - Investment Margin	\$45,669	\$591,383	\$901,779	\$1,377,587	\$1,704,355
		,				
Submit budget narrative in MS Word Format						
Prov	ost s Signature: A task		Date:	11/22/2019		
VCF	A Signature:		Date:	1/7/2020		

# COST AND REVENUE PROJECTIONS NARRATIVE UNIVERSITY OF WISCONSIN-MADISON MASTER OF SCIENCE IN CLINICAL AND HEALTH INFORMATICS

## Introduction

The proposed Master of Science (MS) in Clinical and Health Informatics (CHI) is 30credit online program for working professionals who have clinical or technical expertise working in a healthcare setting. The program offers an interdisciplinary approach integrating courses from five schools and a college including the School of Medicine and Public Health (SMPH), School of Pharmacy, College of Engineering, School of Nursing, and the School of Business. The MS-CHI will be supported by tuition revenue in keeping with the University of Wisconsin System online tuition policy (SYS 130 Appendix C: Principles for Pricing Distance Education Credit Courses, Degree and Certificate Programs).

## Section I – Enrollment

Students are expected to enroll part-time in fall, spring and summer terms because the program is designed for working professionals. Students can expect to complete the program in two to three years. The average student retention rate is projected to be 95%, which is consistent with other UW-Madison programs. The first year of enrollment is projected at 25 students with growth to 75 new students enrolling four years after the program launch and continue to enroll 75 new students per year in subsequent years. The enrollment goals represent a conservative estimate. There is not an enrollment limit.

# Section II – Credit Hours

The program requires 30 credits (11 courses). For the purposes of this budget, students are projected to be enrolled in 15 credits each year.

# Section III - Faculty and Staff Appointments

Numerous existing faculty and instructors will contribute a small share of instructional FTE each to this program. The FTE amount is estimated at a rate of 1.0 FTE of instruction per 600 student credit hours. This yields an estimated 0.63 FTE in the first year and 3.66 FTE by the fifth year of operation (half faculty and half instructional staff). Included in this FTE allocation is an instructor/advisor who will allocate 0.25 FTE to the instructor role. Additional staff will be as follows:

- An academic faculty program director who will allocate 0.25 FTE to the academic director role (estimated full-time salary of \$150,000 in the first year).
- An administrative program director at 1.0 FTE (estimated full-time salary of \$80,000 in the first year).
- A graduate program/student services coordinator at 0.5 FTE (estimated full-time salary of \$72,000 in the first year).
- Administrative staff at 0.25 FTE (estimated full-time salary of \$40,000 in the first year).

- An instructor/advisor at 0.25 FTE allocated to the advisor role (estimated full-time salary of \$78,000 in the first year).
- A marketing specialist at 0.5 FTE (estimated full-time salary of \$78,000 in the first year).

### Section IV – Program Revenues

Tuition will be set at an online tuition rate of \$1,600 per credit. The market research supports this tuition rate for a flexible, online program for this audience of high-skill healthcare workers who seek to advance their positions. Tuition revenues are based on the per-credit rate times the number of student credit hours generated by the enrolled students, adjusted with a 5% reduction to take into account students who drop classes/credits early in the semester and any tuition waivers occasioned by veterans' benefits or other reasons. Thus, in the first year of the program, tuition revenue is calculated to be \$570,000 (\$1600x375 SCH-5%) and by the fifth year of the program revenue is expected to be \$3,334,500 (\$1600x2194 SCH-5%).

Additional revenue will come from the Division of Continuing Studies (DCS) to support program start-up. This will include initial conversion of courses to online formats (instructional designer funding, a month of summer salary for participating faculty, and the stipend for participation in the TeachOnline@UW program) of approximately \$60,000 in the first year of the program. DCS will also support program marketing with \$160,000 in the first year for program launch, and then at the rate of \$40,000 annually as part of the overall marketing effort for UW-Madison's portfolio of programs aimed at nontraditional audiences.

## Section V – Program Expenses

In addition to faculty/instructional, administrative, and support staff costs detailed above, the program expenses include a 10% campus assessment on gross revenue. Course development and maintenance estimated at \$85,000 in the first year will have a lower cost in subsequent years. Marketing will be funded at \$160,000 in the first year of program launch, \$150,000 in Years 2 and 3, and then \$40,000 in subsequent years. A scholarship allocation, which will be focused on reducing costs for Wisconsin residents, will be set at 8% of tuition revenue. All salaries are assumed to increase by 2% annually, and 35% fringe benefits are applied to all salaries.

## Section VI - Net Revenue

Based on these estimates, the program will have a positive investment margin of \$45,000 in the first year, which will grow to \$1.7 million by the end of the fifth year. Planning for reinvestment of the margin will be overseen by the Institute for Clinical and Translational Research (ICTR) leadership with input from partnering schools and colleges. The investment margin will be used for professional development for participating faculty and staff, which will include attendance at conferences and workshops relevant to clinical and health informatics, the development of an alumni network, support for additional faculty lines, a grant program to provide pilot funds for research in clinical health informatics, and potentially additional scholarship support for students beyond that allocated in the program budget.

Date: 22 November 2019

To: Anny Morrobel-Sosa, Vice President for Academic and Student Affairs, UW System *Via email: apei@uwsa.edu* 

From: John Karl Scholz, Provost and Vice Chancellor for Academic Affairs

Subject: Authorization Proposal: MS Clinical and Health Informatics

In keeping with UW System and Board of Regent policy, I am sending you a proposal for a MS in Clinical and Health Informatics at the University of Wisconsin–Madison.

The program is designed to meet UW–Madison's definition and standards of quality and make a meaningful contribution to the institution's overall academic plan and program array. Students will be required to meet all the requirements and standards for a master's degree at UW–Madison.

In keeping with UW–Madison policy, this program proposal has been endorsed by the faculty of the offering department, the Institute for Clinical and Translational Research. The dean and the academic planning council of the School of Medicine and Public Health have approved the proposal and support this program. The proposal has also been approved by the Graduate Faculty Executive Committee and the University Academic Planning Council. I send it forward to you with campus-wide support.

The program faculty have established a robust plan for curriculum delivery, student support, assessment of student learning, and program review. The School of Medicine and Public Health is committed to the necessary financial and human resources required to continue the program. The program will be funded through tuition revenue and we are requesting a market-based tuition of \$1,600 per credit. Segregated fees will not be charged as this is a fully online program.

Contingent upon Board of Regent approval, the faculty plan to implement the new program in Fall 2020. We are requesting that this proposal be scheduled for consideration at the February 6-7, 2020, Board of Regents meeting. Please contact Jocelyn Milner (jocelyn.milner@wisc.edu) with any questions about these materials.

Attachments: Authorization Proposal, Budget Narrative, Budget Spreadsheet

cc: Rebecca Blank, Chancellor, UW–Madison
Robert N. Golden, Dean, School of Medicine and Public Health
Laurent Heller, Vice Chancellor for Finance and Administration
Jennifer Klippel, Director, Madison Budget Office
Jocelyn Milner, Vice Provost, Academic Planning and Institutional Research
Carleen Vande Zande, Associate Vice President for Academic Programs and Educational Innovation, UW System

February 6, 2020

# NEW PROGRAM AUTHORIZATION (IMPLEMENTATION) BACHELOR OF BUSINESS ADMINISTRATION IN BUSINESS: SUPPLY CHAIN MANAGEMENT, UW-MADISON

# **REQUESTED ACTION**

Adoption of Resolution C.4., authorizing the implementation of the Bachelor of Business Administration in Business: Supply Chain Management at UW-Madison.

**Resolution C.4.:** That, upon the recommendation of the Chancellor of UW-Madison and the President of the University of Wisconsin System, the Chancellor is authorized to implement the Bachelor of Business Administration in Business: Supply Chain Management at the University of Wisconsin-Madison.

# SUMMARY

The University of Wisconsin-Madison seeks to establish a Bachelor of Business Administration in Business: Supply Chain Management.

## **Program Description**

The proposed Bachelor of Business Administration (B.B.A.) in Business: Supply Chain Management (SCM) will replace an existing certificate in Supply Chain Management. Every physical product, non-physical product, and service that exists today has a supply chain. As such, SCM is increasingly recognized as a key enabler of business success. World-class supply chain management practice is evident in the state of Wisconsin, given its strong tradition of manufacturing, more recently augmented by state-of-the-art distribution facilities from companies such as Amazon. The development of the program will meet the substantial student interest for a major in this area and ever-expanding supply chain management employment opportunities that are available across the field of business. Graduates will be better equipped to enter the workforce because of their ability to assess the financial, marketing, and operational implications of fundamental supply chain strategies; create business value through analysis; synthesize supply chain concepts into business strategy; and effectively communicate ideas and recommendations to individuals in all functional areas of an organization. The proposed program curriculum will be structured to align with the standards set by the Association to Advance Collegiate Schools of Business (AACSB) International.

The existing certificate, on which the major is based, is recognized by Gartner<sup>1</sup> for the thoroughness of its curriculum. As the importance of SCM to business has grown, other universities have responded by offering majors in SCM. Of the top ten undergraduate university SCM programs ranked by Gartner in 2018 (their most recent ranking), seven universities designate SCM as a major, two designate it as a concentration, and one has a bachelor's degree in SCM.

Designating SCM as a major would send a signal to current and prospective students, employers, and other universities that UW-Madison deserves to be recognized as a destination school for SCM. A major in SCM would attract more students and employers, and send a positive signal to peer universities, all of which will contribute positively to the program's ranking, which would, in turn, further grow the program.

# Mission

The B.B.A. in Business: Supply Chain Management will contribute directly to the UW-Madison's mission as it relates to ensuring the survival of future generations and improving the quality of life for all.<sup>2</sup> A key concept in SCM is the efficient use (and, increasingly, re-use) of resources to meet market needs. This concept becomes critical when considering how rising global incomes and living standards impact the demand for goods and services. SCM practices sustain the delivery of goods and services to meet rising demand of future generations through innovations in network design and also resource use and allocation. Such innovations inherently contribute to UW-Madison's mission to "achieve leadership in each discipline, strengthen interdisciplinary studies, and pioneer new fields of learning."<sup>3</sup> The proposed B.B.A. in Business: Supply Chain Management supports the institutional mission of UW-Madison by keeping up with trends within the industry and offering a major that is driven by interdisciplinary functions within business.

Additionally, the proposed B.B.A. in Business: Supply Chain Management program will include teaching and learning activities that directly address a number of points in the UW-Madison Chancellor's Strategic Framework 2015-2019, including the goal to "[s]cale Wisconsin Experience opportunities through innovative classroom environments and active learning, locally and globally, to prepare students for successful careers and lives."<sup>4</sup>

<sup>&</sup>lt;sup>1</sup> Gartner is a leading research and advisory company that performs supply chain rankings for both academic programs and companies.

<sup>&</sup>lt;sup>2</sup> https://www.wisc.edu/about/mission/

<sup>&</sup>lt;sup>3</sup> https://www.wisc.edu/about/mission/

<sup>&</sup>lt;sup>4</sup> https://chancellor.wisc.edu/strategicplan2/

Through the B.B.A. in Business: Supply Chain Management, students will be exposed to active learning in the classroom, global experience opportunities, applied learning events, and live case competitions, exposing students to real-world experiences both locally and globally.

# **Market and Student Demand**

Nationally, Bureau of Labor Statistics (BLS) data for the occupation of logistician indicates a projected employment increase of 7% between 2016 and 2026, and a median salary of \$74,600.<sup>5</sup> The BLS definition of logistician does not fully encompass the breadth of a supply chain manager's role (notably lacking are responsibilities for forecasting/planning, manufacturing, financial management, and information/analytics). For comparison, operations research analysts (whose BLS-listed responsibilities have significant overlap with supply chain managers) have a projected employment increase of 27% and a median salary of \$81,390. In Wisconsin, long-term occupational data estimate that between 2016 and 2026, projected openings in the occupational area of logistician will increase by almost 15%, and openings in the occupational area of operations research analysts will increase by more than 30%.<sup>6</sup>

Year-over-year growth in enrollment in the SCM certificate has averaged over 10% between 2015-16 and 2018-19. Specific enrollments for the past four years were 98 students (2015-16), 110 students (2016-17), 119 students (2017-2018), and 135 students (2018-19). For this program, job placement also serves as an important indicator of market demand. In 2019, the 42 undergraduates who completed the certificate in SCM had a job placement rate of 100%, with an average salary of approximately \$61,000. This compares favorably with the 2018 B.B.A. average salary of \$58,684. Of the 2018-19 certificate in SCM graduates, 93% went into supply chain-related roles.

# **Credit Load and Tuition**

The 120-credit degree will include a major comprising 59 credits in the program, including 20 credits of preparatory business courses, 12 credits of business core courses, 9 credits of business breadth courses, and 18 credits of coursework within the discipline.

Standard tuition and fee rates for the UW-Madison B.B.A. will apply. For the 2019-20 academic year, residential tuition and segregated fees total \$5,862.70 per semester for a

<sup>&</sup>lt;sup>5</sup> Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Logisticians.

Downloaded from https://www.bls.gov/ooh/business-and-financial/logisticians.htm, *November 2019.* 

<sup>&</sup>lt;sup>6</sup> Office of Economic Analysis, Wisconsin Department of Workforce Development. Downloaded from Wisconomy at https://jobcenterofwisconsin.com/wisconomy/query, December 2019).

full-time student enrolled in 12-18 credits per semester. Of this amount, \$5,136.75 is attributable to tuition (\$428.06 per credit), and \$725.98 is attributable to segregated fees. Nonresident tuition and segregated fees total \$19,392.58 per semester for a full-time student enrolled in 12-18 credits per semester. Of this amount, \$18,666.60 is attributable to tuition, and \$725.98 is attributable to segregated fees. Wisconsin residents enrolled in fewer than 12 credits will pay tuition in the range of \$488.95 to \$536.72 per credit based on the number of credits in which a student is enrolled, and segregated fees of \$108.66 for the first credit and \$56.12 for each additional credit.

# BACKGROUND

This proposal is presented in accord with the procedures outlined in Academic Planning and Program Review (SYS 102, revised July 2016, available at <a href="https://www.wisconsin.edu/program-planning/">https://www.wisconsin.edu/program-planning/</a>).

# **Related Policies**

- Regent Policy Document 4-12: Academic Program Planning, Review, and Approval in the University of Wisconsin System
- UW System Administration Policy 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting

# ATTACHMENTS

- A) Request for Authorization to Implement a Bachelor of Business Administration in Business: Supply Chain Management at UW-Madison
- B) Cost and Revenue Projections Worksheet
- C) Cost and Revenue Projections Narrative
- D) Provost's Letter

# REQUEST FOR AUTHORIZATION TO IMPLEMENT A BACHELOR OF BUSINESS ADMINISTRATION IN BUSINESS: SUPPLY CHAIN MANAGEMENT AT UNIVERSITY OF WISCONSIN-MADISON PREPARED BY UW-MADISON

# ABSTRACT

The University of Wisconsin-Madison proposes to establish a Bachelor of Business Administration (B.B.A.) in Business: Supply Chain Management to replace the existing certificate in Supply Chain Management. Every physical product, non-physical product, and service that exists today has a supply chain. As such, supply chain management (SCM) is increasingly recognized as a key enabler of business success, which can be seen in the growing trend of Fortune 500 CEOs coming from supply chain backgrounds: Tim Cook (Apple, 2011), Mary Barra (General Motors, 2014), Beth Ford (Land O'Lakes, 2018). Worldclass supply chain management practice is evident in the state of Wisconsin, given its strong tradition of manufacturing, more recently augmented by state-of-the-art distribution facilities from companies such as Amazon. The development of the program will meet the substantial student interest for a major in this area and ever-expanding supply chain management employment opportunities that are available across the field of business. Graduates will be better equipped to enter the workforce because of their ability to assess the financial, marketing and operational implications of fundamental supply chain strategies, create business value through analysis, synthesize supply chain concepts into business strategy, and effectively communicate ideas and recommendations to individuals in all functional areas of an organization. The major will better meet these learning needs than the existing certificate. The 120-credit degree will include a major comprising 59 credits in the program, including 20 credits of preparatory business courses, 12 credits of business core courses, 9 credits of business breadth courses, and 18 credits of coursework within the discipline.

# **PROGRAM IDENTIFICATION**

**Institution Name** University of Wisconsin-Madison

# Title of Proposed Academic Program

**Business: Supply Chain Management** 

# **Degree Designation**

Bachelor of Business Administration

**Mode of Delivery** Single institution; face-to-face

### **Department or Functional Equivalent**

Department of Operations and Information Management

### **College, School, or Functional Equivalent**

Wisconsin School of Business

### **Proposed Date of Implementation**

Fall 2020

### **Projected Enrollments and Graduates by Year Five**

Table 1 represents enrollment and graduation projections for students entering the B.B.A. in Business: Supply Chain Management over the next five years. By the end of Year 5, it is expected that 230 students will be enrolled in the major and 313 students will have graduated. The Wisconsin School of Business (WSB) has offered an undergraduate program (first a specialization and then a certificate) in SCM for over 25 years. Year-overyear growth in enrollments in the certificate in SCM has averaged over 10% between 2015-16 and 2018-19. Student enrollment in 2018-19 was 135 students and provides the foundation for the enrollment estimate in the first academic year of the major. Students entering the program will be current UW-Madison undergraduates. In Year 1, it is expected that 89 students who are currently enrolled in a B.B.A. program at UW-Madison will opt to enroll in the proposed program and 56 students will enroll in the program as first-time B.B.A. students. Having a B.B.A. in Business: Supply Chain Management will increase the visibility of the supply chain program, further supporting enrollment growth in future years. It is anticipated that admissions to the certificate program will be suspended upon approval of the major. Student retention estimates align with UW-Madison's 95% persistence rate.

Students/Year	Year 1	Year 2	Year 3	Year 4	Year 5
New Students	56	73	86	90	97
Continuing Students	89	92	104	120	133
Total Enrollment	145	165	190	210	230
Graduating Students	48	55	63	70	77

#### **Table 1: Five-Year Degree Program Enrollment Projections**

#### **Tuition Structure**

For students enrolled in the B.B.A. in Business: Supply Chain Management, standard tuition and fee rates for the UW-Madison B.B.A. will apply. For the 2019-20 academic year, residential tuition and segregated fees total \$5,862.70 per semester for a full-time student enrolled in 12-18 credits per semester. Of this amount, \$5,136.75 is attributable to tuition

(\$428.06 per credit) and \$725.98 is attributable to segregated fees. Nonresident tuition and segregated fees total \$19,392.58 per semester for a full-time student enrolled in 12-18 credits per semester. Of this amount, \$18,666.60 is attributable to tuition and \$725.98 is attributable to segregated fees. Wisconsin residents enrolled in fewer than 12 credits will pay tuition in the range of \$488.95 to \$536.72 per credit based on the number of credits in which a student is enrolled, and segregated fees of \$108.66 for the first credit and \$56.12 for each additional credit.

# **DESCRIPTION OF PROGRAM**

### **Overview of the Program**

The B.B.A. in Business: Supply Chain Management curriculum is comprised of 59 business credits, which will include 20 credits of preparatory business courses, 12 credits of business core courses, 9 credits of business breadth courses, and 18 credits of coursework within the discipline. The degree/major requires students to complete a total of 120 credits, including 15 credits of pre-business courses and UW-Madison's general education requirements. The proposed program curriculum will be structured to align with the standards set by the Association to Advance Collegiate Schools of Business (AACSB) International. Table 2 illustrates the program curriculum.

## **Student Learning Outcomes and Program Objectives**

Graduates of the B.B.A. in Business: Supply Chain Management will be prepared for careers as business professionals with an emphasis on skills to work effectively in the field. Upon program completion, students will demonstrate competence in the following learning outcomes:

- 1. Assess the financial, marketing, and operational implications of fundamental supply chain strategies.
- 2. Compare how supply chain strategies are applied by examining decisions made in various real-world settings.
- 3. Create business value through the analysis of appropriate data using statistical and/or optimization techniques.
- 4. Synthesize supply chain concepts into a business strategy that is implemented through a cross-functional business simulation.
- 5. Effectively communicate ideas and recommendations to individuals in all functional areas of an organization.
- 6. Evaluate opportunities and risks necessary to develop effective sourcing strategies.
- 7. Assess costs and benefits in the formulation of appropriate go-to-market channels to reach desired customer groups.

#### **Program Requirements and Curriculum**

Students may enroll directly to the B.B.A. in Business: Supply Chain Management after admission to the University of Wisconsin-Madison and the School of Business. For the

purposes of this proposal, it is assumed that students will declare this major in their second year of study. Students will be informed about the major through an entry in the undergraduate guide, new student advising at Student Orientation, Advising, and Registration (SOAR), and participation in campus-wide and School of Business recruitment activities. The School of Business will provide advising for the declaration process, as it will align with other majors within the school.

UNIVERSITY GENERAL EDUCATION REQUIREMENTS (summarized)	28 Credits
Breadth—Humanities/Literature/Arts	6 credits
Breadth—Natural Science	6 credits
Breadth—Social Studies	3 credits
Communication Part A & Part B	6 credits
Ethnic Studies	3 credits
Ethics (School of Business Requirement)	4 credits
PRE-BUSINESS REQUIREMENTS (summarized)	12 Credits
Economics 101 – Introduction to Microeconomics	4 credits
Psychology 202 – Introduction to Psychology	3 credits
Math 211, 217, or 221 – Calculus	5 credits
WISCONSIN SCHOOL OF BUSINESS PREPARATORY REQUIREMENTS	20 Credits
General Business 110 – Personal and Professional Foundations in Business	1 credit
General Business 300 – Professional Communication	3 credits
General Business 306* – Business Analytics 1	3 credits
General Business 307* – Business Analytics 2	3 credits
Economics 102 – Introduction to Macroeconomics	4 credits
Accounting 100 – Financial Accounting	3 credits
Accounting 211 – Managerial Accounting	3 credits
WISCONSIN SCHOOL OF BUSINESS CORE REQUIREMENTS	12 Credits
Finance 300 – Introduction to Finance	3 credits
Marketing 300 – Introduction to Marketing	3 credits
Management and Human Resources 300 – Organizational Behavior	3 credits
Operations and Technology Management 300 – Operations Management	3 credits
WISCONSIN SCHOOL OF BUSINESS BREADTH REQUIREMENTS	9 Credits
General Business 301 – Business Law	3 credits
Elective: Additional Business Breadth	6 credits
MAJOR REQUIREMENTS	18 Credits
Required Courses	
MKT/OTM 421 – Fundamentals of Supply Chain Management	3 credits
MKT/OTM 422 – Logistics Management	3 credits
MKT/OTM 423 – Procurement and Supply Chain Management	3 credits
MKT/OTM 425 – Marketing Channels	3 credits
MKT/OTM 427 – Enterprise Systems and Supply Chain Management	3 credits

## Table 2: B.B.A. in Business: Supply Chain Management

DEGREE TOTAL	120 Credits
ANY ADDITIONAL CREDITS NEEDED TO COMPLETE 120 CREDITS	21 Credits
OTM 451 – Service Operations Management	3 credits
MKT 365 – Contemporary Topics (Developing Breakthrough New Products)	3 credits
MKT 428 – Supply Chain Capital Management	3 credits
OTM 453 – Operation Analytics	3 credits
Major Electives, 3 credits Select 1 course from one or more of the following:	

Students enrolled in the proposed program will also have access to high-impact practices such as internships. By graduation, approximately 90% of UW-Madison students enrolled in a B.B.A. complete one or more internships. A majority of internship opportunities completed by B.B.A. students are paid internships. Career advisors will work one-on-one with students to identify internship opportunities that match their academic and career goals.

#### **Assessment of Outcomes and Objectives**

The direct assessment strategy for this program will rely on evidence provided by student work that is drawn from foundational and elective course assignments (e.g., oral presentations, writing assignments) and exams with direct relevance to student learning outcomes and program objectives. Indirect assessments will include surveys to evaluate post-degree outcomes and graduate attainment of career and academic objectives. These data will inform program, course, and instructional design.

Learning outcome assessment findings of student performance will be reviewed annually by the Grainger Center for Supply Chain Management's Academic Planning Committee. Assessment measures that are not meeting their targets will be evaluated with the appropriate faculty member(s). Possible outcomes of the evaluation would be a modification of the course curriculum or a change in the assessment mechanism. Given the breadth of assessment mechanisms considered, this review will also serve as an evaluation of the program's overall quality and success, providing an opportunity to adjust and improve the program to continue meeting student and market needs. An abbreviated report will be provided to the Office of the Provost, in accordance with UW-Madison institutional guidelines on student learning assessment.<sup>1</sup> Faculty members will serve as liaisons to the participating departments in reviewing and implementing recommended changes to the program.

#### Diversity

In alignment with the school's commitment to diversity and inclusion, the program will be marketed to a diverse prospective student pool. The objective is to utilize the diversity of the course enrollments to enrich classroom discussions. For example, one student learning outcome is that graduates will be able to effectively communicate to

<sup>&</sup>lt;sup>1</sup> https://assessment.provost.wisc.edu/institutional-plan-for-assessing-student-learning/

individuals across many functional areas of an organization. As a means to build student abilities to communicate and to collaborate across diverse perspectives and experiences, many assignments will be completed in assigned groups. These activities will engage and support students in team-based and problem-based activities and present students with opportunities to collaborate with others they may not know personally and who may have a different gender, ethnicity, or background. Additionally, the overt recognition of marketing as a core function of SCM attracts a significant number of women. In 2018-19, 60% of the students enrolled in the existing certificate in SCM were women. It is expected that the B.B.A. in Business: Supply Chain Management would continue this class profile, which would help improve diversity in the field, given that it is currently somewhat maledominated. Lastly, the B.B.A. in Business: Supply Chain Management will offer annual global trips, exposing students to supply chain and overall business culture in foreign countries. Understanding the different international applications of concepts learned in class is an incredible experience, as is gaining exposure to a business culture different from that of the United States.

**Equity in student recruitment, retention, and completion.** The B.B.A. in Business: Supply Chain Management will align diversity and recruitment efforts with the School of Business. Undergraduates pursuing a B.B.A. degree are asked to complete curricular and co-curricular elements that enhance their ability to work and lead diverse teams. Students learn to work across differences in order to improve individual and organizational performance and be effective in their careers. The undergraduate program benefits from an engaged, collaborative, and talented student body. To help ensure that this student community is sufficiently diverse, the School of Business offers the Business Emerging Leaders (BEL) program for high school students. This program serves promising students from diverse backgrounds who have strong academic records and demonstrated leadership skills, but who may not have considered a university education. Students in the BEL program join a diverse community in self-exploration, team building, academic growth, and career development, gaining a distinct advantage when they enter college.

**Equity in hiring of faculty and staff.** The School of Business is intentional about investing in the growth of faculty and staff so that these individuals will continue to make positive contributions to the school's culture. All new members of the learning community are introduced to a strategic focus on diversity and inclusion during onboarding and receive professional training in progressive levels of cultural competence. Faculty and staff actively participate in workshops that encourage conversations about inclusion and enable them to overcome their own unconscious biases. The School of Business' commitment to creating a positive, inclusive learning environment is further reinforced by insightful seminars for faculty members, focusing on strategies to create more inclusive classroom experiences.

#### **Collaborative Nature of the Program**

This program will not involve collaboration with other UW System institutions.

## **Projected Time to Degree**

The B.B.A. in Business: Supply Chain Management is designed to be completed in four years of full-time study. Required and elective courses will be offered on a predictable schedule, with enrollment priority given to majors. To enhance flexibility, many business courses also will be offered in the summer, in face-to-face and online formats.

## **Program Review**

Internal program reviews will be initiated annually by the Academic Planning Committee of the Grainger Center for Supply Chain Management, with assistance from the faculty and staff of the Operations and Information Management department. As for all UW-Madison programs, the program will undergo a formal program review five years after implementation. Subsequently, the program will be subject to the UW-Madison requirement for program review at least once within the subsequent ten years, following the UW-Madison Academic Program Guidelines.<sup>2</sup> The Academic Planning Committee will take the lead in addressing recommendations arising from these periodic formal reviews and will act as a liaison to the participating department chairs as needed to implement changes to program mission and goals, learning assessment and evaluation of curriculum, enrollment management, student advising and support, program completion and time to degree, and post-graduation outcomes.

## Accreditation

The program will be accredited by the Association to Advance Collegiate Schools of Business (AACSB International). No additional approvals will be required from the Higher Learning Commission.

# JUSTIFICATION

#### **Rationale and Relation to Mission**

The B.B.A. in Business: Supply Chain Management will contribute directly to the UW-Madison's mission as it relates to ensuring the survival of future generations and improving the quality of life for all.<sup>3</sup> A key concept in SCM is the efficient use (and, increasingly, re-use) of resources in meeting market needs. This concept becomes critical when considering the impact that rising global incomes and living standards is having on the demand for goods and services. SCM practices sustain the delivery of goods and services to meet rising demand of future generations through innovations in network design and also resource use and allocation. Such innovations inherently contribute to UW-Madison's mission to "achieve leadership in each discipline, strengthen interdisciplinary studies, and pioneer

<sup>&</sup>lt;sup>2</sup> https://assessment.provost.wisc.edu/institutional-plan-for-assessing-student-learning/

<sup>&</sup>lt;sup>3</sup> https://www.wisc.edu/about/mission/

new fields of learning."<sup>4</sup> The proposed B.B.A. in Business: Supply Chain Management supports the institutional mission of UW-Madison by keeping up with trends within the industry and offering a major that is driven by interdisciplinary functions within business.

Additionally, the proposed B.B.A. in Business: Supply Chain Management program will include teaching and learning activities that directly address a number of points in the UW-Madison Chancellor's Strategic Framework 2015-2019, including the goal to "[s]cale Wisconsin Experience opportunities through innovative classroom environments and active learning, locally and globally, to prepare students for successful careers and lives."<sup>5</sup> Through the B.B.A. in Business: Supply Chain Management, students will be exposed to active learning in the classroom, global experience opportunities, applied learning events, and live case competitions, exposing students to real-world experiences both locally and globally.

## **Institutional Program Array**

The School of Business has offered an undergraduate program (first a specialization and then a certificate) in SCM for over 25 years. The B.B.A. in Business: Supply Chain Management will replace the certificate, which will be phased out after program implementation. UW-Madison does not offer any other overlapping programs.

## Other Programs in the University of Wisconsin System

The proposed B.B.A. in Business: Supply Chain Management is intended primarily to serve existing UW-Madison students, not to draw students away from related programs at other UW System institutions. Five UW institutions are authorized to offer a similar major. UW-Stout offers a B.S. in Supply Chain Management, both UW-Milwaukee and UW-Whitewater offer a B.B.A. in Supply Chain and Operations Management, UW-Oshkosh offers a B.B.A. in Supply Chain Management, and UW-Superior offers a B.A./B.S. in Transportation and Logistics Management. In addition, in December 2019, the Board of Regents authorized UW-Platteville to offer a B.B.A. in Integrated Supply Chain Management. Two UW institutions give a lesser designation to SCM in that UW-Green Bay offers a certificate in Supply Chain Management and UW-Superior offers a Supply Chain Management concentration.

As SCM has become a core business function and as demand for graduates with an SCM education grows, it is expected that most universities offering business degrees will offer an SCM program in some form, similar to how accounting, marketing, or finance is offered.

<sup>&</sup>lt;sup>4</sup> https://www.wisc.edu/about/mission/

<sup>&</sup>lt;sup>5</sup> https://chancellor.wisc.edu/strategicplan2/

#### Need as Suggested by Current Student Demand

Year-over-year growth in enrollments in the certificate in SCM has averaged over 10% between 2015-16 and 2018-19. Specific enrollments for the past four years were 98 students (2015-16), 110 students (2016-17), 119 students (2017-2018), and 135 students (2018-19). This enrollment history provides the foundation for the estimate of 145 students in the first academic year of the major.

#### Need as Suggested by Market Demand

For this program, job placement serves as an important indicator of market demand. In 2019, the 42 undergraduates who completed the certificate in SCM had a job placement rate of 100%, with an average salary of approximately \$61,000. This compares favorably with the 2018 B.B.A. average salary of \$58,684. Of the 2018-19 certificate in SCM graduates, 93% went into supply chain-related roles.

Nationally, Bureau of Labor Statistics (BLS) data for the occupation of *logistician* indicates a projected employment increase of 7% between 2016 and 2026, and a median salary of \$74,600.<sup>6</sup> The BLS definition of *logistician* does not fully encompass the breadth of a supply chain manager's role (notably lacking are responsibilities for forecasting/planning, manufacturing, financial management, and information/analytics). For comparison, operations research analysts (whose BLS-listed responsibilities have significant overlap with supply chain managers) have a projected employment increase of 27% and a median salary of \$81,390. In Wisconsin, long-term occupational data estimate that between 2016 and 2026, projected openings in the occupational area of *logistician* will increase by almost 15%, and openings in the occupational area of operations research analysts will increase by more than 30%.<sup>7</sup>

A more generous accounting of how SCM jobs will support and impact multiple industries and occupations was published in Harvard Business Review in March 2018. The authors theorize that jobs throughout U.S. supply chains (ranging from warehouse workers to executives) represent 37% of all jobs in the U.S., or 44 million people.<sup>8</sup> In recent years, the field of SCM has evolved from an execution-oriented cost center to a *C suite*-level function that contributes significantly to an organization's success.

The existing certificate, on which the major is based, is recognized by Gartner<sup>9</sup> for the thoroughness of its curriculum. As the importance of SCM to business has grown, other

<sup>&</sup>lt;sup>6</sup> Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Logisticians. Downloaded from https://www.bls.gov/ooh/business-and-financial/logisticians.htm, November 2019.

<sup>&</sup>lt;sup>7</sup> Office of Economic Analysis, Wisconsin Department of Workforce Development. Downloaded from Wisconomy at https://jobcenterofwisconsin.com/wisconomy/query, December 2019).

<sup>&</sup>lt;sup>8</sup> https://hbr.org/2018/03/the-supply-chain-economy-and-the-future-of-good-jobs-in-america

<sup>&</sup>lt;sup>9</sup> Gartner is a leading research and advisory company that performs supply chain rankings for both academic programs and companies.

universities have responded by offering majors in SCM. Of the top ten undergraduate university SCM programs ranked by Gartner in 2018 (their most recent ranking), seven universities designate SCM as a major, two designate it as a concentration, and one has a bachelor's degree in SCM.

Designating SCM as a major would send a signal to current and prospective students, employers, and other universities that UW-Madison deserves to be recognized as a destination school for SCM. A major in SCM would attract more students and employers, and send a positive signal to peer universities, all of which will contribute positively to the program's ranking, which would, in turn, further grow the program.
# Education Committee Item C.4.

	University of Wisconsin - Madison Cost and Payonuc Projections For PPA Rusingest Supply Chain Management						
	Items	torse and Revenue Projections For DDA-Dusiness. Supply Chain Management					
	IVIIID	2020-21	2021-22	2022-23	2023-24	2024-25	
		Year 1	Year 2	Year 3	Year 4	Year 5	
Ι	Enrollment (New Student) Headcount	0	0	0	0	0	
	Enrollment (Continuing Student) Headcount	145	165	190	210	230	
	Enrollment (New Student) FTE	0	0	0	0	0	
	Enrollment (Continuing Student) FTE	145	165	190	210	230	
П	Total Credit Hours in BBA-SCM major	2852	3245	3737	4130	4523	
TTT		2.64	2.00	2 46	2.02	4.10	
ш	FIE of Faculty ETE of Instructional Academia Staff	2.04	3.00	3.40	3.82	4.19	
	FIE of Instructional Academic Stan	1.98	2.23	2.39	2.87	5.14	
	FTE foculty Program Director	4.73	5.50	0.25	7.00	7.50	
	FTE Administrative Director	0.05	0.05	0.05	0.05	0.05	
	FTE Assistant Director_Admin	0.20	0.20	0.20	0.20	0.20	
	FTE Assistant Director-Advising/Student Services	0.10	0.10	0.10	0.10	0.10	
	FTE of Admin (Grainger)	0.50	0.50	0.50	0.50	0.50	
		0.00	0100	010 0	0.00		
IV	Revenues						
	From Tuition (BBA-SCM credit hours x \$428.06/credit)	\$1,220,684	\$1,389,055	\$1,599,518	\$1,767,888	\$1,936,258	
	From Fees	\$0	\$0	\$0	\$0	\$0	
	Grainger endowment reallocation	\$141,982	\$147,387	\$153,589	\$159,091	\$164,643	
	GPR reallocation	-\$108,755	-\$93,805	-\$83,181	-\$53,638	-\$31,253	
	Total Revenue	\$1,253,911	\$1,442,636	\$1,669,926	\$1,873,341	\$2,069,648	
V	V Expenses						
	Salaries plus Fringes						
	Faculty	\$464,716	\$539,391	\$633,539	\$714,232	\$797,899	
	Instructional Academic Staff	\$170,308	\$197,675	\$232,178	\$261,750	\$292,412	
	Teaching Assistants	\$190,111	\$224,400	\$260,100	\$297,138	\$324,730	
	Faculty/Academic Director	\$10,000	\$10,200	\$10,404	\$10,612	\$10,824	
	Administrative Director	\$18,400	\$18,768	\$19,143	\$19,526	\$19,917	
	Assistant Director - Admin	\$3,800 \$27,700	\$3,910	\$0,034	\$0,133	\$0,278 \$40,808	
	Assistant Director - Advising/student services	\$37,700 \$18,500	\$38,434	\$39,223	\$40,008	\$40,808	
	Frings handlits ast at 33% applied to all salaries	\$10,500	\$347 712	\$402 557	\$19,032 \$451.788	\$20,025	
	Other Expenses	\$302,127	\$377,712	\$ <del>1</del> 02,557	<b>\$731,700</b>	\$777,233	
	Co-curricular activities	\$21 750	\$24 750	\$28 500	\$31 500	\$34 500	
	Student supplies and expenses	\$14,500	\$16,500	\$19,000	\$21,000	\$23,000	
	Total Expenses	\$1.253.912	\$1.442.636	\$1,669,926	\$1.873.341	\$2,069,648	
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VI	VI         Net Revenue         \$0						
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D			<b>D</b> (	11/00/0010			
Prov	ost's Signature:		Date:	11/22/2019			
VC	FA:			1/7/2020			

# COST AND REVENUE PROJECTIONS NARRATIVE UNIVERSITY OF WISCONSIN-MADISON B.B.A. IN BUSINESS: SUPPLY CHAIN MANAGEMENT

#### Introduction

The proposed B.B.A. in Business: Supply Chain Management will be comprised of 120 credits including 59 credits in the major. Students will learn how to manage the flow of goods and services that are vital to the success of business and the satisfaction of clients and consumers in the contemporary global economy. The new major is an evolution of a successful undergraduate certificate that enrolls over 100 students annually.

#### Section I – Enrollment

Undergraduates will elect to pursue the proposed major as a choice among UW-Madison's more than 100 undergraduate programs and among 10 other B.B.A. programs. For budget planning purposes, the simplifying assumption is set that all students declare their major in their second year and are enrolled in the program for three years and that all enrollments are designated as continuing students. This simplification does not account for other enrollment patterns or transfer student enrollments. In addition, projections assume a 95% retention rate from year to year, corresponding to the overall retention rate at UW-Madison. By the end of the fifth year, enrollment is expected to be approximately 230 students.

#### **Section II – Credit Hours**

All core and elective courses are currently offered. The program enrollment is projected to be moderately large (230 or more students out of approximately 30,000 undergraduate students). The curriculum offered as core and elective credits will total 59 credits. Projections assume that students will take these credits evenly over their 2nd, 3rd, and 4th years of study. Therefore, the total number of credits attributed specifically to the major each year is estimated to be the number of enrolled students x 59/3 years. By the 5th year of the program, the total number of credits attributed specifically to the major is projected at 4,523 student credit hours (230 students\*(59 credits/3)).

#### **Section III – Faculty and Staff Appointments**

Existing resources currently devoted to the certificate in SCM will be re-deployed to support the major, and the certificate will be phased out. Staff support includes a faculty academic director (0.05 FTE), program director (0.20 FTE), and an assistant director (0.75 FTE). The assistant director's time is divided between support for student services, academic and career advising (0.65 FTE) and program administration (0.10 FTE). Additional advising and student support will be provided by School of Business undergraduate student services, similar to what happens now with the certificate program; this support is not itemized in the budget. Administrative support (0.50 FTE) will also be provided.

Instruction will be provided by participating faculty and instructional staff from across the School of Business. By the fifth year, an estimated 4.19 FTE of faculty (three 3-credit courses of 48 students) and an estimated 3.14 FTE instructional academic staff (six 3-credit courses of 48 students) will be contributing to instruction. An estimated 1.0 FTE of teaching assistants will also be deployed for each 600 student credit hours.

#### Section IV – Program Revenues

The program will draw on enrolled undergraduates and will not directly generate new program revenues for the institution. The costs and revenues of the proposed program will be managed as part of the UW-Madison instructional/tuition pool (Fund 101). No new additional funding specifically for this program will be provided to the School of Business; however, budget allocation may be somewhat influenced by the enrollment and student-credit-hour formula followed by UW-Madison's academic year budget model. Funding is considered reallocation within the School of Business as the curricular and student services support will draw on faculty and staff who already support academic programs in the School of Business and specifically support existing SCM activities. As the program grows, the School of Business will allocate funding to the program as appropriate to support this program.

For the purposes of illustrating the amount of tuition revenue that may be attributable to students enrolled in the proposed program, the revenue projections include a simple estimate of revenues based on estimated student major credit hours taken annually at \$428.06 per-credit tuition (excluding segregated fees), which is the 2019-20 B.B.A. undergraduate tuition rate. Actual tuition attributed to revenues may be different as the estimate does not account for tuition collected for credits taken above the credit plateau, for nonresident tuition, or credits taken outside of the major requirements. In addition, the endowed Grainger Center for Supply Chain Management will reallocate existing support for the certificate to the degree/major for the faculty program director, the administrative director, the assistant director, administrative support, and support for cocurricular activities (\$150 per student per year).

#### **Section V – Program Expenses**

Salary estimates anticipate a 2% increase each fiscal year. Fringe is calculated at 33%. Salary and fringe expenses include those attributable to faculty and staff listed in Section III. Given that the program will leverage existing infrastructure and funding already provided to the SCM certificate, no substantial additional costs over existing program costs are expected. Marketing for the B.B.A. in Business: Supply Chain Management will be incorporated into the general promotional materials (i.e., website, brochures) prepared by the WSB for all majors. To support renewal and growth, the budget format estimates \$100 per year per student credit hour in additional instructional supplies and expenses. Salary estimates per FTE are (1) \$176,000, faculty; (2) \$86,000, instructional academic staff; (3) \$40,000, teaching assistants (most appointed at 50%); (4) \$200,000, academic director; (5)

\$92,000, administrative director; (6) \$58,000, assistant director; (7) \$60,000, advisor; and (8) \$37,000, administrator.

#### Section VI - Net Revenue

The program will be revenue neutral and will be funded substantially by reallocation from the existing certificate program. Student instruction and support will be funded from the Fund 101 instructional/tuition pool by the School of Business from their budget allocation. Students enrolled in the major will partake of a range of courses and student services. The negative GPR reallocation illustrates that, in this model, tuition revenue is sufficient for direct program costs and other services provided to students and contributes back to the tuition pool to support that range of services not included here. Date: 22 November 2019

To: Anny Morrobel-Sosa, Vice President for Academic and Student Affairs, UW System *Via email: apei@uwsa.edu* 

From: John Karl Scholz, Provost and Vice Chancellor for Academic Affairs

Subject: Authorization Proposal: BBA: Business-Supply Chain Management

In keeping with UW System and Board of Regent policy, I am sending you a proposal for a BBA in Business: Supply Chain Management at the University of Wisconsin–Madison.

The program is designed to meet UW–Madison's definition and standards of quality and make a meaningful contribution to the institution's overall academic plan and program array. Students will be required to meet all the requirements and standards for a bachelor's degree at UW–Madison.

In keeping with UW–Madison policy, this program proposal has been endorsed by the faculty of the offering department, Operations and Information Management. The dean and the academic planning council of the School of Business have approved the proposal and support this program. The proposal has also been approved by the University Academic Planning Council. I send it forward to you with broad campuswide support.

The program faculty have established a robust plan for curriculum delivery, student support, assessment of student learning, and program review. The School of Business is committed to the necessary financial and human resources required to continue the program. The program will charge the Regent-approved School of Business tuition rate.

Contingent upon Board of Regent approval, the faculty plan to implement the new program in Fall 2020. We are requesting that this proposal be scheduled for consideration at the February 6-7, 2020, Board of Regents meeting. Please contact Jocelyn Milner (jocelyn.milner@wisc.edu) with any questions about these materials.

Attachments: Authorization Proposal, Budget Narrative, Budget Spreadsheet

cc: Rebecca Blank, Chancellor, UW–Madison
Laurent Heller, Vice Chancellor for Finance and Administration
Jennifer Klippel, Director, Madison Budget Office
Jocelyn Milner, Vice Provost, Academic Planning and Institutional Research
Vallabh Sambamurthy, Dean, School of Business
Ella Mae Matsumura, Associate Dean, School of Business
Jim Morris, Department Chair, Operations and Information Management
Carleen Vande Zande, Associate Vice President for Academic Programs and Educational Innovation, UW System

#### Office of the Provost and Vice Chancellor for Academic Affairs

150 Bascom Hall University of Wisconsin-Madison 500 Lincoln Drive Madison, Wisconsin 53706 608/262-1304 Fax: 608/265-3324 E-mail: provost@provost.wisc.edu www.provost.wisc.edu

February 6, 2020

# NEW PROGRAM AUTHORIZATION (IMPLEMENTATION) BACHELOR OF SCIENCE IN DATA SCIENCE, UW-PLATTEVILLE

# **REQUESTED ACTION**

Adoption of Resolution C.5., authorizing the implementation of the Bachelor of Science in Data Science at UW-Platteville.

**Resolution C.5.:** That, upon the recommendation of the Chancellor of UW-Platteville and the President of the University of Wisconsin System, the Chancellor is authorized to implement the Bachelor of Science in Data Science at the University of Wisconsin-Platteville.

#### SUMMARY

The University of Wisconsin-Platteville seeks to establish a Bachelor of Science in Data Science.

#### **Program Description**

The University of Wisconsin-Platteville proposes to establish a Bachelor of Science degree in Data Science (B.S. in Data Science). The development of this program responds to industry's continued and increasing need for employees with data science backgrounds. Establishing the program will provide students with the computing, statistical, and mathematical skills to enter this growing field. The program will equip graduates with the abilities to summarize and analyze data, work in teams to answer questions, and communicate their results. Students seeking a B.S. in Data Science will complete 120 credits. The program is comprised of 62 credits, including 53 credits of core requirements and 9 credits from one of four focus areas: Biology, Business, Mathematics/Statistics, or Spatial Analysis.

#### Mission

The UW-Platteville mission is to "promote excellence by using a personal, hands-on approach to empower each student to become broader in perspective, intellectually more

astute, ethically more responsible, and to contribute wisely as an accomplished professional and knowledgeable citizen in a diverse global community."<sup>1</sup> The proposed B.S. in Data Science supports the institutional mission of UW-Platteville by providing participating students with a hands-on learning experience that fosters creativity, builds self-confidence, exposes students to group-driven tasks, and arranges for consultation with internal and external experts in the focal area of study. When possible, data and data projects will focus on problems of interest to the local and regional community, thereby strengthening the ties between UW-Platteville and its neighbors.

# **Market and Student Demand**

Several sources point to the current deficit of gualified employees in the data science job market. Within the state of Wisconsin, the Department of Workforce Development predicts a 30% increase in demand in the mathematical science occupations category.<sup>2</sup> The U.S. Bureau of Labor Statistics reports, "[E]mployment of statisticians is projected to grow 34 percent from 2016 to 2026, much faster than the average for all occupations." Since the U.S. Bureau of Labor Statistics does not have a category for data science, statistics is the closest alignment to this degree. In 2016, McKinsey and Associates found that the number of qualified data scientists falls far short of market demand, leading to a significant gap in the workforce. Additionally, McKinsey and Associates documented a 16% increase in wages of those data scientists who did fill positions between 2012 and 2014.<sup>3</sup> This shortfall stems from an increase in the volume of data produced globally; data volume is estimated to be 20,000 times greater by the year 2020, compared to 2000.<sup>4</sup> In the meantime, educational institutions with accredited data science programs have failed to meet the demand for qualified data scientists. This is particularly noticeable at the undergraduate level. Of the 451 U.S. programs in the field of data science in 2018, only 39 were undergraduate programs.<sup>5</sup> Students graduating from the proposed Data Science program would enter a job market seeking their know-how, with salaries that are rapidly increasing.

Expected student demand for a Data Science major at UW-Platteville is based on the lack of broadly focused degree programs in Data Science both within the UW System and across the upper Midwest. In addition, an undergraduate degree in Data Science today is highly marketable, with a median starting salary of approximately \$80,000.<sup>6</sup> These facts suggest a

<sup>&</sup>lt;sup>1</sup> Retrieved from <u>https://campus.uwplatt.edu/chancellor/mission.</u>

<sup>&</sup>lt;sup>2</sup> <u>https://jobcenterofwisconsin.com/wisconomy/query</u>.

<sup>&</sup>lt;sup>3</sup> McKinsey. (2016). Retrieved from <u>https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/big-data-the-next-frontier-for-innovation</u>.

<sup>&</sup>lt;sup>4</sup> "What can be done about the data science skills gap?" Siliconrepublic. (2018). Retrieved from <u>https://www.siliconrepublic.com/careers/data-science-skills-gap.</u>

<sup>&</sup>lt;sup>5</sup> Data Science Community. Retrieved August 2019, from datascience.community/colleges.

<sup>&</sup>lt;sup>6</sup> "The Quant Crunch: How the demand for data science skills is disrupting the job market." Burning Glass Technologies. (2017) Retrieved from <u>https://www.ibm.com/downloads/cas/3RL3VXGA</u>.

Data Science program at UW-Platteville would be attractive to students throughout the local tri-state area (Illinois, Iowa, and Wisconsin).

In addition, current programs and areas of expertise at UW-Platteville complement the proposed major. Precision farming, health care, criminal justice, and manufacturing are all particular strengths in the current array of UW-Platteville curriculum offerings and also areas that are projected to require an increasing number of trained data scientists.<sup>7</sup> The structure of the proposed program, which requires students to focus on a specific applied area of data science, will help increase enrollment in field-specific courses and, therefore, increase enrollment in courses from other departments. Similarly, limited financial investment is required to initiate the proposed program because existing courses will be used to train students. Additional enrollment in these courses will aid rather than hinder the health of departments that house them.

# **Credit Load and Tuition**

The proposed Data Science degree requires a total of 120 credits. These include 62 credits in the program, another 39 general education credits, and 19 credits of electives. The 62 program credits include 9 credits in a focus area. Students may engage in a variety of high-impact practices, including class and professional presentations as well as participation in the campus' data users group. This is an interdisciplinary program, with the required courses coming from a variety of disciplines. Some core courses of the program will be team taught by faculty members from different disciplines.

The generation, analysis, and use of data is a new frontier that raises numerous ethical concerns with which students must familiarize themselves, e.g., privacy issues and the monetization of personal data. Therefore, an emphasis on ethical practices will be integrated broadly throughout the curriculum. The goal is to repeatedly emphasize the importance of ethical practice as a data scientist. Students also will have the opportunity to practice their profession through a variety of activities, including internships, co-ops, class and professional presentations. In addition to coursework, these experiences will drive students to become well-rounded professionals capable of obtaining employment in a diversity of work environments.

For students enrolled in the B.S. in Data Science program, standard tuition and fee rates will apply. For the current academic year, residential tuition and segregated fees total \$3,898 per semester for a full-time student enrolled in 12-18 credits per semester. Of this amount, \$3,209 is attributable to tuition, \$577 is attributable to segregated fees, and \$112

<sup>&</sup>lt;sup>7</sup> NEJM Catalyst. (2017). Retrieved from <u>https://catalyst.nejm.org/case-data-scientists-inside-health-</u> <u>care/</u>; Agricultural Systems. (2017). Retrieved from

https://www.sciencedirect.com/science/article/pii/S0308521X16303754; NIJ (2018) Retrieved from https://www.nij.gov/funding/Pages/fy16-crime-forecasting-challenge.aspx.

is attributable to textbook rental fees. For students qualifying for the Tri-State Initiative, a special program available to Iowa and Illinois residents, tuition and fees total \$6,248 per semester. Of this amount, \$5,559 is attributable to tuition, \$577 is attributable to segregated fees, and \$112 is attributable to textbook rental fees. Nonresident tuition and segregated fees total \$7,823 per semester for a full-time student enrolled in 12-18 credits per semester. Of this amount, \$7,134 is attributable to tuition, \$577 is attributable to segregated fees, and \$112 is attributable to textbook rental fees.

# BACKGROUND

This proposal is presented in accord with the procedures outlined in Academic Planning and Program Review (SYS 102, revised July 2016, available at <a href="https://www.wisconsin.edu/program-planning/">https://www.wisconsin.edu/program-planning/</a>).

# **Related Policies**

- Regent Policy Document 4-12: Academic Program Planning, Review, and Approval in the University of Wisconsin System
- UW System Administration Policy 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting

# ATTACHMENTS

- A) Request for Authorization to Implement a Bachelor of Science in Data Science at UW-Platteville
- B) Cost and Revenue Projections Worksheet
- C) Cost and Revenue Projections Narrative
- D) Provost's Letter

# REQUEST FOR AUTHORIZATION TO IMPLEMENT A BACHELOR OF SCIENCE IN DATA SCIENCE AT UNIVERSITY OF WISCONSIN-PLATTEVILLE PREPARED BY UW-PLATTEVILLE

# ABSTRACT

The University of Wisconsin-Platteville proposes to establish a Bachelor of Science degree in Data Science (B.S. in Data Science). The development of this program responds to industry's continued and increasing need for employees with data science backgrounds. Establishing the program will provide students with the computing, statistical, and mathematical skills to enter this growing field. The program will equip graduates with the abilities to summarize and analyze data, work in teams to answer questions, and communicate their results. Students seeking a B.S. in Data Science will complete 120 credits. The program is comprised of 62 credits, including 53 credits of core requirements and 9 credits from one of four focus areas: Biology, Business, Mathematics/Statistics, or Spatial Analysis.

# **PROGRAM IDENTIFICATION**

**Institution Name** University of Wisconsin-Platteville

**Title of Proposed Academic Program** Data Science

**Degree/Designations** Bachelor of Science

**Mode of Delivery** Single institution; face-to-face

**Department or Functional Equivalent** 

Department of Mathematics

**College, School, or Functional Equivalent** College of Engineering, Mathematics and Science

# **Proposed Date of Implementation**

August 2020

### Projected Enrollments and Graduates by Year Five

Table 1 represents enrollment and graduation projections for students entering the program over the next five years. UW-Platteville has approximately 50 students majoring in mathematics. The department expects a subset of these students to choose the Data Science major. Because of the interdisciplinary nature of the major, the program should draw students who are interested in combining a strong data science background with another discipline. By Year 5, the program expects that 73 students will have enrolled in the program and 35 students will have graduated from the program. The average student retention rate is projected to be 73.8% based on the department's rates for the last four years.

Table 1: Five-Year Degree Program Enrollment Projections						
Students/Year	Year 1	Year 2	Year 3	Year 4	Year 5	
New Students	15	20	25	33	40	
Continuing Students	0	20	35	54	57	
Total Enrollment	15	40	60	87	97	
Graduating Students	0	0	0	20	15	

#### **Tuition Structure**

For students enrolled in the B.S. in Data Science program, standard tuition and fee rates will apply. For the current academic year, residential tuition and segregated fees total \$3,898 per semester for a full-time student enrolled in 12-18 credits per semester. Of this amount, \$3,209 is attributable to tuition, \$577 is attributable to segregated fees, and \$112 is attributable to textbook rental fees. For students qualifying for the Tri-State Initiative, a special program available to lowa and Illinois residents, tuition and fees total \$6,248 per semester. Of this amount, \$5,559 is attributable to tuition, \$577 is attributable to segregated fees, and \$112 is attributable to textbook rental fees. Nonresident tuition and segregated fees total \$7,823 per semester for a full-time student enrolled in 12-18 credits per semester. Of this amount, \$7,134 is attributable to tuition, \$577 is attributable to segregated fees, and \$112 is attributable to textbook rental fees.

The proposed program will use existing computing resources as well as open source software and proprietary software already licensed by UW-Platteville. No additional costs for software are anticipated.

# **DESCRIPTION OF PROGRAM**

#### **Overview of the Program**

The proposed Data Science degree requires a total of 120 credits. These include 62 credits in the program, another 39 general education credits, and 19 credits of electives. The 62 program credits include 9 credits in a focus area (see below). Students may engage in a variety of high-impact practices, including class and professional presentations as well as participation in the campus' data users group. Additionally, either an internship or an undergraduate research experience will be recommended, but not required. This is an interdisciplinary program, with the required courses coming from a variety of disciplines. Some core courses of the program will be team taught by faculty members from different disciplines.

# **Student Learning Outcomes and Program Objectives**

Students will apply computational, mathematical, programming, modeling, software, and statistical knowledge to solve problems across domains such as biology, business, computer science, engineering, spatial analysis, and mathematics. Learning outcomes emphasize the following skills sets within four domains. The successful graduate of the proposed program will gain proficiency in the following learning outcomes:

- Project planning: identify and diagnose the goal of analysis, assessing requisite data needs.
- Data acquisition: acquire, clean, and further prepare data for analysis.
- Data management: document and efficiently store data.
- Data visualization: model data using a variety of visualization techniques.
- Data analysis: analyze data using machine learning, predictive modeling, and computational statistics.
- Communication of findings: build accessible visual representations of findings; prepare oral, written, and poster presentations.
- Ethics: understand the social, legal, and ethical challenges of data science; acquire and analyze data in an ethically appropriate manner.
- Subject area depth: learn how to apply data analysis methods in-depth for one subject area (choose from Biology–Molecular/Genetics, Biology–Ecological, Business, Mathematics/Statistics, or Spatial Analysis).

#### **Program Requirements and Curriculum**

First-year and transfer students will be eligible to declare a major in Data Science upon admission to the university. No additional exams, other than those already taken by students during admission to UW-Platteville, are required. Continued enrollment in the major will require students to maintain the same level of performance that all UW-Platteville students must meet to remain in academic good standing; namely, maintenance of a cumulative GPA greater than 2.0 and no semesters with a GPA less than 1.0. Table 2 illustrates the program curriculum for the proposed program and indicates the new courses that are already being developed. The program requirements include 120 credits, with 39 credits in university general education requirements, 62 credits in program requirements, including 9 credits in a focus area of the student's choice, and the remaining 19 credits as electives.

Academic progra	m or major course requirements:	53 credits
Math 1830	Elementary Statistics	3 credits
Math 2130	Discrete Structures	3 credits
OR	OR	
Math 2730	Discrete Mathematics (prerequisite: Math 2640)	
Math 2640	Calculus and Analytic Geometry I (prerequisite: Math 2450 or Math 2530)	4 credits
Math 2740	Calculus and Analytic Geometry II (prerequisite: Math 2640)	4 credits
Math 3230	Linear Algebra (prerequisite: Math 2740)	3 credits
Math 4030	Statistical Methods with Applications (prerequisite: Math 2740)	3 credits
Math 4050	Applied Regression Analysis (prerequisite: Math 4030)	3 credits
Stat 2030	Data Visualization (prerequisite: Math 1530 and Math 1830 or Math 4030)	3 credits
Computer 1130	Introduction to Programming	3 credits
Computer 1430	C++	3 credits
Computer 2430	Object oriented Programming and Data Structures (prerequisite: Computer 1430)	3 credits
Computer 3630	Database Design and Implementation (prerequisite: Computer 2430 and Math 1630, 2130, or 2730)	3 credits
DataSci 2010	Data Science I	3 credits
DataSci 2510	Data Science II (prerequisite: Data Science 2010)	3 credits
DataSci 3010	Data Ethics	3 credits
DataSci 4900	Data Science Capstone (senior standing)	3 credits
Geography 3230	Introduction to GIS	3 credits
Focus area requi at least 9 credits	rements – from one of the following areas:	9 credits

# Table 2: Bachelor of Science in Data Science Program Curriculum Academic program or major course requirements:

Biology 3330	Genetics (prerequisite: Biology 1650)	3 credits
Biology 3470	Evolutionary Analysis (prerequisite: Biology 3330)	3 credits
Geography 3340	Biogeography (prerequisite: Geography 1040 or 1370 or Biology 1650 or 1750)	4 credits

**Biology - Molecular/Genetics** 

#### **Biology – Ecological**

Total Credits for	Program	62 credit
Geography 4330	Advanced GIS (prerequisite: Geography 3230)	3 credits
Geography 3520	Remote Sensing of the Environment	3 credits
Geography 3040	Python for GIS (prerequisite: Geography 3230)	3 credits
	Spatial Analysis	
Stat 4230	Applied Nonparametric Statistics (prerequisite: Math 1830 or 4030)	3 credits
Stat 4130	Applied Categorical Analysis (prerequisite: Math 1830 or 4030)	3 credits
Math 3730	Numerical Analysis (prerequisite: Math 3230)	3 credits
Stat 3230	Experimental Design (prerequisite: Math 4050)	3 credits
	Mathematics/Statistics	
BusAdmin 4170	Predictive Analytics (prerequisite: BusAdmin 2100)	3 credits
BusAdmin 4120	Operations Management (prerequisites: BusAdmin 2330, Math 1830)	3 credits
BusAdmin 4030	Financial Decision Making (prerequisite: BusAdmin 3620)	3 credits
BusAdmin 3930	Investments (prerequisite: BusAdmin 3620)	3 credits
BusAdmin 3700	Market Research (prerequisite: BusAdmin 2630)	3 credits
BusAdmin 3640	Finance Systems Analysis (prerequisite: BusAdmin 3620)	3 credits
	Business (a minor in Business is recommended for this focus area)	
Geography 3340	Biogeography	4 credits
Biology 3460	Ecological Methods (prerequisite: Biology 1650, 1750, 2420)	3 credits
Biology 3450	Ecology and Evolution (prerequisite: Biology 1650, 1750)	3 credits

#### Assessment of Outcomes and Objectives

All programs are required to submit a program assessment every two years to the Assessment Oversight Commission. In addition, a full program review occurs every six years. The program will be assessed directly through student performance as well as longterm trends. The program requires students to create and maintain an e-portfolio of their academic achievements such as analyses and projects completed as part of required coursework, complete a capstone course in their focus area, and complete a standardized test when one becomes available nationally. In addition, internships will be encouraged. Student learning outcomes will be assessed at both the course and program level. At the course level, the Mathematics department currently conducts an assessment every three years consisting of a math skills exam, which collects longitudinal data on how well the course outcomes are met. Course outcomes will be developed for the new Data Science courses, which will be assessed through consulting projects, oral presentations, exams, and written assignments. The Mathematics department also assesses components of each of its programs every two years by collecting data on standardized exams, surveys of the program graduates, and alumni surveys. The Data Science program will also collect and analyze enrollment trends, time to degree, and job or graduate school placement. Institutional program assessment occurs on a two-year cycle.<sup>1</sup> Programs submit reports to the Assessment Oversight Committee.

The discipline of data science, once the domain of statisticians with specific research interests, only recently expanded its scope (both in theory and application); as a result, there is no current accreditation board or agency that exists to provide external review. Given this, the program will be reviewed annually by an advisory board of external stakeholders made up of industry professionals. This group will provide degree program participants with insight regarding the current trends in academia and industry and the changes that should be made to the curriculum.

#### Diversity

UW-Platteville practices a process of inclusion that allows the university to increasingly strengthen its leadership role in the 21st century through the complete integration of diversity into all of the university's core activities. UW-Platteville strives to create a campus that provides: (1) access and support for underserved populations; (2) an inclusive and just culture; (3) promotion of understanding, compassion, and acceptance; (4) commitment to the ideals of social justice; and (5) appreciation for global citizenship through a focus on collaboration and respect. These perspectives can only be realized when they are included in the curriculum. In addition to completing diversity requirements in the general education curriculum, the use of data sets that reflect demographic and social diversity will be used in analyses and projects required in the program.

UW-Platteville endeavors to foster an environment of inclusive excellence and has initiated major initiatives in that regard. Specifically, the university recently restructured its diversity initiatives and multiple, affected offices to provide improved support for students, faculty, and staff. This included the creation of new student and administrative groups: the Division of Diversity and Inclusion, the Center for Gender and Sexuality, LGBTQ+ support groups, and the Office of Non-Traditional and Veteran Student Affairs. The university also hired an individual for a new administrative position, Chief Diversity Officer. The new Division of Diversity and Inclusion aspires to create a diverse community that welcomes people of different races, cultures, ages, genders, sexual orientations, religions, socioeconomic levels, political perspectives, abilities, opinions, values, and experiences. Furthermore, UW-Platteville is committed to sustaining an accessible inclusive environment that empowers all members of the campus community to achieve their highest potential. Attainment of this vision is not only possible but also critical in meeting the university's

<sup>&</sup>lt;sup>1</sup> UW-Platteville. 2019. Office of Institutional Research. Assessment cycle. <u>https://campus.uwplatt.edu/oir/academic-assessment</u> (accessed 10 September 2019).

promise for the success of its students in an increasingly connected world. Throughout the academic year, there are opportunities for faculty to increase their skills at creating a welcoming classroom. For example, a November 2019 event entitled *Coffee & Conversation: What does inclusive education mean to you?* brought together faculty to share ideas on creating an inclusive classroom.

Ensuring that diverse student populations enter the B.S. in Data Science program is important. To work towards this goal and in accordance with UW-Platteville's mission statement, the UW-Platteville Department of Mathematics will collaborate with the Marketing department to conduct outreach to potential students, especially focusing on underserved populations. In addition, the program advisory board will provide support by helping the program extend its reach to diverse prospective students in the communities. Further, it is equally important to retain students by encouraging them to access the wide variety of academic and counseling support services available on campus.

While the proposed degree does not project a significant number of new faculty hires, the Department of Mathematics is committed to actively recruiting candidates for new positions from historically marginalized groups. In terms of compensation, professional opportunity, and respect, the program will work toward achieving equity across gender, ethnic, and cultural distributions of faculty and staff.

#### **Collaborative Nature of the Program**

No external partnerships or consortial arrangements are planned for this program at this time. Internally, the interdisciplinary nature of this program includes coursework with the College of Engineering, Mathematics and Science and the College of Business, Industry, Life Science, and Agriculture.

#### **Projected Time to Degree**

The projected time to degree for the Data Science major is four years if a student is enrolled full-time. Part-time degree completion would take longer depending on the course load and the number of credit hours being taken each semester. A student taking 15 credits per academic year can complete the program in 16 semesters. Transfer students may require an additional semester contingent upon the successful completion of prerequisite math courses prior to transfer.

#### **Program Review**

This program will go through standard university review processes for both the curriculum and the degree. Specifically, each program is reviewed in-depth by the Academic Planning Council (APC) on a six-year cycle. The program is reviewed to ensure that (1) student learning outcomes are clearly defined, (2) the curriculum mapping indicates when SLOs are assessed, (3) the assessment of SLOs is conducted on a regular basis, (4) the assessment results are analyzed, and (5) the program arrives at data-driven decisions to

improve the curriculum and its delivery. This process examines mission-fit, resource efficiency, academic quality, and service quality to students.

# Accreditation

Currently no external accrediting agency exists for the rapidly evolving field of data science. There are proposed standardized tests<sup>2</sup> for graduates of data science programs that may be adopted as part of the curriculum as students progress through the program. This will be a focal point of discussion with the external advisory board. No other accreditation approvals are required.

# JUSTIFICATION

# **Rationale and Relation to Mission**

In the summer of 2018, UW-Platteville reviewed its current program array and, with the assistance of Gray Associates, chose several new program areas to explore. Data Science had a strong showing in both job demand and student interest. Realizing this trend, UW-Platteville proposes to add Data Science to the mix of programs offered by the Mathematics department. In addition, Data Science fits well with the current array of majors on campus, including engineering, agriculture, computer science, and business.

The proposed program at UW-Platteville supports major themes of the UW-Platteville's recently developed Strategic Plan. These themes include Academic Experience; Student Success, Recruitment and Retention; Campus Climate; Fiscal Planning; and Community and Corporate Partnerships. The new Data Science program offers a timely and new degree which will directly benefit the Academic Experience on campus by fostering a transdisciplinary approach to education, offering both majors and non-majors access to new courses that are at the forefront of problem solving and technology. This program will contribute to Student Success, Recruitment and Retention as it fills a niche not accessed by current degree programs. Specifically, recruitment and retention will benefit from the need for data scientists and, therefore, the promise of better employment opportunities upon graduation. Finally, this program will directly contribute to Community and Corporate Partnerships through students' senior capstone projects and regular consultation with the program's advisory board. Further, many of the capstone projects will include cooperation with local industry, agencies, and organizations, with special emphasis on aiding non-profits in the region with data analysis.

The UW-Platteville mission is to "promote excellence by using a personal, hands-on approach to empower each student to become broader in perspective, intellectually more astute, ethically more responsible, and to contribute wisely as an accomplished

<sup>&</sup>lt;sup>2</sup> Retrieved from <u>https://www.chicagotribune.com/business/ct-biz-data-science-standard-test-</u> 20180625-story.html.

professional and knowledgeable citizen in a diverse global community."<sup>3</sup> The proposed B.S. in Data Science supports the institutional mission of UW-Platteville by providing participating students with a hands-on learning experience that fosters creativity, builds self-confidence, exposes students to group-driven tasks, and arranges for consultation with internal and external experts in the focal area of study. When possible, data and data projects will focus on problems of interest to the local and regional community, thereby strengthening the ties between UW-Platteville and its neighbors.

An emphasis on ethical practices will be integrated broadly throughout the curriculum. The goal is to repeatedly emphasize the importance of ethical practice as a data scientist. Thus, a Data Ethics course has been incorporated into the curriculum. The generation, analysis, and use of data is a new frontier that raises numerous ethical concerns with which students must familiarize themselves, e.g., privacy issues and the monetization of personal data.

Students participating in the Data Science program will have the opportunity to practice their profession through a variety of activities, including internships, co-ops, class and professional presentations, and the on-campus data users group. In addition to coursework, these experiences will drive students to become well-rounded professionals, capable of obtaining employment in a diversity of work environments. Existence of a Data Science program will also allow students from other degree programs to take classes that expose them to a field whose techniques now permeate areas as diverse as business and biology.

#### Institutional Program Array

The University of Wisconsin-Platteville offers a variety of majors within the College of Engineering, Mathematics, and Science (EMS) that align with the proposed Data Science major. The new major fills a niche where two EMS majors intersect, such as math and engineering or math and computer science. In addition, the proposed major complements programs outside the college, including information systems, social media networks, national security, investment risk management, agriculture, biology, business, criminal justice, and geography. While employment in the data science field requires strong mathematical and analytical skills, it also requires an understanding of the industry in which the data scientist is working. This program provides students with grounding in multiple disciplines. Therefore, the proposed major is beneficial in keeping with the current academic degree program array and in striving towards its game-changing potential to foster cross-campus collaboration.

# Other Programs in the University of Wisconsin System

Two undergraduate programs in Data Science were recently launched: one at UW-River Falls and the other at UW-Stevens Point. An additional program at UW-Madison is in

<sup>&</sup>lt;sup>3</sup> Retrieved from <u>https://campus.uwplatt.edu/chancellor/mission.</u>

the proposal stage. The program at UW-Stevens Point is primarily focused on business applications, while the program at UW-River Falls is primarily focused on computer science. The most similar existing program to this proposal within the region is offered at Winona State University (WSU) in Winona, MN. However, the geographic location of WSU falls outside the area from which the vast majority of UW-Platteville students are drawn. Therefore, WSU is not expected to be a major competitor for student recruitment. The proposed program offers a diverse set of upper-level courses that allow students to specialize in areas necessary to meet the demands for data scientists in industry, business, and the natural sciences. In summary, the current programs in the UW System at UW-River Falls and UW-Stevens Point do not provide graduating students with the same breadth and diversity of employment opportunities that graduates of this proposed program will have available to them.

# Need as Suggested by Current Student Demand

Expected student demand for a Data Science major at UW-Platteville is based on growth in the need for data scientists<sup>4</sup> nationally (see next section) and the severe lack of broadly focused degree programs in Data Science both within the UW System and across the upper Midwest (see previous section). The projected number of new students over the first five years of the proposed program (Table 1) are therefore conservative, given the high demand for training in this area and the deficit of training programs. In addition, an undergraduate degree in Data Science today is highly marketable, with a median starting salary of approximately \$80,000.<sup>5</sup> These facts suggest a Data Science program at UW-Platteville would be attractive to students throughout the local tri-state area (Illinois, Iowa, and Wisconsin).

In addition, current programs and areas of expertise at UW-Platteville complement the proposed major. Precision farming, health care, criminal justice, and manufacturing are all particular strengths in the current array of UW-Platteville curriculum offerings and also areas that are projected to require an increasing number of trained data scientists.<sup>6</sup> The structure of the proposed program, which requires students to focus on a specific applied area of data science, will help increase enrollment in field-specific courses and, therefore, increase enrollment in courses from other departments. Similarly, limited financial investment is required to initiate the proposed program because existing courses will be used to train students. Additional enrollment in these courses will aid rather than hinder the health of departments that house them.

<sup>&</sup>lt;sup>4</sup> "The Quant Crunch: How the demand for data science skills is disrupting the job market." Burning Glass Technologies. (2017) Retrieved from <u>https://www.ibm.com/downloads/cas/3RL3VXGA</u>.

<sup>&</sup>lt;sup>5</sup> "The Quant Crunch: How the demand for data science skills is disrupting the job market." Burning Glass Technologies. (2017) Retrieved from <u>https://www.ibm.com/downloads/cas/3RL3VXGA</u>. <sup>6</sup> NEJM Catalyst. (2017). Retrieved from <u>https://catalyst.nejm.org/case-data-scientists-inside-health-care/</u>; Agricultural Systems. (2017). Retrieved from

https://www.sciencedirect.com/science/article/pii/S0308521X16303754; NIJ (2018) Retrieved from https://www.nij.gov/funding/Pages/fy16-crime-forecasting-challenge.aspx.

#### Need as Suggested by Market Demand

On behalf of the Business-Higher Education Forum and IBM, Burning Glass Technologies (BGT), a company that analyzes job growth and the labor market, recently reported robust growth in the job market for data scientists.<sup>7</sup> Specifically, BGT estimated a need for 350,000 new positions by 2020, to meet demand, bringing the total number of jobs in the data science and analytics field to 2.75 million by 2020. In addition, BGT forecasts 28% growth in data scientist positions over the years 2015 through 2020, the fastest growth rate among job categories in the data science and analytics landscape analyzed by BGT. Moreover, jobs in data science and analytics remain open five days longer than the market average across all job types, suggesting a lack of qualified applicants.<sup>8</sup>

Several sources point to the current deficit of qualified employees in the data science job market. Within the state of Wisconsin, the Department of Workforce Development predicts a 30% increase in demand in the mathematical science occupations category.<sup>9</sup> The U.S. Bureau of Labor Statistics reports, "[E]mployment of statisticians is projected to grow 34 percent from 2016 to 2026, much faster than the average for all occupations." Since the U.S. Bureau of Labor Statistics does not have a category for data science, statistics is the closest alignment to this degree. In 2016, McKinsey and Associates found that the number of gualified data scientists falls far short of market demand, leading to a significant gap in the workforce. Additionally, McKinsey and Associates documented a 16% increase in wages of those data scientists who did fill positions between 2012 and 2014.<sup>10</sup> This shortfall stems from an increase in the volume of data produced globally; data volume is estimated to be 20,000 times greater by the year 2020, compared to 2000.<sup>11</sup> In the meantime, educational institutions with accredited data science programs have failed to meet the demand for qualified data scientists. This is particularly noticeable at the undergraduate level. Of the 451 U.S. programs in the field of data science in 2018, only 39 were undergraduate programs.<sup>12</sup> Students graduating from the proposed Data Science program would enter a job market seeking their know-how, with salaries that are rapidly increasing.

 <sup>&</sup>lt;sup>7</sup> "The Quant Crunch: How the demand for data science skills is disrupting the job market." Burning Glass Technologies. (2017). Retrieved from <u>https://www.ibm.com/downloads/cas/3RL3VXGA</u>.
 <sup>8</sup> "The Quant Crunch: How the demand for data science skills is disrupting the job market." Burning Glass Technologies. (2017). Retrieved from <u>https://www.ibm.com/downloads/cas/3RL3VXGA</u>.
 <sup>9</sup> <u>https://jobcenterofwisconsin.com/wisconomy/query</u>.

<sup>&</sup>lt;sup>10</sup> McKinsey. (2016). Retrieved from <u>https://www.mckinsey.com/business-functions/digital-</u>mckinsey/our-insights/big-data-the-next-frontier-for-innovation.

<sup>&</sup>lt;sup>11</sup> "What can be done about the data science skills gap?" Siliconrepublic. (2018). Retrieved from <u>https://www.siliconrepublic.com/careers/data-science-skills-gap.</u>

<sup>&</sup>lt;sup>12</sup> Data Science Community. Retrieved August 2019, from datascience.community/colleges.

	Cost and Revenue Projections For	Pronosed BS	in Data Salar	Date and the		
Ļ	-	Arepore An	III DALA SCIEL	ice Program		
	Items			Projections		
ļ		2020-21	2021-22	2022-23	2023-24	2024-25
l	With the second s	Year 1	Year 2	Year 3	Year 4	Year 5
	Enrollment (New Student) Headcount	15	20	25	33	4
	Enrollment (Continuing Student) Headcount	0	20	35	54	5
	Enrolment (New Student) FTE	15	20	25	33	4
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π	Total New Credit Hours		120	105	162	
-	Existing Credit Hours With the second	150	280	495	708	970
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<b>MARK</b>					IN INTRACISTANT	ITTEORYNARD
īV	Revenues					
	From Tuition	\$30,806	\$82,150	\$123,226	\$178,677	\$199,21
	From Fees					
	Program Revenue (Grants)					
	Program Revenue - Other (Program Fee)	1				
	GPR (re)allocation					
	Total New Revenue	\$30,806	\$82,150	\$123,226	\$178,677	\$199.21
v	Expenses			THREAT		<b>MENTRIN</b>
	Salaries plus Fringes					
	Faculty/Instructional Staff		\$85,665	\$87,378.71	\$89,126	\$190,39
	Other Staff (Laboratory Manager)					
	Other Expenses				BHAMMAR	
	Facilities	\$0	\$0	\$0	\$0	\$0
	Equipment	\$0	\$0	\$0	\$0	\$0
	Supplies	<b>\$</b> 0	\$0	\$0	\$0	\$(
	Other (professional development, travel)	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
. I	Total Expenses	\$3,000	\$88,665	\$90,379	\$92,126	\$193,391
<b>B</b> H	ULII MENILU ALEAN INA I LIETATAA I LIITAA MARKATAA I LIITAA MARKATAA I					
	Net Revenue	\$27,806	-\$6,515	\$32,847	\$86,551	\$5,824
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# COST AND REVENUE PROJECTIONS NARRATIVE UNIVERSITY OF WISCONSIN-PLATTEVILLE BACHELOR OF SCIENCE IN DATA SCIENCE

#### Introduction

The University of Wisconsin-Platteville proposes to establish a Bachelor of Science in Data Science (B.S. in Data Science) program in response to industry's established need for Data Science professionals. This program aligns with UW-Platteville's strengths as a STEM institution and fulfills an unmet need for broad-based undergraduate data science programs in the upper Midwest. The program will be an extremely low-cost program to start up, given that the majority of classes and resources needed for the program already exist in the mathematics department. A budget shortfall is expected in the second year of the program; however, revenue from Year 1 is more than sufficient to cover needs in the second year.

#### Section I – Enrollment

Burning Glass Technologies, a company that analyzes job growth, forecasts a 28% growth in the job market for data scientists. Data Science degrees are highly marketable, thus driving an increase in student demand for this degree.<sup>1</sup> Conservative estimates for initial student enrollments are projected at 15 FTE in the first year of the program. The program expects some current math majors to switch to the new program in Year 2. By Year 5, the program anticipates growth to 40 new students.

#### **Section II - Credit Hours**

Students will complete a total of 120 credits, consisting of 62 credits in the major. The additional 58 credits will consist of general education requirements and electives. Of the 62 credits, 38 credits are taught by the Department of Mathematics. In addition to required mathematics and data science courses, students will choose one of several tracks which utilize courses from biology, business, mathematics, and geography. All programs have the capacity to accommodate additional students. Therefore, the program provides 32% of the credits in the degree program (38/120 credit = 32%). Typically, students take 30 credits per year. Thus, 30 times 32% = approximately 10 credits per year that are directly attributable to the courses delivered by the mathematics department. No new courses will be required the first year. In the second year of the program, the first new course will be offered, with one new course offered the following semester, one the third year, and the last new course offered during the fourth year of the program. New student credit hours (SCH) are calculated by multiplying the new and continuing student FTE by 3 for each new course offered (each new course is 3 credits). Existing credit hours were calculated by multiplying the new and continuing student FTE by 10 (the number of program credits

<sup>&</sup>lt;sup>1</sup> "The Quant Crunch: How the demand for data science skills is disrupting the job market." Burning Glass Technologies. (2017). Retrieved from <u>https://www.ibm.com/downloads/cas/3RL3VXGA</u>

taken each year) minus any new course SCH. Students typically balance general education credits and major course credits throughout their four years of study.

# Section III – Faculty and Staff Appointments

New faculty will not be added by this program until it is certain the program has reached a sustainable level of enrollment. Until that point, courses will be covered by existing faculty. New courses will be added in Years 2, 3, and 4. These courses can be co-taught by existing faculty. The program has enough capacity in the first four years of the program to develop and teach the proposed new courses.

# Section IV – Program Revenues

# Tuition Revenues

This program will be supported with tuition revenue. Currently, tuition in-state tuition is \$6,418 per year per student. Of the 120 credits required for a degree, 32% would be directly attributable to the Data Science program. The tuition revenue was obtained by multiplying the total number of students in the program by the yearly tuition and then computing 32% of that sub-total for the total.

# Section V – Program Expenses

# Salary and Fringe Expenses

There will be no additional salary expenses for the first year of the program. Instructional capacity exists in the program's first-year courses. For the second and third year of the program, an average academic staff salary and 38.17% in fringe, equaling \$62,000, was used to calculate the additional instructional needs to cover classes during those years. In the fifth year of the program, the intent is to hire a Data Science faculty member, with a starting salary of \$72,000. The salary was calculated by multiplying salary and fringes of \$99,482 (\$72,000 plus fringe of 38.17%). This is the recommended starting salary provided by attendees of the Joint Statistics Meetings in summer 2019.<sup>2</sup> A 2% increase to accommodate salary and/or fringe costs are included in Years 2-5.

# Other Expenses

The program will also be supported by the existing mathematics department supplies budget. This will provide the usual supplies and expenses for teaching courses. Other associated expense is designated for professional development for the faculty members. This expense is estimated at \$3,000, with the assumption that the faculty members will apply for university professional development funds as well.

# Section VI - Net Revenue

Over the first five years of the program, the net revenue sum is anticipated to total over \$146,000. These funds would best be reinvested into updating the computer labs on

<sup>&</sup>lt;sup>2</sup> McGrath, Robert J. "From Statistics to Artificial Intelligence: The Evolution of Data Science." Joint Statistics Meetings, August 5, 2019.

campus and to cover negative net revenue anticipated in Year 2. As the program grows and in order to offer more course/class sections, money would also need to be invested into general education and other courses.

November 27, 2019

President Ray Cross University of Wisconsin System 1720 Van Hise Hall 1220 Linden Dr Madison, WI 53706

Re: Provost Letter of Commitment for Implementation of a BS in Data Science

Dear President Cross:

The University of Wisconsin-Platteville is pleased to request authorization to implement a Bachelor of Science in Data Science. The Notice of Intent for this major was circulated to UW-System campuses in March 2019. No concerns were raised by any System campuses. The program has been unanimously approved by all governance bodies including the budget commission, academic planning council, university undergraduate curriculum commission, and faculty senate.

This program is interdisciplinary. Students study core courses in mathematics, statistics, computer science, GIS, and data science. They also choose a focus area based on their interest and career goals. Focus areas include molecular/genetic biology, ecology, business, mathematics/statistics, or spatial analysis. Graduates will be equipped to meet industry's demand for employees with an ability to summarize and analyze data, work in teams, and effectively communicate results.

The BS in Data Science fulfills a unique niche within the institution's program array. This program complements existing majors in computer science, business, criminal justice and geography. All these sectors demand competent data scientists who can analyze data within the context of trends within their industry. This degree also aligns well with UW-Platteville's mission to: "promote excellence by using a personal, hands-on approach to empower each student to become broader in perspective, intellectually more astute, ethically more responsible, and to contribute wisely as an accomplished professional and knowledgeable citizen in a diverse global community." This program provides a truly hand-son learning experience through group-driven tasks and consultation with internal and external experts in the focal area of study. Data sets used in projects will focus on problems of interest to the local and regional community thereby strengthening the ties between UW-Platteville and our surrounding communities.

The Department of Mathematics has the necessary resources to offer this program. The program does not anticipate additional faculty resources until growth supports additional instructional personnel.

Current faculty have capacity to provide required program curriculum. In addition, the program does not require additional physical space or software needs. The Department of Mathematics has sufficient financial resources to support the expected growth in student FTE.

The program will be assessed according to the university's governance procedures.

As Provost, I endorse this program and recommend it to the Board of Regents for adoption.

Sincerely,

X Arandulson

Provost & Vice Chancellor for Academic Affairs

cc: Dr. Carleen Vande Zande, Associate Vice President of Academic Programs and Educational Innovation

Academic Affairs

February 6, 2020

# NEW PROGRAM AUTHORIZATION (IMPLEMENTATION) MASTER OF SCIENCE IN CYBERSECURITY, UW-WHITEWATER

# **REQUESTED ACTION**

Adoption of Resolution C.6., authorizing the implementation of the Master of Science in Cybersecurity at UW-Whitewater.

**Resolution C.6.:** That, upon the recommendation of the Chancellor of UW-Whitewater and the President of the University of Wisconsin System, the Chancellor is authorized to implement the Master of Science in Cybersecurity at the University of Wisconsin-Whitewater.

#### SUMMARY

The University of Wisconsin-Whitewater seeks to establish a Master of Science in Cybersecurity.

#### **Program Description**

The University of Wisconsin-Whitewater proposes to establish a Master of Science (M.S.) program in Cybersecurity. This program responds to regional and national employer demand for cybersecurity talents for protecting both business and government from cybersecurity attacks. Consequently, UW-Whitewater STEM undergraduate students have indicated high demand for this program. Establishing the program will meet workforce demand by providing students with knowledge and skill development in cybersecurity operations, management, and design. Graduates will be equipped to pursue careers, such as security engineers, security analysts, security architects, and security managers. This 30-credit program will be offered online. It is expected most students will complete the program within two years. The program includes two emphasis areas offering in-depth study in cyber resilience and security engineering. The curriculum was designed around the Department of Homeland Security/National Security Administration National Centers of Academic Excellence in Cyber Defense knowledge units.

# Mission

The M.S. in Cybersecurity program aligns with the UW-Whitewater mission and strategic plan.<sup>1</sup> Specifically, it aligns with Goal 1: "We will improve student access and success," as it will improve student access to a high-demand field that advances career success. Since the program will educate students in cybersecurity defense to serve both public and private sectors in Wisconsin and nationwide, it also aligns with Goal 2: "We will transform lives and impact society" through "… [providing] high-quality academic programming that prepares our graduates … [to] lead successful lives and productive careers and to make positive contributions to the State of Wisconsin, to our nation, and to the world."

# **Market and Student Demand**

Cybersecurity has become a national security priority. The United States is keenly in need of cybersecurity professionals to protect the country in both the private and public sectors. This is the reason that Dan Stein, the U.S. Department of Homeland Security Branch Chief for Cybersecurity Education and Awareness, visited UW-Whitewater in 2017, to promote cybersecurity education. Stein encouraged creating new cybersecurity programs and getting those programs certified with the DHS/NSA CAE-CD designation. In addition, cybersecurity careers are highly compensated. For instance, according to CyberSeek,<sup>2</sup> the average salary for a cybersecurity engineer is \$108,000, while a cybersecurity manager/administrator earns \$115,000, on average. The proposed degree will position graduates to be competitive for such positions.

According to CyberSeek<sup>3</sup>, the U.S currently employs nearly 715,000 workers in cybersecurity, and there were approximately 314,000 unfilled cybersecurity positions between September 2017 and August 2018. This deficit is nearly 50% greater than the 209,000 unfilled positions in 2015—a time when the number of cybersecurity job postings had already increased 74% from the previous five years.

This surge in the job market indicates strong growth potential for cybersecurity education. According to the U.S. Department of Labor, Bureau of Labor Statistics long-term occupational projections, between 2016 and 2026, vacancies in related positions such as information security analysts are expected to grow by 28.5%, with anticipated annual openings of more than 10,000 per year.<sup>4</sup> The local and regional job markets also have high

<sup>&</sup>lt;sup>1</sup> See https://www.uww.edu/strategic-plan

<sup>&</sup>lt;sup>2</sup> CyberSeek is a project supported by the National Institute of Standards and Technology (NIST), U.S. Department of Commerce, and National Initiative for Cybersecurity Education (NICE). Information retrieved from https://www.cyberseek.org/

<sup>&</sup>lt;sup>3</sup> https://www.cyberseek.org/

<sup>&</sup>lt;sup>4</sup> https://projectionscentral.com/Projections/Download

demand for cybersecurity professionals. According to CyberSeek, Wisconsin has about 2,900 openings in cybersecurity, while Illinois has 13,000 and Minnesota has 5,600.

# **Credit Load and Tuition**

The M.S. in Cybersecurity program is a 30-credit program that is an interdisciplinary collaboration between the College of Letters and Sciences and the College of Business and Economics. This degree offers studies in core areas of cybersecurity that include offensive and defensive security operations, security awareness training, security tools design and implementation, security management, security policy and law, and emerging areas in security and privacy. The proposed program offers both hands-on experiential learning and in-depth theoretical studies, and it prepares students for cybersecurity careers that include security engineers, security analysts, security architects, and security managers.

Graduate business online tuition rates will apply. The fall 2019 rate is \$637.43 per credit for both Wisconsin residents and nonresidents. Thus, the total cost of tuition and fees for the 30-credit program will be \$19,122.90. Tuition is charged on a per-credit basis and does not include segregated fees. This is in accordance with UW System Policy SYS 130 Appendix C: Principles for Pricing Distance Education Credit Courses, Degree and Certificate Programs, which allows for the exclusion of segregated fees and the exemption from the credit plateau to charge tuition on a per-credit basis. In addition, students will be responsible to pay for books and supplies.

# BACKGROUND

This proposal is presented in accord with the procedures outlined in Academic Planning and Program Review (SYS 102, revised July 2016, available at <a href="https://www.wisconsin.edu/program-planning/">https://www.wisconsin.edu/program-planning/</a>).

#### **Related Policies**

- Regent Policy Document 4-12: Academic Program Planning, Review, and Approval in the University of Wisconsin System
- UW System Administration Policy 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting

# ATTACHMENTS

- A) Request for Authorization to Implement a Master of Science in Cybersecurity at UW-Whitewater
- B) Cost and Revenue Projections Worksheet
- C) Cost and Revenue Projections Narrative
- D) Provost's Letter

# REQUEST FOR AUTHORIZATION TO IMPLEMENT A MASTER OF SCIENCE IN CYBERSECURITY AT UNIVERSITY OF WISCONSIN-WHITEWATER PREPARED BY UW-WHITEWATER

# ABSTRACT

The University of Wisconsin-Whitewater proposes to establish a Master of Science (M.S.) program in Cybersecurity. The development of this program responds to the regional and national employer demand for cybersecurity talents for protecting both business and government from cybersecurity attacks. Consequently, UW-Whitewater STEM undergraduate students have indicated high demand for this program. Establishing the program will meet this demand by providing students with exposure to studies in cybersecurity operations, management, and design. Graduates will be better equipped to pursue cybersecurity careers such as security engineers, security analysts, security architects, and security managers. This 30-credit program is offered online. It is expected that most students will complete the program within two years. The program includes two emphasis areas offering in-depth study in cyber resilience and security engineering. Students will select an emphasis area based on their interest and background. The curriculum was designed around the Department of Homeland Security/National Security Administration National Centers of Academic Excellence in Cyber Defense knowledge units.

# **PROGRAM IDENTIFICATION**

**Institution Name** University of Wisconsin-Whitewater

**Title of Proposed Program** Cybersecurity

**Degree/Major Designations** Master of Science

**Mode of Delivery** Single institution; 100% distance delivery

# **Department or Functional Equivalent**

The Department of Computer Science and the Department of Information Technology and Supply Chain Management (ITSCM) will jointly deliver this program.

#### **College, School, or Functional Equivalent**

The College of Letters and Sciences and the College of Business and Economics will jointly administer this program.

# **Proposed Date of Implementation**

September 2020

# Projected Enrollments and Graduates by Year Five

Table 1 represents enrollment and graduation projections for students entering the program over the next five years. By the end of Year 5, it is expected that 136 students will have enrolled in the program and 77 students will have graduated. It is anticipated that 15 new students will enroll the first year, which is consistent with the rollout of other online master's degree offerings at UW-Whitewater. An Emsi<sup>1</sup> marketing study of position postings for the period May 2017 to June 2018, estimated about 3,000 cybersecurity job openings a year in Wisconsin. Ten percent of position postings indicated a preference for applicants with a master's degree. Thus, medium (30%) growth in new student enrollment is projected over the next four years based on anticipated demand for the degree. Retention of new students to the second year is projected to be 90%, based on the retention rates of similar graduate programs at UW-Whitewater.

Students/Year	Year 1	Year 2	Year 3	Year 4	Year 5
New Students	15	20	25	33	43
Continuing Students	0	14	18	23	30
Total Enrollment	15	34	43	56	73
Graduating Students	0	13	16	21	27

**Table 1: Five-Year Degree Program Enrollment Projections** 

#### **Tuition Structure**

Graduate business online tuition rates will apply. The fall 2019 rate is \$637.43 per credit for both Wisconsin residents and nonresidents. Thus, the total cost of tuition and fees for the 30-credit program will be \$19,122.90. Tuition is charged on a per-credit basis and does not include segregated fees. This is in accordance with UW System Policy SYS 130 Appendix C: Principles for Pricing Distance Education Credit Courses, Degree and Certificate Programs, which allows for the exclusion of segregated fees and the exemption from the credit plateau to charge tuition on a per-credit basis. In addition, students will be responsible to pay for books and supplies.

<sup>&</sup>lt;sup>1</sup> Emsi is a subscription-based labor market analytics database. See <u>https://www.economicmodeling.com/.</u>

# **DESCRIPTION OF PROGRAM**

#### **Overview of the Program**

The M.S. in Cybersecurity program at UW-Whitewater is a 30-credit program that is an interdisciplinary collaboration between the College of Letters and Sciences and the College of Business and Economics. This degree offers studies in core areas of cybersecurity that include offensive and defensive security operations, security awareness training, security tools design and implementation, security management, security policy and law, and emerging areas in security and privacy. The proposed program offers both hands-on experiential learning and in-depth theoretical studies, and it prepares students for cybersecurity careers that include security engineers, security analysts, security architects, and security managers.

#### **Student Learning Outcomes and Program Objectives**

The following program-level student learning outcomes (SLOs) are proposed. These outcomes are designed around the Department of Homeland Security (DHS)/National Security Administration (NSA) National Centers of Academic Excellence in Cyber Defense (CAE-CD) knowledge units. By the end of the program, students with an M.S. in Cybersecurity will:

- 1. Use appropriate tools to prevent, detect, react to, and recover from attacks.
- 2. Use legal, ethical, and regulatory requirements in cybersecurity to guide computer system and network protection in both the public and private sectors.
- 3. Formulate, update, and communicate organizational cybersecurity strategies and policies that address internal and external threats.
- 4. Analyze the impact of emerging technologies on organizations' network and infrastructure security.

In addition to SLOs 1 – 4 above, students in the Cyber Resilience emphasis will:

- 5. Identify, assess, and manage cybersecurity risks across the organization.
- 6. Collect and analyze security data to formulate business and security intelligence for decision-making.

In addition to SLOs 1 – 4 above, students in the Security Engineering emphasis will:

- 7. Understand the fundamentals of attacks from software and system perspectives and apply this knowledge to analyze attacks in emerging information systems and architectures.
- 8. Design and implement attack prevention, detection, and tracking tools for a new system, and add security approaches to an existing system.

# **Program Requirements and Curriculum**

Students who enroll in the program are expected to have existing knowledge in computer organization. In addition, Introductory Programming is required for students who select the Cyber Resilience emphasis and Intermediate Programming is required for students who select the Security Engineering emphasis. Those who do not satisfy the basic requirements can take the prerequisite courses before starting the graduate coursework. Table 2 lists the unique program curriculum for the proposed program. The M.S. in Cybersecurity is designed for both professionals and recent college graduates who aspire to advance their careers in cybersecurity. The 30-credit program includes 15 credits of core courses, 15 credits of emphasis courses, and a comprehensive exam. Students in the Security Engineering emphasis may choose to complete a 3-credit Cybersecurity capstone or thesis elective in lieu of the comprehensive exam.

PROGRAM PREREQU	JISITES:					
CYBER 701	System Fundamentals of Cybersecurity	3 credits				
(May Vary)	Introductory Programming	3 credits				
(May Vary)	Intermediate Programming (Security Engineering	3 credits				
	emphasis only)					
PROGRAM CORE CO	URSES (15 CREDITS):					
CYBER 730	Fundamentals of Ethical Hacking	3 credits				
CYBER 731	Management of Information Assurance and	3 credits				
	Security					
CYBER 740	Cybersecurity and Privacy Law	3 credits				
CYBER 742	Computer Forensics	3 credits				
CYBER 754	Internet-based Attack Prevention and Detection	3 credits				
SELECT ONE EMPHA	SIS (15 CREDITS):					
1. Cyber Resilience	Emphasis (Core Courses)					
CYBER 732	Data-Driven Security	3 credits				
CYBER 733	Industrial and Critical Infrastructure Security	3 credits				
CYBER 734	Cyber Incident Response, Business Continuity, and	3 credits				
	Risk Management					
Emphasis Elective	es (Select 6 credits out of the following list)					
ITSCM 772	Information Technology Service Management	3 credits				
ITSCM 774	Data Analytics and Business Intelligence	3 credits				
ITSCM 776	Business Process Innovation and Management	3 credits				
ITSCM 760	Topics in Information Technology Management	3 credits				
MANAGEMENT 757	Leadership Development	3 credits				
2. Security Engineer	ring Emphasis (Core Courses)					
COMPSCI 750	System and Software Security	3 credits				
COMPSCI 755	Cryptography and Security Protocols	3 credits				
Emphasis Electives (Select 9 credits out of the following list)						
CYBER 747	Embedded System Security	3 credits				
CYBER 752	Malware Reverse Engineering	3 credits				
CYBER 758	Cloud Security	3 credits				
CYBER 759	Topics in Cybersecurity	3 credits				
CYBER 789	Cybersecurity Capstone Project	3 credits				

Table 2: Master of Science in Cybersecurity Program Requirements and Curriculum	
PROGRAM PREREOUISITES:	_

TOTAL CREDITS		30 credits
COMPSCI 724	Operating Systems in Practice	3 credits
COMPSCI 767	Big Data and Data Mining	3 credits
COMPSCI 766	Advanced Database	3 credits
CYBER 799	Thesis	3 credits

#### **Assessment of Outcomes and Objectives**

Student learning outcomes for the program will be assessed on a two-year cycle. The main direct and indirect assessment activities include:

- <u>Course-embedded assessment</u>. To ensure sustainability of assessment efforts, assessment will take place in a subset of classes. The particular set of classes in which assessment occurs will rotate from year to year. Depending on the course and subject, examples of direct assessment measures include problem sets, exams, software design and implementation assignments, project reports, presentations, and related online discussions. Each of the core student learning outcomes (SLO #1, 2, 3, 4 listed above) will be assessed in at least two of the core courses and in at least one course in each emphasis, with one of the assessments taking place towards the end of the curriculum. The emphasis-specific student learning outcomes (SLO #5, 6 or 7, 8) will be assessed in multiple emphasis courses, ensuring that each is assessed in at least two courses.
- In addition, <u>a comprehensive exam in each emphasis area</u> will assess the specific student learning outcomes for that emphasis area. For students in the Security Engineering emphasis who choose a capstone project or thesis, the project's final report will assess a student's understanding of the topics and application of knowledge learned in coursework to a realistic context.
- <u>An exit survey upon completion of the degree</u>. This serves as an indirect assessment measure of the program.
- <u>An alumni survey conducted after graduation</u>. This is an indirect assessment of alumni's perceptions of their job skills in comparison with the job skills of their colleagues, the degree to which they believe the program prepared them for their career, and their satisfaction with the program.

Information gathered from these assessments will be compiled to evaluate the program. Each spring semester, all information will be shared with the Assessment Committees in both the College of Letters and Sciences and the College of Business and Economics as well as with members of the Department of Computer Science and the Department of Information Technology and Supply Chain Management. Relevant program learning outcome assessment data will be compiled annually and reported every five years as part of the re-designation process stipulated by the DHS/NSA to maintain status, once attained, as a National Center of Academic Excellence in Cyber Defense research. Appropriate curricular and/or pedagogical changes will be determined based on the assessment data and implemented within the subsequent two-year assessment cycle.

#### Diversity

According to a survey report from the Association for Computing Machinery (ACM) of non-doctoral granting departments in computing, there is potential for greater diversity in graduate programs in computing areas. Notably, M.S. programs in computing-related disciplines have an advantage of attracting female students, compared to B.S. programs. Female students make up 31.3% of the population of M.S. programs in Computer Science, 35.8% in Information Systems, and 34.7% in Information Technology. In contrast, female students in B.S. programs make up just 19% of the total students in Computer Science, 27.7% in Information Systems, and 20.2% in Information Technology.<sup>2</sup> Given the relatively small number of female cybersecurity experts in the workplace, the proposed UW-Whitewater M.S. program in Cybersecurity can help address this gender imbalance and improve diversity in the cybersecurity workforce. The proposed program will recruit students from a range of bachelor's degrees, including non-computing-related disciplines having more diverse student populations.

Equity in student recruitment will be addressed by developing a strategic marketing plan with the UW-Whitewater School of Graduate Studies Marketing Specialist that will include representation of a diverse array of students. In addition, the faculty in this program will strive to attract enrollment from underrepresented groups through external grants in research and education. One example is that UW-Whitewater faculty are in the process of applying for a U.S. Department of Labor grant for apprenticeships in cybersecurity with the focus on veterans, military spouses, and minority groups. It is expected that some of these apprentices will enroll in the M.S. in Cybersecurity, which will contribute to better diversity in the overall cybersecurity workforce. To better support learning success and completion for students from diverse backgrounds, the program plans to hire graduate assistants every year from UW-Whitewater's face-to-face master's programs in Computer Science or Business Administration. These assistants will support instruction in the online technical courses.

The Departments of Computer Science and ITSCM support the inclusive excellence goals and diversity objectives within the university's Strategic Plan. The curriculum for the proposed M.S. in Cybersecurity will maintain several tenants of the existing programs offered by both departments that advance inclusive excellence. High-Impact Educational Practices (HIPs) like collaborative projects and experiential learning with community partners are integrated within the curriculum. For example, in CYBER 734 (Cyber Incident Response, Business Continuity, and Risk Management), students will complete a number of practical exercises related to the course objectives. CYBER 752 (Malware Reverse Engineering) introduces modern malware analysis techniques using hands-on analysis of real-world samples. These pragmatic curricular practices, which leverage relationships with

<sup>&</sup>lt;sup>2</sup> Tims, J., Zweben, S., Timanovsky, Y., and Prey, J. (2018). ACM NDC study 2017-2018: Sixth annual study of non-doctoral-granting departments in computing. *ACM Inroads*, 9(3).
community partners, have been shown to be beneficial for college students from many backgrounds and create an inclusive learning environment.

Inclusive excellence is also integrated within the selection of the proposed learning outcomes. The Association of American Colleges & Universities' (AAC&U) Liberal Education and America's Promise (LEAP) campaign emphasizes an inclusive curriculum and is consistent with the proposed learning outcomes. The LEAP campaign is structured around essential learning outcomes (ELOs) designed to prepare students for 21st-century challenges. Several ELOs are directly aligned with the proposed student learning outcomes and program objectives. Intellectual and practical skills like information literacy, critical thinking, and communication are consistent with Student Learning Objective 3 (SLO 3), Student Learning Objective 6 (SLO 6), and Student Learning Objective 7 (SLO 7), respectively. Personal and social responsibility, namely ethical reasoning and action, is consistent with Student Learning Objective 2 (SLO 2).

#### **Collaborative Nature of the Program**

Concurrent with development of the proposed program, eight UW System institutions, in partnership with UW Extended Campus, have developed a collaborative M.S. in Cybersecurity. UW-Whitewater has had open communication with UW Extended Campus to ensure that the two M.S. in Cybersecurity programs complement each other while minimizing competition in the UW System. UW-Whitewater met with UW Extended Campus' M.S. in Cybersecurity Curriculum Planning Workgroup (July 2019) to share the origin of UW-Whitewater's program planning, along with the overall program vision and general plans including emphases. Curriculum planning materials (i.e., student learning outcomes, admission requirements, course descriptions, etc.) were exchanged between the two programs and a subsequent teleconference was held (August 2019). Consensus was reached that the two programs are unique and will serve to expand UW System's influence and reach, providing individuals with options in this high-need and growing career field.

#### **Projected Time to Degree**

It is anticipated that a part-time student, who has completed all prerequisites to the M.S. in Cybersecurity program, can complete the degree within 24 months. The typical plan for part-time working students includes two courses in each of the fall and spring semesters and one course in the summer semester. Full-time students who take nine credits in a regular semester can complete the program within 18 months.

#### **Program Review**

The program will be reviewed via UW-Whitewater's well-established audit and review process. This process is intended to facilitate continuous program improvement and is conducted for all academic programs on a five-year cycle. As part of the process, the program's faculty engage in a self-study review of the program, guided by specific questions asked of all programs. Questions address assessment of student learning outcomes as well as alignment with and contribution to institutional mission and goals; enrollment, retention, and graduation data; demand for graduates; faculty, staff and program resources; and departmental recommendations. After review by the college dean(s), the self-study is submitted to the Graduate Audit and Review Committee. The committee provides feedback and makes recommendations for improvement. An evaluation report is presented to and discussed with the program faculty, deans, and the provost.

#### Accreditation

The M.S. in Cybersecurity program will apply for designation as a DHS/NSA National Centers of Academic Excellence in Cyber Defense (CAE-CD). To qualify for this designation, program curriculum must have been in existence for at least three years and evidence of students granted degrees from the program for at least one year.<sup>3</sup> The M.S. in Cybersecurity curriculum was designed to align with appropriate cybersecurity-related knowledge units consistent with CAE-CD designation. If additional Higher Learning Commission (HLC) approvals are necessary, they will be obtained prior to program implementation.

# JUSTIFICATION

#### **Rationale and Relation to Mission**

The M.S. in Cybersecurity program aligns with the UW-Whitewater mission and strategic plan.<sup>4</sup> Specifically, it aligns with Goal 1: "We will improve student access and success" as it will improve student access to a high-demand field that leads to a successful career. Since the program will educate students in cybersecurity defense to serve both public and private sectors in Wisconsin and nationwide, it also aligns with Goal 2: "We will transform lives and impact society" through "... [providing] high-quality academic programming that prepares our graduates ... [to] lead successful lives and productive careers and to make positive contributions to the State of Wisconsin, to our nation, and to the world."

In fact, the United States is keenly in need of cybersecurity professionals to protect the country in both the private and public sectors. This is the reason that Dan Stein, the U.S. Department of Homeland Security Branch Chief for Cybersecurity Education and Awareness, visited UW-Whitewater in 2017, to promote cybersecurity education. Stein encouraged creating new cybersecurity programs and getting those programs certified with the DHS/NSA CAE-CD designation. In addition, cybersecurity careers are highly

<sup>&</sup>lt;sup>3</sup> For additional information regarding CAE-CD designation, see https://niccs.us-cert.gov/formaleducation/national-centers-academic-excellence-cae. Information regarding program eligibility information and criterial may be located at

http://www.iad.gov/NIETP/documents/Requirements/CAE\_CDE\_criteria.pdf

<sup>&</sup>lt;sup>4</sup> See https://www.uww.edu/strategic-plan

compensated. For instance, according to CyberSeek,<sup>5</sup> the average salary for a cybersecurity engineer is \$108,000, while a cybersecurity manager/administrator earns \$115,000, on average. The proposed degree will position graduates to be competitive for such positions.

## Institutional Program Array

The proposed M.S. in Cybersecurity will allow UW-Whitewater to build on the strength of its existing programs. Beginning in 2016-17, the College of Letters and Sciences and the College of Business and Economics began developing cybersecurity initiatives. This work included developing courses and programs, recruiting faculty, and working to establish the Cyber Security Center for Small Business. The university currently has undergraduate Computer Science and Information Technology programs with over 600 students enrolled. These programs have collaborated to develop a Cybersecurity minor and are in the process of planning a B.S. in Cybersecurity. UW-Whitewater also offers a 12credit Cybersecurity graduate certificate, as well as the highly successful MBA program (offered both online and on-campus) and an on-campus M.S. in Computer Science program that are adding a Cybersecurity emphasis. An M.S. in Cybersecurity is a natural extension of these programs and will benefit from the related on-campus programs. For example, the online class offerings in the M.S. in Cybersecurity program can use instructional help from graduate assistants in the on-campus M.S. in Computer Science program and the MBA program. With this new program, UW-Whitewater will offer one of the most complete cybersecurity-related program arrays in the region.

Furthermore, the proposed program aligns well with UW-Whitewater's Academic Plan.<sup>6</sup> It is interdisciplinary, which addresses the Anticipated Academic Growth Areas specified in the plan. It also aligns with new program planning goals: Goal 1: "Develop programs to meet the growing needs and changing demographics of the region" and Goal 4: "Provide professional and graduate programs that offer our students the opportunity to develop into professional leaders within specific fields of expertise."

# Other Programs in the University of Wisconsin System

As noted above, UW-Whitewater has existing cybersecurity programs at both the undergraduate and graduate levels (an undergraduate minor and a cybersecurity graduate certificate) and continues to plan and develop new programming in this area. Currently, no UW institutions are authorized to offer an M.S. in Cybersecurity, and no such program exists in Wisconsin. Some UW institutions offer emphases or certificates related to the proposed program; however, the scope and focus of the proposed program is distinct from each of these programs. UW-Stout has a 21-credit Computer Networking graduate certificate in Cyber Security and Defense. It includes two security courses, as well as

<sup>&</sup>lt;sup>5</sup> CyberSeek is a project supported by the National Institute of Standards and Technology (NIST), U.S. Department of Commerce, and National Initiative for Cybersecurity Education (NICE). Information retrieved from https://www.cyberseek.org/

<sup>&</sup>lt;sup>6</sup> http://www.uww.edu/documents/acadaff/Academic%20Planning%20ApprovedFeb132018.pdf

courses in networking and system administration. In December 2019, UW-Platteville was authorized to offer a M.S. in Information Systems Management with concentrations in Business Analytics and Cybersecurity; however, the program focuses more on management than on technology content. UW-Milwaukee's M.S. in Information Science and Technology (MSIST) program has had an Information Security track since 2017. It consists of a 24-credit core of foundational information science and technology courses and 12 credits of electives that include 6 credits in security and privacy. Compared with all of these related programs, the proposed UW-Whitewater M.S. in Cybersecurity program will be explicitly and thoroughly cybersecurity focused—every course is dedicated to different aspects of cybersecurity. It will cover in-depth technological and managerial aspects of cybersecurity as a result of interdisciplinary collaboration between UW-Whitewater's College of Letters and Sciences and College of Business and Economics.

A consortium of eight UW System institutions, in collaboration with UW Extended Campus, also have requested authorization to offer a collaborative M.S. in Cybersecurity. These institutions and UW-Whitewater agreed to work together to distinguish the two degrees, and the two groups have engaged in formal communications that included the following:

- A presentation from the UW-Whitewater faculty to the collaborative online M.S. in Cybersecurity Curriculum Planning Workgroup (July 2019) on initial plans for the program to include core courses, specialty tracks/concentrations, program learning outcomes, faculty specializations, target audience(s), external partners, and additional program details.
- A follow-up teleconference in August 2019, following the conclusion of the curriculum planning process for the collaborative online M.S. in Cybersecurity. In this meeting, representatives from the collaborative degree-planning group shared information on their proposed program including program competencies and student learning outcomes, course titles and descriptions, external and internal prerequisites, campus assignments, admission requirements and other information, and responded to questions from UW-Whitewater faculty and administrators on the program. As noted above, consensus was reached that the programs are unique and will serve to expand the UW's influence and reach and provide prospective students with options in this high-need and growing career field.
- Drafts of authorization documents are being shared between the two programs.

As expected, there are some similarities between the two proposed academic programs with the primary overlap occurring in the core courses, which represent the common body of knowledge in the cybersecurity field. The primary differentiators between the two proposed programs include the following:

• Unique Professional Tracks: The UW-Whitewater program will offer two primary specialization tracks for students: Security Engineering (technology track) and Cyber Resilience (management track). The UW Extended Campus program offers four

track options (each with 9 credits): Digital Forensics, Cyber Response, Governance and Leadership, and Security Architecture. Mapping of these tracks to the career pathways outlined by CyberSeek indicates that the UW Extended Campus program emphasizes preparation for positions like cyber crime investigator, incident analyst and responder, cybersecurity administrator, or cybersecurity architect. In comparison, the UW-Whitewater program requires 15 credits in two focused areas to provide in-depth education in Cyber Resilience or Security Engineering, and aims at training students for jobs like IT auditor, cybersecurity analyst, cybersecurity engineer, and cybersecurity manager. Though two of the UW Extended Campus tracks (Campus Governance and Leadership, Security Architecture) have some overlap with the UW-Whitewater tracks, two other UW Extended Campus tracks (Digital Forensics, Cyber Response) offer curricular areas that are distinct from the UW-Whitewater program.

- Unique Target Audiences and Implementation Methods: The UW-Whitewater program will serve both professionals and recent college graduates in Wisconsin and neighboring states, and its faculty will utilize external cybersecurity research and education grants to attract enrollment from underrepresented groups such as veterans, minority, and females. The UW Extended Campus program will primarily serve working adults/professionals with a statewide focus consistent with the geographical locations of the nine academic partners.
- Unique Campus Specializations and Internal Resources: UW-Whitewater serves as home to a specialty center, the Cyber Security Center for Small Business (CSCSB). The Center will provide unique teaching material and practicum opportunities that allow students to learn in a realistic context and to gain work-based learning experiences. The Center also provides the institution with a unique connection to a small business audience that will likely translate to increased interest from professionals working in small business environments.

### Need as Suggested by Current Student Demand

There is a high demand from students for an M.S. in Cybersecurity. In an April 2019 survey of current UW-Whitewater STEM undergraduate students, 116 out of 154 respondents indicated interest in enrolling in such a program. The survey results also revealed the students' desire to learn both technological and managerial aspects of cybersecurity that the proposed program will provide. It is anticipated that interest in this program will be sustained. As indicated, UW-Whitewater faculty are pursuing grant resources to support apprenticeships in cybersecurity with the focus on veterans, military spouses, and minority groups. Furthermore, resources have been allocated to support program marketing and recruitment.

#### Need as Suggested by Market Demand

Cybersecurity has become a national security priority. As cyberwarfare is heating up, workforce development in the cybersecurity space is increasingly important. According to

CyberSeek<sup>7</sup>, the U.S currently employs nearly 715,000 workers in cybersecurity, and there were approximately 314,000 unfilled cybersecurity positions between September 2017 and August 2018. This deficit is nearly 50% greater than the 209,000 unfilled positions in 2015—a time when the number of cybersecurity job postings had already increased 74% from the previous five years. This surge in the job market indicates strong growth potential for cybersecurity education. According to the U.S. Department of Labor, Bureau of Labor Statistics long-term occupational projections, between 2016 and 2026, vacancies in related positions such as information security analysts are expected to grow by 28.5%, with anticipated annual openings of more than 10,000 per year.<sup>8</sup>

Furthermore, an Academic Program Demand Analysis (APDA) report was prepared by Ruffalo Noel Levitz to assess the market share of current academic offerings at UW-Whitewater against the regional demand for similar programs. The APDA report placed both Computer Science and Information Technology degrees in the highest-ranked programs at UW-Whitewater (both in the top five) for growth potential, with strong employer demand for those degrees. As an interdisciplinary program that has grown from Computer Science and Information Technology, the Cybersecurity program is believed to have great growth potential as well.

The local and regional job markets also have high demand for cybersecurity professionals. According to CyberSeek, Wisconsin has about 2,900 openings in cybersecurity, while Illinois has 13,000 and Minnesota has 5,600. An Emsi<sup>9</sup> data set of job postings related to mid-level and advanced level positions in cybersecurity in Wisconsin and neighboring states (Illinois, Minnesota, Iowa, Indiana, and Michigan) for the period of May 2017 to June 2018, indicates a job posting duration for all other occupations. These metrics indicate that employers are putting more effort than normal into hiring cybersecurity professionals. The Emsi report also indicated the most frequently posted job titles are information security analysts (39.5%), security engineers (36.9%), and security managers/administrators (10.2%). Approximately 10% of the job postings preferred a master's degree.

<sup>&</sup>lt;sup>7</sup> https://www.cyberseek.org/

<sup>&</sup>lt;sup>8</sup> https://projectionscentral.com/Projections/Download

<sup>&</sup>lt;sup>9</sup> Emsi is a subscription-based labor market analytics database. See https://www.economicmodeling.com/

## Education Committee Item C.6.

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## Attachment B

•	University of Wisconsin-Whitewater								
	Cost and Revenue Projections For M.S. in Cybersecurity								
	Items			Projections	•				
		2020-2021	2021-2022	2022-2023	2023-2024	2024-2025			
		Year 1	Year 2	Year 3	Year 4	Year 5			
I	Enroliment (New Student) Headcount	15	20	25	33	43			
	Enrollment (Continuing Student) Headcount	0	14	18	23	30			
	Enrollment (New Student) FTE	12.86	17.14	21.43	28.29	36.86			
	Enrolkneat (Continuing Student) FTE	0.00	12.00	15.43	19.71	25.71			
$\mathbb{P}^{n}$									
п	Total New Credit Hours	225.0	300.0	375.0	495.0	645.0			
	Existing Credit Hours	0.0	210.0	270.0	345.0	450.0			
ш	FTE of New Faculty/Instructional Staff	1	2	2	2	2			
L	FTE of Current Fac/IAS	0	0	0	0	0			
	FTE of New Admin Staff	0.25	0.25	0,25	0.25	0,25			
	FTE Current Admin Staff.	0.	0	0	0	0			
IV	Revenues								
	From Tuition	\$143,422	\$325,089	\$411,142	\$535,441	\$697,986			
	From Fees	\$0	\$0	\$0	\$0	\$0			
L	Program Revenue (Grants).	SO	\$0	\$0	\$0	<b>\$</b> 0			
	Program Revenue - Other (from L&S, CoBE program revenues)	\$108,772	\$42,683	\$0	\$0	\$0			
	GPR (re)allocation	\$0	\$0	<b>S</b> 0	\$0	<b>\$</b> 0			
L	Total New Revenue	\$252,194	\$367,772	\$411,142	\$535,441	\$697,986			
V	Expenses	an an a' star e				in the second			
	Salaries								
ļ	Faculty/Instructional Staff	\$105,000	\$188,150	\$193,795	\$199,608	\$205,597			
	Other Staff	\$18,485	\$18,485	\$18,485	\$29,470	\$29,470			
	Fringe	\$48,708	\$81,137	\$83,338	\$90,439	\$92,774			
	Other Expenses								
	Supplies	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000			
ļ	Marketing	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000			
	Administrative charge to recoup initial investment	<b>S</b> 0	<b>\$</b> 0	<b>S</b> 0	\$45,000	\$106,455			
	Online Administrative Costs	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000			
	Other:	· · ·							
L	[Total Expenses	\$252,193	\$367,772	\$375,618	\$444,517	\$514,296			
NT	Net Devenue	CO.	50	\$25 525	\$00.024	S1 92 600			
VI.	THE VELENCE		30	435,525	\$70,924	\$163,090			
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Pn	ovost's Signature: Gray Cook - 000	Date: January 7,	2020
Ca	mpus CBO's Signature:	Date: 1/8/7	20217

# COST AND REVENUE PROJECTIONS NARRATIVE UNIVERSITY OF WISCONSIN-WHITEWATER M.S. IN CYBERSECURITY

#### Introduction

The M.S. in Cybersecurity program at UW-Whitewater is an interdisciplinary collaboration between the College of Letters and Sciences and the College of Business and Economics. This degree offers studies in core areas of cybersecurity that include offensive and defensive security operations, security awareness training, security tools design and implementation, security management, security policy and law, and emerging areas in security and privacy. The program will be comprised of 30 graduate credits, and it will take a part-time continuously enrolled student two years to complete. Students with insufficient prior undergraduate or graduate common Body of Knowledge credits.

#### Section I – Enrollment

Each projected student FTE equals 0.86 of headcount, based on the expectation that each student (headcount) will take 15 credits per year; whereas, a full-time graduate student, on average, will take 17.5 credits per year. It is anticipated that students, on average, will take two 3-credit classes each fall and spring semester and one additional 3-credit class during either the summer or a regular semester. Students enrolled in the UW-Whitewater online M.B.A. program carry a similar credit load per semester, which is typical of a working professional pursuing an online business graduate program on a part-time basis.

New student headcount reflects first-time, re-entering, or transfer students who will enroll in the program. It is anticipated that 15 students will enroll in the first year, with growth by 30% in each of the next four years. By the end of Year 5, it is expected that 136 students will have enrolled in the program and 77 will have graduated. Continuing student enrollments represent current graduate students enrolled at UW-Whitewater. The student retention rate is projected to be 90% based on the retention rates of the MBA program and the M.S. in Computer Science programs at UW-Whitewater.

### **Section II – Credit Hours**

New credit hours represent projected coursework taken by new student enrollments. Existing credit hours represent credits that will be taken by currently enrolled graduate students in the M.S. in Cybersecurity program. Enrollment headcount was converted to FTE in Section I; therefore, each FTE is multiplied by 17.5 credits (the average credit load for a full-time student) to calculate total credit hours.

#### Section III - Faculty and Staff Appointments

The projections account for two new faculty positions that will be hired within the first five years of the program. It is anticipated that 8-9 course sections will be offered each year by Year 5. Current graduate faculty load is four sections per semester for the College of Letters and Sciences and three sections per semester for the College of Business and Economics. Faculty are also required to develop, administer, and grade the comprehensive exam, and advise students. The new faculty appointments will equate to an estimated 2 FTE by Year 5 to meet all academic obligations: 1 FTE for the College of Business and Economics in Year 1 and an additional FTE for the College of Letters and Sciences in Year 2. Program coordination will be provided with a new 0.25 FTE assigned to the program coordinator.

#### Section IV – Program Revenues

#### Tuition Revenues

Tuition revenue is calculated as the number of new credits multiplied by the per-credit graduate tuition rate of \$637.43. Tuition will be charged on a per-credit basis and will not include segregated fees. This is in accordance with *UW System Policy SYS 130 Appendix C: Principles for Pricing Distance Education Credit Courses, Degree and Certificate Programs* which allows for the exclusion of segregated fees and the exemption from credit plateau to charge tuition on a per-credit basis.

#### Other Program Revenues

Funding sufficient to cover program expenses in the first two years will be covered by the Colleges of Business and Economics and Letters and Sciences. This funding will be drawn from net revenue generated from other existing graduate programs and provided as an investment in the new program. The contributions will be replenished from the net revenue projected for this program in Years 4 and 5.

#### Section V – Program Expenses

Program expenses attributable to salary and fringe represent faculty salary per new faculty FTE. The College of Letters and Sciences salary is determined based on an average faculty salary of \$80,000, with a 3% per year salary increase to accommodate faculty promotion and new hires. The College of Business and Economics salary is determined based on an average faculty salary of \$105,000, with a 3% per year salary increase to accommodate faculty promotion and new hires. The program includes one program coordinator, which is counted as another staff expense of \$4,500 for each year, plus an additional \$3,000 summer stipend due to the additional technical responsibilities to maintain the courses. A fringe benefit rate of 39% was used. Also included in the other staff expense is funding for one graduate assistant for each year and increasing to two graduate assistants by Year 4. A cost of \$10,985 for a graduate assistant is included in other staff expense, increasing to \$21,970 in Year 4. A fringe benefit rate of 44% was used for graduate assistants.

Other expenses include costs associated with program supplies, marketing, and online administrative expenses. A projected \$40,000 is budgeted each year for marketing expenses. Supplies are approximately \$20,000 per year through Year 5 and include incremental costs incurred from program growth to increase the number of academic licenses and to expand the existing virtual environment that supports current academic programs. Online instructional technology, administrative and support expenses are estimated at \$20,000 per year through Year 5. An administrative charge is applied to Years 4 and 5 to recoup the net losses in Years 1 and 2 (i.e., \$45,000 applied to Year 4 and \$106,455 applied to Year 5 to cover the total net loss of \$151,455 in first two years of the program).

#### Section VI – Net Revenue

As indicated above, the College of Letters and Sciences and the College of Business and Economics at UW-Whitewater will cover revenue shortfall in Years 1 and 2 from existing program revenues until the proposed program breaks even in Year 3. 12 December 2019

Dr. Raymond Cross President, UW System 1720 Van Hise Hall 1220 Linden Drive Madison, WI 53706

Dear President Cross:

Please accept this as UW-Whitewater's Letter of Commitment for our new Master of Science (MS) program in Cybersecurity. The new program responds to regional and national needs of cybersecurity talents for protecting both business and government from cybersecurity attacks, and graduates will be equipped to pursue cybersecurity careers such as security engineers, security analysts, security architects, and security managers. The program is interdisciplinary and takes advantage of numerous strengths on our campus, including faculty expertise in two of our colleges (Business and Economics, Letters and Sciences), as well as the UW-Whitewater Cyber Security Center for Small Business. Finally, the new Master's degree will build on existing programs at UW-Whitewater (an undergraduate minor, a Cybersecurity graduate certificate). With this new program, UW-Whitewater will be able to provide another level of educational opportunity to support workforce development in Wisconsin and the surrounding region.

Concurrent with development of our proposed program, UW Extended Campus is in the process of developing a collaborative MS in Cybersecurity. UW-Whitewater has had open communication with UW Extended Campus to ensure that the two M.S. Cybersecurity programs complement each other while minimizing competition in the UW System. Consensus was reached that the two programs are unique and will serve to expand UW System's influence and reach, and will provide prospective students with options in this high need and growing career field.

With this letter, I assert and make a firm commitment to the following:

- 1. The MS program in Cybersecurity has been designed to meet UW–Whitewater's definition and standards of quality and to make a meaningful contribution to our select mission, overall academic plan, and our program array. This program is built from two academic departments and colleges that have already demonstrated high standards of quality. As the proposal was developed, faculty and staff consulted with our Director of Academic Assessment and their college assessment leaders to assure a high level of quality in curriculum and program assessment. Consistent with the goals in our academic plan, this new program will provide a meaningful addition to our campus program array, and our Colleges of Business and Economics and of Letters and Sciences are poised for a successful launch of the new program.
- 2. We have institution-wide support and approval for this new program through every phase of our campus governance process. The proposal was approved by the Departments of Computer Science

and of Information Technology & Supply Chain Management, the Curriculum committees in the Colleges of Letters and Sciences and Business and Economics, the Deans of both Colleges, and the Graduate Council. All required approvals have been obtained on campus, with enthusiastic support.

- 3. The necessary financial and human resources are in place or have been committed to implement and sustain this new master's program. Department and college staff have thoroughly considered and provided for all of the resources needed to launch and maintain the program. A financial plan is in place to support and sustain the program.
- 4. A high-quality system for program evaluation is in place. As soon as the new program is implemented, it will enter our 5-year campus cycle for audit and review to support continuous evaluation and improvement. The program proposal includes a fully defined list of student learning outcomes and a well-designed plan for assessment of those outcomes. As noted above, these plans have been reviewed and approved by our Director of Academic Assessment who also supports the graduate Audit and Review process. Members of the college curriculum committee and the Graduate Council have also reviewed the program's assessment plan as an integral part of the curriculum proposal. I am confident this new program has the plans in place for successful program evaluation that will assure a high level of quality and continuous improvement.

The proposal for the new MS program in Cybersecurity was developed using a very thorough and careful process. We have all of the necessary resources in place or firmly planned, and I am confident this program will be a success. This program will be a significant addition for UW-Whitewater, an attractive offering for students, and a benefit for workforce development in Wisconsin and the surrounding region. I am proud to recommend this new program for your approval and approval by the members of the Board of Regents. I believe this is a strong and needed addition to the University of Wisconsin System program array.

Sincerely,

Gner Cook

Greg Cook, Ph.D. Interim Provost and Executive Vice Chancellor for Academic Affairs

GC/jlc Encl.

cc: Dwight Watson, Chancellor
Joan Littlefield Cook, Interim Associate Vice Chancellor for Academic Affairs
Angela Harlan, Special Assistant to the Provost
John Chenoweth, Dean, College of Business and Economics
Frank Goza, Dean, College of Letters and Sciences
Carleen Vande Zande, interim AVP of APEI, UW System

February 6, 2020

# NEW PROGRAM AUTHORIZATION (IMPLEMENTATION) MASTER OF SCIENCE IN INSTRUCTIONAL DESIGN AND LEARNING TECHNOLOGY, UW-WHITEWATER

# **REQUESTED ACTION**

Adoption of Resolution C.7., authorizing the implementation of the Master of Science in Instructional Design and Learning Technology at UW-Whitewater.

**Resolution C.7.:** That, upon the recommendation of the Chancellor of UW-Whitewater and the President of the University of Wisconsin System, the Chancellor is authorized to implement the Master of Science in Instructional Design and Learning Technology at the University of Wisconsin-Whitewater.

### SUMMARY

The University of Wisconsin-Whitewater seeks to establish a Master of Science in Instructional Design and Learning Technology.

#### **Program Description**

The University of Wisconsin-Whitewater seeks to establish an M.S. in Instructional Design and Learning Technology. Learning design and technology is a growing field that requires leaders who understand the foundations of learning design, as well as how to produce engaging learning experiences, assess outcomes, and work with emerging learning technologies, to guide academic and professional learning that is delivered via various modalities (e.g., face-to-face, hybrid, and online).

A master's degree is often required to enter or advance in the field. Hence, this online program is geared toward working professionals. Graduates will develop the skills to lead learning design and technology initiatives within an organization and apply in-demand employability skills (e.g., critical thinking, problem-solving, working with people of diverse backgrounds) to enhance their career potential and success in the field. Graduates also will be equipped to design effective learning experiences, produce interactive content and assessments, integrate emerging learning technologies into learning, and lead learning technology programming, units, and organizational initiatives.

### Mission

The proposed M.S. in Instructional Design and Learning Technology will contribute directly to the mission of UW System by developing human resources in the fields of Instructional Design and Learning Technology leadership, which are of service to public, private, and not-for-profit institutions, especially with the growing presence of online learning and training.

The UW-Whitewater proposed mission states that the institution will "prepare students to become lifelong learners who lead successful lives and productive careers."<sup>1</sup> The proposed degree supports this mission by contributing to the continued education and training of professions in the fields of learning design and technology and by developing instructional design, production, research, and leadership skills.

The proposed program at UW-Whitewater also supports major goals of the institution's Strategic Plan. These major goals are to "build new partnerships with community, business, and governmental organizations (UW-Whitewater's Strategic Plan, Goal 5, Objective 1) and to "enhance existing relationships with... other partners," (Goal 5, Objective 2). This program will engage higher education, preK-12, business, and healthcare partners in the development of the program to ensure that it will meet the region's needs. This program will work with these organizations to provide mentorship and practical experiences for students to take what they are learning into the real world. Central to this strategic plan is the commitment to serve adult students, nontraditional students, and diverse students who will enrich the region's economy and community life through advanced training in the strategic use of emerging learning technologies in a variety of fields.

# **Market and Student Demand**

According to the Bureau of Labor Statistics (BLS), the number of vacancies in the instructional coordinator career field are predicted to increase by 6.3% (11,500 positions) nationally between 2018 and 2028.<sup>2</sup> In Wisconsin, vacancies in this occupational area are anticipated to increase by 6.9% between 2016 and 2026. The anticipated average annual openings in Wisconsin are projected to be 190. Training and development specialist positions are also predicted to grow by 9.4% (28,900 more jobs) by 2028.<sup>3</sup> In Wisconsin,

<sup>&</sup>lt;sup>1</sup> https://www.uww.edu/strategic-plan/mission-vision-value

<sup>&</sup>lt;sup>2</sup> Ibid.

<sup>&</sup>lt;sup>3</sup> Bureau of Labor Statistics, U.S. Department of Labor. *Occupational Outlook Handbook,* Training and Development Specialists. Retrieved from https://www.bls.gov/ooh/business-and-financial/training-and-development-specialists.htm.

vacancies in this occupational area are anticipated to change by 11.9% between 2016 and 2026. The anticipated average annual openings in Wisconsin are projected to be 370.

The BLS occupational categories listed here do not fully encompass the range of job titles intended to be served by UW-Whitewater's new program. A review of current positions in the National Education Attainment EMSI database revealed various job titles (instructional designer, training and development specialist, learning manager, training manager, adjunct instructor, director of education, learning consultant, learning specialist). From August 2018 to August 2019, EMSI showed 7,087 related job postings (1,672 unique) in Wisconsin and Illinois within the fields of higher education, business, and healthcare. CNN, in a more encompassing projection, predicted a 28.3% growth nationally in this field by 2022.<sup>4</sup>

Locally, a survey was administered in April 2018, to recent UW-Whitewater alumni with undergraduate degrees in related fields, e.g., computer science, media arts and game development, and education. Among the 64 respondents, 55% were interested in pursuing the proposed certificates and 38% were interested in the new Instructional Design and Learning Technology master's degree.

# **Credit Load and Tuition**

The 30-credit program will comprise nine 3-credit graduate courses and one 3-credit capstone. As a result, students may choose three of four stackable, nine-credit certificates that include: (1) Foundations of Learning Design, (2) Producing Effective Learning Experiences, (3) Emerging Technology for Digital Learning, and (4) Leadership in Instructional Design and Learning Technology. Alternately, students may earn certificates as stand-alone credentials if they do not wish to earn the M.S. degree. Additionally, students will complete a 3-credit capstone experience that will include a practicum, performing learning design and technology work with a mentor in their chosen field, and completion of an electronic portfolio demonstrating successful achievement of all the program student learning outcomes.

For students enrolled in the program, standard graduate tuition and distance education fee rates will apply. As per SYS 805 (A.24), segregated fees will be waived for these fully online students. Standard tuition is used rather than service-based pricing because this is still an emerging field and the exact market price for this field is not easily known. For the current academic year, residential tuition totals \$4,054.14 per semester for a full-time student enrolled in 9 or more credits per semester. This is the standard resident graduate tuition rate of \$450.46 per credit. In addition, all students will pay distance education fees of \$50 per credit. Nonresident tuition totals \$8,898.39 per semester for a full-time student, which

<sup>&</sup>lt;sup>4</sup> CNN Money (2012). Best Jobs in America. Retrieved from <u>http://money.cnn.com/pf/best-jobs/2012/snapshots/38.html.</u>

is the standard nonresident graduate tuition rate of \$988.71 per credit, plus an additional \$50.00 per credit in distance education fees.

# BACKGROUND

This proposal is presented in accord with the procedures outlined in Academic Planning and Program Review (SYS 102, revised July 2016, available at <a href="https://www.wisconsin.edu/program-planning/">https://www.wisconsin.edu/program-planning/</a>).

### **Related Policies**

- Regent Policy Document 4-12: Academic Program Planning, Review, and Approval in the University of Wisconsin System
- UW System Administration Policy 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting

# ATTACHMENTS

- A) Request for Authorization to Implement a Master of Science in Instructional Design and Learning Technology at UW-Whitewater
- B) Cost and Revenue Projections Worksheet
- C) Cost and Revenue Projections Narrative
- D) Provost's Letter

Attachment A

# REQUEST FOR AUTHORIZATION TO IMPLEMENT A MASTER OF SCIENCE IN INSTRUCTIONAL DESIGN AND LEARNING TECHNOLOGY AT UNIVERSITY OF WISCONSIN-WHITEWATER PREPARED BY UW-WHITEWATER

# ABSTRACT

The University of Wisconsin-Whitewater seeks to establish an M.S. in Instructional Design and Learning Technology. This online program will prepare professionals to design and develop learning experiences in various modes (e.g., face-to-face, blended, online) through the integration of instructional design principles, evidence-based best practices, and technologies to support learner success in training and education across industries. A master's degree is often required to enter or advance in the field. Graduates will develop the skills to lead learning design and technology initiatives within an organization and apply in-demand employability skills (e.g., critical thinking, problem solving, working with people of diverse backgrounds) to enhance their career potential and success in the field. Graduates will be equipped to design effective learning experiences, produce interactive content and assessments, integrate emerging learning technologies into learning, and lead learning technology programming, units, and organizational initiatives. The 30-credit program will be comprised of nine 3-credit graduate courses and one 3-credit capstone.

# **PROGRAM IDENTIFICATION**

**Institution Name** University of Wisconsin-Whitewater

**Title of Proposed Program** Instructional Design and Learning Technology

**Degree/Major Designations** Master of Science

**Mode of Delivery** Single institution; 100% distance delivery

**Department or Functional Equivalent** Department of Educational Foundations

#### **College, School, or Functional Equivalent**

College of Education and Professional Studies (CoEPS)

#### **Proposed Date of Implementation**

Fall 2020

#### **Projected Enrollments and Graduates by Year Five**

Table 1 represents enrollment and graduation projections for students entering the program over the next five years. By the end of Year 5, it is expected that a total of 112 students will have enrolled in the program and a total of 65 students will have graduated from the program. The average student retention rate (i.e., the continuing student headcount) is projected to be 80%, which is a conservative estimate based on other online graduate programs at UW-Whitewater.

	U				
Students/Year	2020-21	2021-22	2022-23	2023-24	2024-25
New Students	15	18	22	26	31
Continuing Students	0	12	14	18	21
Total Enrollment	15	30	36	44	52
Graduating Students	0	12	14	18	21

#### **Table 1: Five-Year Degree Program Enrollment Projections**

#### **Tuition Structure**

For students enrolled in the program, standard graduate tuition and distance education fee rates will apply. As per SYS 805 (A.24), segregated fees will be waived for these fully online students. Standard tuition is used rather than service-based pricing because this is still an emerging field and the exact market price for this field is not easily known. For the current academic year, residential tuition totals \$4,054.14 per semester for a full-time student enrolled in 9 or more credits per semester. This is the standard resident graduate tuition rate of \$450.46 per credit. In addition, all students will pay distance education fees of \$50 per credit. Nonresident tuition totals \$8,898.39 per semester for a full-time student, which is the standard nonresident graduate tuition rate of \$988.71 per credit, plus an additional \$50.00 per credit in distance education fees.

# **DESCRIPTION OF PROGRAM**

#### **Overview of the Program**

The M.S. in Instructional Design and Learning Technology will require students to complete 30 credits consisting of three of four stackable, nine-credit certificates that include: (1) Foundations of Learning Design, (2) Producing Effective Learning Experiences, (3) Emerging Technology for Digital Learning, and (4) Leadership in Instructional Design and Learning Technology. Additionally, students will complete a 3-credit capstone experience that will include a practicum, performing learning design and technology work with a

mentor in their chosen field, and completion of an electronic portfolio demonstrating successful achievement of all the program student learning outcomes. Certificates can be earned as stand-alone credentials if a student does not wish to earn the M.S. degree.

# Student Learning Outcomes and Program Objectives

The program objective for the new Instructional Design and Learning Technology degree is to prepare future professionals who are skilled in designing and implementing formal and informal digital learning experiences, such as online instruction and other instructional modes integrating digital tools. While the Student Learning Outcomes (SLOs) listed below do not align with any specific organization in the field, the program has been designed to strategically align with current instructional design and learning technology literature,<sup>1</sup> professional organizations such as the EDUCAUS Learning Initiative,<sup>2</sup> and employer needs (e.g., a survey of higher education instructional design hiring managers in the Midwest).

By the end of this program, students completing the degree will:

- 1. **Design** effective learning experiences, taking into account learner needs, applying foundational design principles, and identifying technologies that support learner success.
- 2. **Produce** effective learning experiences that leverage technology to meet organizational and learner needs.
- 3. **Integrate** emerging technologies to increase learner success, identifying needs, implementing the technology, and evaluating the technology's effectiveness.
- 4. **Lead** organizational learning technology initiatives, designing and implementing assessment systems to ensure quality in instruction and developing project plans with budget and resource allocation.

In addition, three key employability skills will be addressed in the program. Upon completion of the program, students will:

- 5. **Work** with diverse populations (e.g., learners, colleagues) and skill sets to create and deliver high-quality instructional materials.
- 6. **Apply** effective oral communication, written, and interpersonal skills to coach, mentor, support, and collaborate with others involved in creating effective learning experiences.
- 7. **Demonstrate** critical and creative thinking skills in solving problems that arise in the learning design and emerging technology.

<sup>&</sup>lt;sup>1</sup> Bierne, E. & Romanoski, M. (2018). *Instructional design in higher education: Defining an evolving field*. Online Learning Consortium. Retrieved from https://olc-wordpress-

assets.s3.amazonaws.com/uploads/2018/07/Instructional-Design-in-Higher-Education-Defining-an-Evolving-Field.pdf.

<sup>&</sup>lt;sup>2</sup> See https://www.educause.edu/eli.

#### **Program Requirements and Curriculum**

To be admitted to the program, students must have completed a bachelor's degree from an accredited institution, have an overall undergraduate GPA of at least 2.75 (to be admitted in "good standing"), and have at least a 3.00 overall GPA in all graduate work previously completed at UW-Whitewater.

Table 2 illustrates the program curriculum for the proposed program. The program consists of 30 credits, of which 27 credits are chosen from three of four certificate programs and 3 credits are a capstone experience that includes a reflective portfolio of artifacts from the entire program. Students will be required to complete all three courses (9 credits) in each of the selected certificate areas.

### Table 2: M.S. in Instructional Design and Learning Technology Program Curriculum

COMPLETE COURSES IN 3 OF THE FOLLOWING CERTIFICATE GROUPS (27 cre	dits)
Foundations of Learning Design	

i ounducions of		
EDFOUND 701	Introduction to Instructional Design and Learning	3 credits
EDFOUND 702	Instructional Design: Learning Theories and Instructional Models in Digital Learning Environments	3 credits
EDFOUND 703	Learning Theories and Instructional Models Application and Assessment	3 credits
<b>Emerging Techn</b>	ology in Digital Learning	
EDFOUND 711	Current Trends in Learning and Emerging Technology	3 credits
EDFOUND 712	Research Methods to Support Learning Technology Exploration	3 credits
EDFOUND 713	Working with and Evaluating Emerging Learning Technologies	3 credits
<b>Producing Effec</b>	tive Learning Experiences	
EDFOUND 726	Planning Effective Learning Experiences	3 credits
EDFOUND 727	Producing Effective Learning Experiences	3 credits
EDFOUND 728	Producing Learning Experiences in the Field	3 credits
Leadership in Ir	nstructional Design and Learning Technology	
EDFOUND 741	Leading Learning Technology Programs and Initiatives	3 credits
EDFOUND 742	Learning Technology Unit Leadership	3 credits
EDFOUND 743	Leading and Navigating Organizational Technology Change	3 credits
CAPSTONE EXPE	RIENCE (Required by all Students)	
EDFOUND 779	Capstone in Instructional Design and Learning Technology	3 credits
TOTAL CREDITS	5	30 credits

## Assessment of Outcomes and Objectives

Signature assignments will be featured in each course that will give students an opportunity to apply what they have learned in relation to the core SLOs (1-4) in a project that will be showcased at the final course symposium where students will present their work to their classmates, instructors, and guests from the field.

**(SLO 1) Design** effective learning experiences, taking into account learner needs, applying foundational design principles, and identifying technologies that support learner success.

- EDFOUND 701: Design Philosophy Paper
- EDFOUND 702: Design Project
- EDFOUND 703: Final Project
- EDFOUND 726: Production Project Plan
- EDFOUND 711: An Organizational Analysis

**(SLO 2) Produce** effective learning experiences that leverage technology to meet organizational and learner needs.

- EDFOUND 703: Final Project
- EDFOUND 726: Production Project Plan
- EDFOUND 727: Learning Experience Product
- EDFOUND 728: Real World Learning Object
- EDFOUND 713: Emerging Technology Pilot Plan

**(SLO 3) Integrate** emerging technologies to increase learner success, identifying needs, implementing the technology, and evaluating the technology's effectiveness.

- EDFOUND 703: Final Project
- EDFOUND 711: Organizational Analysis
- EDFOUND 712: Learning Technology Research Project
- EDFOUND 713: Emerging Technology Pilot Plan
- EDFOUND 727: Learning Experience Product
- EDFOUND 742: Learning Technology Unit Strategic Plan

**(SLO 4) Lead** organizational learning technology initiatives, designing and implementing assessment systems to ensure quality in instruction and developing project plans with budget and resource allocation.

- EDFOUND 726: Production Project Plan
- EDFOUND 713: Emerging Technology Pilot Plan
- EDFOUND 741: Persuasive Proposal for New Program
- EDFOUND 742: Learning Technology Unit Strategic Plan
- EDFOUND 743: Digital Transformation Plan

Table 3 illustrates that a student will be assessed in all of the core SLOs regardless of the combination of certificates completed.

Certificate	Design	Produce	Integrate	Lead
Foundations of Instructional Design	Х	+	+	
Producing Effective Learning Experiences	+	Х	+	+
Emerging Technology	+	+	Х	+
Leadership in IDLT			+	Х

#### Table 3. Map of Core SLOs and Certificates

X = focus areas that involve extensive assessment and development

+ = Core SLO is covered

In addition to the core SLOs of the program, three key employability skill SLOs (i.e., SLOs 5, 6, and 7 above) have been identified as critical for success in careers related to instructional design and learning technology. At least two courses in each certificate in the program will include online asynchronous discussions around current events in the field and collaborative case studies. This will allow students to explore the complexities of working with diverse populations to create high-quality instructional materials (SLO 5), apply key skills (e.g., oral, written, and interpersonal communication) and support and collaborate with others (SLO 6), and leverage both critical and creative thinking to solve common problems professionals face when designing learning experiences and working with emerging technologies (SLO 7).

Sample discussion posts, case studies, and individualized assignments will be randomly drawn annually by program faculty and instructors and assessed using rubrics for the relevant SLOs. This assessment data will be aggregated and included in reports (e.g., audit and review, annual reporting, etc.).

#### Diversity

The M.S. in Instructional Design and Learning Technology will advance inclusive excellence through its curricular design. Each certificate includes a course that specifically includes learning about elements of diversity and inclusion. These themes will also be included in other coursework. In the Production certificate course "Producing Effective Learning Experiences," there will be content related to universal design for learning with regard to selecting technologies that will be accessible to a diverse array of learners. In the Emerging Technology certificate, the course "Working with and Evaluating Emerging Learning Technologies" will require students to include criteria related to accessibility and inclusion when evaluating new learning technology solutions for their projects. In the Production certificate, the course "Producing Effective Learning Experiences" will include planning for and inclusion of strategic elements of diverse representations of people, cultures, and objects in learning objects created for the course that will involve multicultural and diverse perspectives. Finally, the Leadership certificate course "Leading and Navigating Organizational Technology Change" will include content on leveraging and respecting workplace diversity in a learning technology unit organization. Equity in student recruitment will be addressed by developing a strategic marketing plan that will include a diverse representation of students. UW-Whitewater provides student support services for students with special needs through its Center for Students with Disabilities. Any software products required for coursework will be free or accessible through a virtual desktop, thus making these tools accessible to students who may not have the resources to purchase them. Instructors will recruit diverse industry experts to serve as guest presenters in the online space to model inclusive excellence for students to increase their sense of belonging.

The UW-Whitewater Inclusive Excellence Lecturer program conducts national searches to bring recently graduated professionals with terminal degrees to campus to teach and contribute to inclusive excellence initiatives. The College of Education and Professional Studies has a Diversity coordinator (50% FTE) and an Inclusive Excellence Committee to plan these efforts. The School of Graduate Studies participates in programs to recruit graduate students to UW-Whitewater, and racial/ethnic minority graduates are supported with funding from the Advanced Opportunity Program and other grants. Eightyone percent of all racial/ethnic minority graduate students receive financial support either as grants, campus employment, or a graduate assistantship.

This program does not include practicum sites or clinical experiences, so plans for addressing equitable hiring to staff such experiences do not apply.

### **Collaborative Nature of the Program**

The program will be delivered by UW-Whitewater faculty. Collaborations with other UW institutions to deliver coursework are not anticipated. At this time, no collaborations with other UW-Whitewater programs or departments are planned.

# **Projected Time to Degree**

Students are expected to be working professionals. While some may choose to enroll as a full-time graduate student (9 or more credits per term), it is expected that the majority of students will enroll part-time by completing 6 credits per fall and spring semesters over 24 months and completing 3 credits in each of two summer sessions. Overall, this projects a two-year time to degree. If a student has earned UW-Stout's Instructional Design graduate certificate (12 credits) upon entering the program, the student could complete the program in twelve to eighteen months.

# **Program Review**

The program will be reviewed via the UW-Whitewater audit and review process (see <u>http://www.uww.edu/assessment/audit-and-review</u>.<sup>3</sup> The audit and review process facilitates continuous program improvement and is conducted for all academic programs on a five-year cycle. As part of the process, the program's faculty engage in a self-study

<sup>&</sup>lt;sup>3</sup>http://www.uww.edu/assessment/audit-and-review

review of the program. Elements addressed in the self-study include assessment of student learning outcomes as well as alignment with and contribution to institutional mission and goals; enrollment, retention, and graduation data; demand for graduates; faculty, staff and program resources; and departmental recommendations. The review is then forwarded to the Graduate Audit and Review Committee which provides critical feedback and makes recommendations for improvement. An evaluation report is presented to and discussed with the faculty, audit and review committee, dean, and provost. The Audit and Review selfstudy will also identify how the program has addressed at least two of the goals identified in the UW-Whitewater Inclusive Excellence Guidelines to recruit and retain diverse students and faculty, and it will also address progress toward improving graduates' achievement of the UW-Whitewater master's-level learning objectives.

# Accreditation

The program will not seek accreditation in a discipline-specific area. There are no accrediting bodies for programs in Instructional Design or Learning Technology. It will participate in the university-wide accreditation processes with the Higher Learning Commission.

# JUSTIFICATION

## **Rationale and Relation to Mission**

The proposed M.S. in Instructional Design and Learning Technology will contribute directly to the mission of UW System by developing human resources in the fields of Instructional Design and Learning Technology leadership, which are of service to public, private, and not-for-profit institutions, especially with the growing presence of online learning and training.

The UW-Whitewater proposed mission states that the institution will "prepare students to become lifelong learners who lead successful lives and productive careers."<sup>4</sup> The proposed degree supports this mission by contributing to the continued education and training of professions in the fields of learning design and technology and by developing instructional design, production, research, and leadership skills.

The proposed program at UW-Whitewater also supports major goals of the institution's Strategic Plan. These major goals are to "build new partnerships with community, business, and governmental organizations (UW-Whitewater's Strategic Plan, Goal 5, Objective 1) and to "enhance existing relationships with... other partners," (Goal 5, Objective 2). This program will engage higher education, preK-12, business, and healthcare partners in the development of the program to ensure that it will meet the region's needs. This program will work with these organizations to provide mentorship and practical

<sup>&</sup>lt;sup>4</sup> https://www.uww.edu/strategic-plan/mission-vision-value

experiences for students to take what they are learning into the real world. Central to this strategic plan is the commitment to serve adult students, nontraditional students, and diverse students who will enrich the region's economy and community life through advanced training in the strategic use of emerging learning technologies in a variety of fields.

Learning design and technology is a growing field that requires leaders who understand the foundations of learning design as well as how to produce engaging learning experiences, assess outcomes, and work with emerging learning technologies in order to guide academic and professional learning that is delivered via various modalities (e.g., face-to-face, hybrid, and online).

### Institutional Program Array

This program aligns with UW-Whitewater's Academic Plan, Goal 4, to "provide professional and graduate programs that offer students the opportunity to develop into professional leaders within specific fields of expertise." The College of Education and Professional Studies currently offers graduate programs in Professional Studies (targeted at preK-12 teachers), Communication Disorders, Counselor Education, Special Education and Higher Education Leadership. This new proposed degree builds upon the knowledge within the College of Education's faculty in instructional design and learning theory in addition to the technological knowledge of the Learning Technology Center on campus. At the same time, this new degree is a field that is not served with the current offerings.

Implementation of the proposed program will require a total of one new faculty/staff position, allocated as .75 FTE for instruction and .25 FTE as administrative staff (for program coordination). An existing faculty member will have .25 FTE redirected to teach in this program. Thus, the total FTE for the program's first year is 1.25. As the program grows, an additional .5 new faculty/instructional staff FTE will be added to teach an additional two courses per semester (a total of six courses each semester and a total of 1.75 FTE). Qualified adjuncts who possess either a terminal degree in a field related to Instructional Design and Learning Technology or a related master's degree with at least five years of relevant professional experience will be hired to teach classes, especially as the program is initially started.

### Other Programs in the University of Wisconsin System

No UW institution offers a master's program in this curricular program area. UW-Stout offers an M.S. in Training and Human Resource Development and a graduate Instructional Design certificate. The proposed program has a different focus than training and human resources, with greater emphasis on leadership as a central component to support digital learning and transformation. UW-Whitewater's proposed program differs from the Instructional Design certificate in that the new program will also emphasize how to evaluate and leverage learning technologies and support a role of Learning Architect and Learning Engineer, which are more encompassing than Instructional Design. However, the UW-Stout Instructional Design certificate will be accepted for transfer credits toward the M.S. in Instructional Design and Learning Technology.

UW-Madison offers a Professional Certificate in Online Education. This is a noncredit, continuing education certificate focused on designing online courses. In addition to the traditional graduate student population, the UW-Whitewater proposed program will appeal to working professionals (including educators) seeking to enhance their skills and marketability by completing one or more of the certificates in this new program.

# Need as Suggested by Current Student Demand

A review of current positions in the National Education Attainment EMSI<sup>5</sup> database revealed that for Educational/Instructional Media Design programs), 326 students graduated with master's degrees in 2016, which was 79.3% of the degrees earned in this field. Bachelor's degrees represented less than 2% and post-bachelor certificates represented less than 4% of the degrees. Such findings are to be expected as the master's degree is often required to enter an occupational field in this area, such as instruction coordinator.<sup>6</sup> Locally, a survey was administered in April 2018, to recent UW-Whitewater alumni with undergraduate degrees in related fields, e.g., computer science, media arts and game development, and education. Among the 64 respondents, 55% were interested in pursuing the proposed certificates and 38% were interested in the new Instructional Design and Learning Technology master's degree.

# Need as Suggested by Market Demand

According to the Bureau of Labor Statistics (BLS), the number of vacancies in the instructional coordinator career field are predicted to increase by 6.3% (11,500 positions) nationally between 2018 and 2028.<sup>7</sup> In Wisconsin, vacancies in this occupational area are anticipated to increase by 6.9% between 2016 and 2026. The anticipated average annual openings in Wisconsin are projected to be 190. Training and development specialist positions are also predicted to grow by 9.4% (28,900 more jobs) by 2028.<sup>8</sup> In Wisconsin, vacancies in this occupational area are anticipated to change by 11.9% between 2016 and 2026. The anticipated average annual openings in Wisconsin are anticipated to change by 11.9% between 2016 and 2026. The anticipated average annual openings in Wisconsin are projected to be 370.

The BLS occupational categories listed here do not fully encompass the range of job titles intended to be served by UW-Whitewater's new program. A review of current positions in the National Education Attainment EMSI database revealed various job titles

<sup>&</sup>lt;sup>5</sup> https://e.economicmodeling.com

<sup>&</sup>lt;sup>6</sup> Bureau of Labor Statistics, U.S. Department of Labor. *Occupational Outlook Handbook,* Instructional Coordinators. Retrieved from https://www.bls.gov/ooh/education-training-and-library/instructional-coordinators.htm (December 2019).

<sup>&</sup>lt;sup>7</sup> Ibid.

<sup>&</sup>lt;sup>8</sup> Bureau of Labor Statistics, U.S. Department of Labor. *Occupational Outlook Handbook,* Training and Development Specialists. Retrieved from https://www.bls.gov/ooh/business-and-financial/training-and-development-specialists.htm.

(instructional designer, training and development specialist, learning manager, training manager, adjunct instructor, director of education, learning consultant, learning specialist). From August 2018 to August 2019, EMSI showed 7,087 related job postings (1,672 unique) in Wisconsin and Illinois within the fields of higher education, business, and healthcare. CNN, in a more encompassing projection, predicted a 28.3% growth nationally in this field by 2022.<sup>9</sup>

<sup>&</sup>lt;sup>9</sup> CNN Money (2012). Best Jobs in America. Retrieved from <u>http://money.cnn.com/pf/best-jobs/2012/snapshots/38.html.</u>

	University of Wisc	onsin-Whitewa	iter				[
	Cost and Revenue Projections For MS in Ins	structional Desi	gn and Lea	rning Techn	ology	1	
	Items Projections						
		2021	2022	2023	2024	2025	
		Year 1	Year 2	Year 3	Year 4	Year 5	
Ι	Enrollment (New Student) Headcount	15	18	22	26	31	
	Enrollment (Continuing Student) Headcount	0	12	- 14	17	21	
	Enrollment (New Student) FTE	7.5	9.0	10.8	13.0	15.6	
	Enrollment (Continuing Student) FTE	0.0	6.0	7.2	8.6	10.4	
II	Total New Credit Hours	225.0	270.0	324.0	388.8	466.6	
	Existing Credit Hours	0.0	180.0	216.0	. 259.2	311.0	
							1.40
		11 miles	n ti Kan an li	86 - 29 - 20 I			
III	FTE of New Faculty/Instructional Staff	0.75	1.25	1.25	1.25	1.25	
	FTE of Current Fac/IAS	0.25	0.25	0.25	0.25	0.25	- 2
	FTE of New Admin Staff	0.25	0.25	0.25	0.25	0.25	
	FTE Current Admin Staff						
137	Davianuas						
	Evenues	¢101.254	\$202 707	¢242 240	\$201 000	\$250.070	
	From Tullion	\$101,334	\$202,707	\$243,248	\$291,898	\$350,278	
	Program Devenue (Cugarte)	\$11,230	\$22,300	\$27,000	\$52,400	\$38,880	
	Program Revenue (Granis)	¢ 47 700					
	CPR (ra) allocation	\$47,722					
	Total New Peyenne	\$160.226	\$225 207	\$270.240	\$224.208	\$290 159	
V	Fynansas	<u>4100,520</u>	\$225,207	\$270,240	\$324,290	\$209,120	
· ·	Salaries plus Fringes						
	Salaries plus Fringes	<b>.</b>		• · · - ·			
	Faculty/Instructional Staff	\$111,550	\$170,244	\$173,221	\$176,258	\$179,357	
	Student workers	\$13,485	\$13,485	\$13,485	\$13,485	\$13,485	
	Other Staff	\$18,290	\$18,290	\$18,290	\$18,290	\$18,290	
×	Other Expenses						
	Facilities				1		
	Software	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	
	Other (Honorariums for guest presenters in courses)	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	
-	Other (Marketing)	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	×.
	Other (repay investment from Year 1)		\$5,000	\$20,000	\$22,722	\$0	tite of
	I otal Expenses	\$160,325	\$224,019	\$241,996	\$247,755	\$228,132	
VI	Net Revenue	¢1	¢1 100	\$78 757	\$76 512	\$161.026	
<b>V</b>		φ1	φ1,100	φ20,232	φ70,343	φ101,020	
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# COST AND REVENUE PROJECTIONS NARRATIVE UNIVERSITY OF WISCONSIN–WHITEWATER M.S. IN INSTRUCTIONAL DESIGN AND LEARNING TECHNOLOGY

### Introduction

The proposed M.S. in Instructional Design and Learning Technology (IDLT) consists of 30 credits. Students will be required to complete all three courses (9 credits) in each of the selected certificate areas. The program will be delivered fully online. Delivery of this new program will utilize expertise of faculty in the Department of Educational Foundations and the campus Director of Learning Technology.

## Section I – Enrollment

Modest estimates for student headcount have been predicted starting at 15 students in Year 1 and growing to 31 by Year 5. Students are predicted to enroll part-time. Full Time Equivalent (FTE) is 9 credits for graduate students at UW-Whitewater. The headcount is multiplied by 0.5 to account for students most likely enrolling in only 3-6 credits each semester (averaging at 4.5 credits per headcount).

No continuing students are projected in Year 1 because the program is completely new and has not previously been offered as an emphasis area to another program. Attrition of 20% from a student's first year is predicted for the continuing student headcount. As with new student FTE, it is expected that continuing students will enroll on a part-time basis, and thus FTE is calculated by multiplying continuing headcount by 0.5.

# Section II – Credit Hours

New credit hours represent projected coursework taken by new student enrollments. Existing credit hours represent credits that will be taken by currently enrolled graduate students in the M.S. in IDLT program.

Students are likely to be working professionals taking courses part-time. On average, students are predicted to take 6 credits in the fall, 6 credits in the spring, and 3 credits in the summer. Students will be able to shift some of the credit load to the summer if their fall or spring needs a lighter load, but this will still average to 15 credits per year.

The total new credit hours for all years is calculated by multiplying the new student headcount by 15 credits for the calendar year. Because this is a 30-credit M.S. program, students are likely to take the same load both years. For this reason, the existing credit hours for all years are calculated by multiplying the continuing student headcount by 15.

# Section III - Faculty and Staff Appointments

Implementation of the proposed program will require the appointment of one new faculty/staff position, allocated as .75 FTE for instruction and .25 FTE as administrative staff

(for program coordination). An existing faculty member will have .25 FTE redirected to teach in this program. Thus, the total FTE for the program's first year is 1.25. This allocation of faculty and staff will allow the department to offer four courses in fall and four courses in spring semesters (a total of eight courses across the academic year). Two additional courses will be taught during the summer during the first year, expanding to three courses per summer. (Summer courses are all run as self-supporting, so no FTE is included in these calculations.)

As the program grows, an additional .5 new faculty/instructional staff FTE will be added to teach an additional two courses per semester (for a total of six courses each semester). For Years 2-5, the budget includes 1.5 FTE program instructional faculty (1.25 new faculty/instructional staff FTE plus .25 existing FTE). This permits six courses from the program to be offered each semester. Thus, each certificate course can be offered once per academic year. Since this program uses stackable certificates, this provides the necessary flexibility to recruit diverse students with different professional needs.

The 0.25 FTE of new administrative staff provides a one-course-per-semester reassignment for a faculty program coordinator to administer the program.

#### Section IV – Program Revenues

#### Tuition Revenues

The tuition was calculated by the anticipated credit enrollment per student per calendar year (15 credits) x student head count x \$450.46 (the per-credit resident tuition). Since students are expected to enroll part-time (fewer than 9 credits), it is expected that the credit tuition plateau will not apply to tuition revenues collected for most students.

#### Program/Course Fees

Courses will be delivered 100% online; therefore, an additional \$50 per-credit fee will be collected based on the credit enrollment per student.

#### Other Program Revenues

Funding sufficient to cover program expenses in the first year will be covered by the School of Graduate Studies. This funding will be drawn from net revenue generated from other existing graduate programs and provided as an investment in the new program. The contributions will be replenished from the net revenue projected for this program in Years 2-5.

### Section V – Program Expenses

#### Salary and Fringe Expenses

Year 1 includes a total of 1.0 FTE of faculty/instructional staff at an average cost of \$70,000 and an academic year fringe rate of 39%. Two additional courses will be taught during the summer for which an instructor would be paid \$5,700 plus 25% fringe for each course.

For Years 2-5, program expenses include 1.5 FTE faculty/instructional staff, assuming an average salary of \$70,000 and an academic year fringe rate of 39%. A 2% salary increase is included for academic year faculty/instructional staff. In Years 2-5, three summer courses will be offered with the summer salary being paid on a self-supporting basis (\$5,700 plus 25% fringe).

Student workers will be hired to cover the additional administrative needs in the department due to a new program being added. The cost is estimated to be \$13,485 based on approximately 20 hours per week in the academic year and 10 weeks hourly in the summer, including a 25% fringe rate.

Other staff expenses include a program coordinator who receives a 25% course reassignment (one course) each semester that is replaced with an instructional staff member paid \$5,500 plus 39% fringe. The program coordinator also receives a summer stipend of \$3,000.

#### Other Expenses

Specialized software licenses for production of online learning objects will be purchased and provided to students via a virtualized desktop at an estimated cost of \$5,000 per year. Honorariums for guest speakers in the online courses will be budgeted at \$2,000 per year. These guest speakers will be working professionals in Instructional Design and Learning Technology. Plus, \$10,000 is budgeted for marketing each year.

An administrative charge is applied to Years 2, 3, and 4 to recoup the net loss in Year 1 (\$5,000 charge applied to Year 2, \$20,000 to Year 3, and \$22,722 to Year 4, which covers the projected total net loss of \$47,722 in first year of the program).

#### Section VI - Net Revenue

Costs are expected to exceed tuition and fee revenues in the first year of the program. The deficit will be covered by the School of Graduate Studies from net revenue from other existing graduate programs as an investment in the new program. Net revenue from Years 2-5 will be used to recoup the initial deficit, and then to support the development of other new programs or the revision of existing graduate programs that need change.

#### **Education Committee Item C.7.**



Office of the Provost

12 December 2019

Dr. Raymond Cross President, UW System 1720 Van Hise Hall 1220 Linden Drive Madison, WI 53706

Dear President Cross:

Please accept this as UW-Whitewater's Letter of Commitment for our new Master of Science (MS) program in Instructional Design and Learning Technology (IDLT). This new program is a fully online program structured around stackable certificates that will be valuable and attractive for practicing professionals looking to advance their skills and careers. It addresses a growing area of professional need in the state and the nation, and one with few existing relevant programs within the UW System. We are proud of the achievements of our students, faculty, and staff in our College of Education and Professional Studies and, with this new program, the College will be able to provide another level of educational opportunity to support workforce development in Wisconsin and the surrounding region.

With this letter, I assert and make a firm commitment to the following:

- 1. The MS program in IDLT has been designed to meet UW–Whitewater's definition and standards of quality and to make a meaningful contribution to our select mission, overall academic plan, and our program array. This program is built from an academic department and college that has already demonstrated high standards of quality. As the proposal was developed, faculty and staff consulted with our Director of Academic Assessment and their college assessment leaders to assure a high level of quality in curriculum and program assessment. Consistent with the goals in our academic plan, this new program will provide a meaningful addition to our campus program array, and our College of Education and Professional Studies is poised for a successful launch of this new program.
- 2. We have institution-wide support and approval for this new program through every phase of our campus governance process. The proposal was approved by the Department of Educational Foundations, the Curriculum committee in the College of Education and Professional Studies, the Dean of the College of Education and Professional Studies, and the Graduate Council. All required approvals have been obtained on campus, with enthusiastic support.
- The necessary financial and human resources are in place or have been committed to implement and sustain this new master's program. Department and college staff have

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thoroughly considered and provided for all of the resources needed to launch and maintain the program. A financial plan is in place to support and sustain the program.

4. A high-quality system for program evaluation is in place. As soon as the new program is implemented, it will enter our 5-year campus cycle for audit and review to support continuous evaluation and improvement. The program proposal includes a fully defined list of student learning outcomes and a well-designed plan for assessment of those outcomes. As noted above, these plans have been reviewed and approved by our Director of Academic Assessment who also supports the graduate Audit and Review process. Members of the college curriculum committee and the Graduate Council have also reviewed the program's assessment plan as an integral part of the curriculum proposal. I am confident this new program has the plans in place for successful program evaluation that will assure a high level of quality and continuous improvement.

The proposal for the new MS program in IDLT was developed using a very thorough and careful process. We have all of the necessary resources in place or firmly planned, and I am confident this program will be a success. This program will be a significant addition for UW-Whitewater, an attractive offering for students, and a benefit for workforce development in Wisconsin and the surrounding region. I am proud to recommend this new program for your approval and approval by the members of the Board of Regents. I believe this is a strong and needed addition to the University of Wisconsin System program array.

Sincerely,

grey Cart

Greg Cook, Ph.D. Interim Provost and Executive Vice Chancellor for Academic Affairs

GC/jlc Encl.

cc: Dwight Watson, Chancellor Joan Littlefield Cook, Interim Associate Vice Chancellor for Academic Affairs Angela Harlan, Special Assistant to the Provost Robin Fox, Interim Dean, College of Education and Professional Studies Carleen Vande Zande, interim AVP of APEI, UW System Thursday, February 6, 2020

# REGENT POLICY DOCUMENT REVIEW: RPD 4-2, "INTER-INSTITUTIONAL COOPERATIVE AGREEMENTS BETWEEN UW INSTITUTIONS AND PRIVATE COLLEGES"

# **REQUESTED ACTION**

Adoption of Resolution D., removing Regent Policy Document 4-2, "Inter-institutional Cooperative Agreements Between UW System Institutions and Private Colleges," from the Regent Policy Documents.

**Resolution D.** That, upon the recommendation of the President of the University of Wisconsin System, the Board of Regents authorizes the Executive Director and Corporate Secretary of the Board of Regents to remove Regent Policy Document 4-2, "Inter-institutional Cooperative Agreements Between UW Institutions and Private Colleges," because the policy does not meet the standards and protocols for a Regent Policy Document.

The Board further directs the President of the UW System to adopt the provisions of RPD 4-2 as UW System Administrative Policy, with the exception that inter-institutional agreements with private colleges shall be monitored according to procedures established by the President of the UW System.

# SUMMARY

The Board of Regents adopted Regent Policy Document (RPD) 4-2 on September 10, 1982 to establish four principles to guide inter-institutional cooperative agreements between UW institutions and private colleges. Specifically, the policy prohibits institutions from exchanging tuition, fees, or other financial payments between institutions; requires institutions to ensure any agreement does not restrict access to UW courses; requires the transfer of credits under the agreement conform to normal academic standards; and requires the Board of Regents to periodically review the agreements. The Board adopted the policy to ensure that such agreements would not impede UW students' access to UW courses or result in using state funds to subsidize private institutions.

The Education Committee is asked to consider removing RPD 4-2 from the Regent Policy Documents because the policy is of limited scope and does not meet the standards for a Regent Policy Document. The proposal would retain the provisions of the policy as UW System Administrative Policy, except for the requirement for periodic Board review of the agreements. The proposal requires that the President of the UW System establish new procedures for monitoring agreements between UW institutions and private colleges. This will allow UW System to align procedures for monitoring agreements between UW institutions and private colleges with procedures for monitoring agreements negotiated by UW chancellors with other types of institutions.

### Presenter

• Dr. Anny Morrobel-Sosa, UW System Vice President for Academic & Student Affairs

# BACKGROUND

The UW System Board of Regents adopted the provisions of Regent Policy Document 4-2 as Resolution 2673 in September 1982 after reviewing a report describing inter-institutional agreements between the UW System and non-UW institutions. The report noted that there were three agreements between UW institutions and private colleges at the time, including an agreement between UW-La Crosse and Viterbo College, UW-Superior and the University of Minnesota-Duluth/College of St. Scholastica, and UW-Eau Claire and Immanuel Lutheran College. None of the agreements involved an exchange of funds, but rather simply made administrative arrangements to facilitate the exchange of students on a space-available basis.

In adopting the policy, the Board's primary concern was ensuring a balance in the number of students participating in an exchange program under such agreements, which the Board believed was important for ensuring that UW institutions were not using state funds to subsidize private colleges. At the same time, the Board also recognized that a rigid insistence on a balanced exchange could effectively reduce the number of students who could benefit from such agreements. The Board concluded that it was important to monitor student enrollment and seek to remedy any disparity in enrollment by modifying the number of students enrolled during the following term to achieve balanced enrollment.

Based on their discussion, the Board adopted four principles for inter-institutional cooperative agreements between UW institutions and private colleges. The provisions, which were codified as RPD 82-6 and later renumbered RPD 4-2, included requirements that cooperating institutions not exchange tuition, fees, or other payments; not restrict access to UW courses for registered UW students; that credits would transfer in accordance

with normal academic standards; and that the Board would periodically evaluate and review the agreements. A copy of RPD 4-2 is included as Attachment A.

This proposal recommends removing RPD 4-2 as a Regent Policy Document because the policy does not meet the standards for a Regent Policy Document. The policy is also of limited scope. UW System institutions hold few agreements with private colleges and RPD 4-2 addresses a small number of administrative issues. Although the proposal would remove RPD 4-2 from the Regent Policy Documents, with the exception of the provision related to Board review of the agreements, the Resolution 2673 will remain in effect under this proposal.

The proposal directs the President of the UW System to incorporate the provisions of RPD 4-2 in UW System Administrative Policy. UW System Administrative Policies provide operational guidance to UW System institutions on a variety of operational and administrative processes. Incorporating the provisions of RPD 4-2 in UW System Administrative Policy would allow the UW System to integrate its procedures regarding agreements with private colleges with procedures in UW System Administrative Policies related to developing other types of inter-institutional agreements. For example, UW institutions also develop articulation agreements between UW institutions and Wisconsin Technical College System institutions.

The proposal would rescind the requirement that the Board of Regents periodically review agreements between UW System institutions and private colleges. Consistent with the review process for other types of inter-institutional agreements, the proposal delegates authority to the President of the UW System to establish procedures for monitoring agreements between UW institutions and private colleges.

# **Related Regent Policy Documents and Applicable Laws**

- Regent Policy Document 7-1, "University of Wisconsin System Undergraduate Transfer Policy."
- Section 36.31, Wis. Stats., "Coordination with other educational agencies; credit for military education."

# **ATTACHMENTS**

A) RPD 4-2, "Inter-institutional Cooperative Agreements Between UW Institutions and Private Colleges"
### RPD 4-2 INTER-INSTITUTIONAL COOPERATIVE AGREEMENTS BETWEEN UNIVERSITY OF WISCONSIN SYSTEM INSTITUTIONS AND PRIVATE COLLEGES (Formerly 82-6)

The following shall be regarded as guidelines for inter-institutional cooperative agreements between University of Wisconsin System institutions and private colleges:

- 1. There shall be no exchange of tuition, fees, or other financial payments between institutions.
- 2. Such agreements shall not work to restrict access to University of Wisconsin System courses for registered University of Wisconsin System students.
- 3. Arrangements pertaining to acceptance and transfer of credit shall conform to the normal academic standards of the participating University of Wisconsin Institution and be approved by the appropriate faculty representatives at that Institution.
- 4. All such agreements shall periodically be evaluated and reviewed by the Regents.

History: Res. 2673 adopted 9/10/82.

Thursday, February 6, 2020

# REGENT POLICY DOCUMENT REVIEW: ACCREDITATION AND ASSESSMENT OF STUDENT LEARNING

## **REQUESTED ACTION**

Adoption of Resolution E., which rescinds Regent Policy Document (RPD) 4-5, "Principles on Accreditation of Academic Programs," and RPD 5-1, "Academic Quality Program Assessment," and creates a new policy, entitled "Accreditation and Assessment of Student Learning," which integrates provisions related to accreditation and assessment of student learning.

**Resolution E.** That, upon the recommendation of the President of the University of Wisconsin System, the UW System Board of Regents rescinds Regent Policy Document 4-5, "Principles on Accreditation of Academic Programs," and Regent Policy Document 5-1, "Academic Quality Program Assessment," and creates a new policy titled "Accreditation and Assessment of Student Learning."

## SUMMARY

Regent Policy Document (RPD) 4-5, "Principles on Accreditation of Academic Programs," identifies ten principles describing UW System's expectations for accreditors. The Council on Institutional Cooperation originally adopted the principles in the 1980's to address concerns of some higher education institutions at that time that accreditation organizations had sometimes adopted standards that did not relate directly to the quality of education and that accreditor recommendations were sometimes too prescriptive or exceeded the competency of the accrediting organization. The Board adopted the provisions of RPD 4-5 as Resolution 3734 in March 1987. A copy of RPD 4-5 is found in Attachment A.

In September 1992, the Board approved Resolution 6215, directing UW institutions to continue a project that had been in place since 1990 to assess the verbal and quantitative skills of students in order to meet regional accreditation guidelines. The resolution required UW System Administration to publish an annual statistical profile, to conduct regular stakeholder surveys, and for Academic Quality Program data to be reported in an annual report. The provisions of the resolution were adopted as Regent Policy Document 92-7, which was later renumbered as RPD 5-1. A copy of RPD 5-1 is found in Attachment B.

At its February 2020 meeting, the Board's Education Committee will consider a resolution to rescind RPD 4-5, "Principles on Accreditation of Academic Programs," and RPD 5-1, "Academic Quality Program Assessment," because the policies are obsolete. The principles included in RPD 4-5 address issues of concern about the accreditation process in the 1980s and 1990s. While higher education institutions and organizations continue to seek reforms in the accreditation process, the issues surrounding accreditation have evolved to include topics such as the need for the accreditation process to allow for risk-based reviews and provide greater flexibility to use innovative educational practices. The proposal also recommends rescinding RPD 5-1 because the measurements and associated tools identified in the policy no longer reflect the assessment strategies and plans of UW institutions. Since the Board adopted RPD 5-1, UW institutions have implemented a variety of assessment tools to comply with the rigorous and comprehensive assessment strandards of the Higher Learning Commission.

As part of this proposal, the Board will also consider the creation of a new policy titled "Accreditation and Assessment of Student Learning," that integrates updated provisions related to accreditation and assessment of learning into a single policy. Accreditation is a critical tool for monitoring academic quality, promoting student success, and meeting federal regulations necessary for providing federal financial aid. Assessment of student learning is one important component of these efforts. Replacing both RPD 4-5 and RPD 5-1 with a single policy will ensure continued Board oversight of the accreditation and student learning assessment processes.

## Presenter

• Dr. Anny Morrobel-Sosa, UW System Vice President for Academic & Student Affairs

## BACKGROUND

Accreditation is the primary means by which the quality of higher education institutions and programs are assured in the United States.<sup>1</sup> According to the Council for Higher Education Accreditation (CHEA), accreditation is the "process of external quality review used by higher education to scrutinize colleges, universities, and educational programs for quality assurance and quality improvement."<sup>2</sup> CHEA describes accreditation as a form of

<sup>&</sup>lt;sup>1</sup> Council for Higher Education Accreditation. (April 1, 2006). *Accrediting Organizations in the U.S.: How Do They Operate to Assure Quality?* Washington, D.C.: Council for Higher Education Accreditation. Retrieved August 7, 2019, from https://www.chea.org/accrediting-organizations-us-how-do-they-operate-assure-quality

<sup>&</sup>lt;sup>2</sup> Council for Higher Education Accreditation. (2002). *The Fundamentals of Accreditation: What Do You Need to Know?* Washington D.C.: Council for Higher Education Association. Retrieved August 7, 2019, from

self-regulation in which higher education institutions and programs have developed standards, policies and procedures for self-examination and judgment by peers. CHEA identifies five primary tasks involved in the accreditation process, including:

- 1) Self-study, where institutions prepare a written summary of performance on accreditation standards;
- 2) Peer-review, which is an accreditation review performed by faculty, administrators, and members of the public;
- 3) Site-visits, where the accrediting agency sends a visiting team to review an institution or program;
- 4) Action of the accrediting agency, where the accrediting organization makes a determination about the accreditation status of the institution or program; and
- 5) Monitoring and oversight, which involves a periodic review of the institution or program over time and typically includes a site-visit from the accrediting agency.<sup>3</sup>

Accrediting agencies, which are private, nonprofit organizations, are responsible for evaluating and determining whether to grant accreditation to higher education institutions. Regional accrediting agencies operate in seven different regions of the country and review the practices of entire institutions. The Higher Learning Commission (HLC) is the regional accreditation agency responsible for accrediting UW System institutions. Specialized accrediting agencies, on the other hand, are responsible for accrediting academic programs in higher education institutions.<sup>4</sup> Each UW institution describes its institutional and specialized accreditation on the institution's website and in its academic bulletin or catalog.

Accrediting agencies themselves must meet standards in order to be "recognized" to grant accreditation. Accrediting agencies may be "recognized" by the U.S. Department of Education, by CHEA, or by both. Higher education institutions that participate in the federal student financial program are required to be accredited by agencies recognized by

<sup>&</sup>lt;u>https://www.chea.org/sites/default/files/other-content/Fundamentals-of-Accreditation-What-Do-You-Need-to-Know.pdf</u>, page 1.

<sup>&</sup>lt;sup>3</sup>Council for Higher Education Accreditation. (2002). *The Fundamentals of Accreditation: What Do You Need to Know?* Washington D.C.: Council for Higher Education Association. Retrieved August 7, 2019, from <a href="https://www.chea.org/sites/default/files/other-content/Fundamentals-of-Accreditation-What-Do-You-Need-to-Know.pdf">https://www.chea.org/sites/default/files/other-content/Fundamentals-of-Accreditation-What-Do-You-Need-to-Know.pdf</a>, page 2.

<sup>&</sup>lt;sup>4</sup> Council for Higher Education Accreditation. (2002). *The Fundamentals of Accreditation: What Do You Need to Know?* Washington D.C.: Council for Higher Education Association. Retrieved August 7, 2019, from <a href="https://www.chea.org/sites/default/files/other-content/Fundamentals-of-Accreditation-What-Do-You-Need-to-Know.pdf">https://www.chea.org/sites/default/files/other-content/Fundamentals-of-Accreditation-What-Do-You-Need-to-Know.pdf</a>, page 1.

the U.S. Department of Education.<sup>5</sup> Accrediting agencies recognized by the U.S. Department of Education must meet federal law and regulations and must have a connection to a federal program.

## Regent Policy Document 4-5, "Principles on Accreditation of Academic Programs"

Regent Policy Document (RPD) 4-5, "Principles on Accreditation of Academic Programs," includes a list of ten principles describing the UW System's expectations for accreditors. In general, the principles encourage accrediting agencies to use standards designed to improve educational outcomes, encourage innovation, and that are diagnostic and not prescriptive.

The Committee on Institutional Cooperation (CIC) adopted the first nine principles in 1984 to address concerns expressed by some higher education institutions that accreditation organizations had sometimes adopted standards that did not relate directly to the quality of education and that accreditor recommendations were sometimes too prescriptive or exceeded the competency of the accrediting organization. The UW System Board of Regents adopted the principles as Resolution 3734 in February 1987. The CIC later added a tenth principle, which stated that the accrediting process offers the greatest value when it provides impartial advice on educational issues of primary importance and concern to the institution at the time. The Board adopted the tenth principle as Resolution 7874 in March 1999.

This proposal recommends rescinding the current version of RPD 4-5 as the policy addresses issues of concern about the accreditation process in the 1980s and 1990s. While higher education institutions and organizations continue to seek reforms to the accreditation process, the issues surrounding accreditation have evolved. For example, in December 2018, as part of the U.S. Department of Education's efforts to revise accreditor recognition regulations, stakeholders identified such issues as the need for the accrediting process to encourage risk-based reviews, to provide institutions with greater flexibility to develop innovative educational practices, and to recognize and protect institutional differences and autonomy.<sup>6</sup> While the accreditation principles included in RPD 4-5 address some of these issues, the principles no longer provide a comprehensive reflection of

<sup>&</sup>lt;sup>5</sup> US Department of Education. (July 19,2019). *Overview of Accreditation in the United States*. Retrieved August 7, 2019, from <u>https://www2.ed.gov/admins/finaid/accred/accreditation.html#Overview</u>

<sup>&</sup>lt;sup>6</sup> Office of the Secretary, U.S. Department of Education. (2018, December). Rethinking Higher Education: Accreditation Reform. Retrieved August 8, 2019, from <u>https://www.insidehighered.com/sites/default/server\_files/media/White%20Paper%20on%20Accreditation%20Reform%2012.19.18.pdf</u>

current issues surrounding the accreditation of higher education institutions. They also do not reflect CHEA's current standards and practices for accreditation.

## Regent Policy Document 5-1, "Academic Quality Program Assessment"

In June 1990, the UW System Board of Regents adopted a comprehensive plan for systemwide academic program assessment for the 1990s. Under the plan, UW institutions were required to develop clear goals and quantifiable measures to evaluate undergraduate programs. It required UW System Administration and UW institutions to assess progress toward those goals through periodic surveys of Wisconsin employers, alumni, and students. Finally, it required UW System Administration to issue periodic, public reports on the Academic Quality Program.

The Board reviewed the status of the Academic Quality Program at its September 1992 meeting. Board minutes noted that each UW institution had, by that time, established a program to assess students' verbal and quantitative skills, as well as implemented methods for assessing other institutional programs. The report to the Board included a description of what were then new North Central Association of Colleges and Schools (NCA) accreditation standards related to the assessment of programs in higher education institutions. At that time, NCA accredited UW institutions, but NCA was later dissolved and the organization's postsecondary functions were vested in the Higher Learning Commission (HLC). HLC currently accredits UW System institutions.

At its September 1992 meeting, the Board also reviewed an evaluation of a pilot study to determine whether the ACT's Collegiate Assessment of Academic Proficiency could be useful for measuring academic performance as part of the Academic Quality Program. While the evaluation found that it was feasible to use the ACT test, the test presented several challenges including cost, low student participation rates, and results that were not detailed enough to allow institutions to draw conclusions for improving teaching practices.

In September 1992, the Board approved Resolution 6215 directing institutions to continue to assess the verbal and quantitative skills of students, with special emphasis on meeting NCA accreditation guidelines. The resolution required UW System Administration to publish an annual statistical profile, to conduct regular stakeholder surveys, and for both the UW System Administration President and each UW System Chancellor to report data from the Academic Quality Program in their annual reports to the Board. Finally, the resolution directed UW System to implement the ACT-CAAP Writing Skills and Mathematics Tests to a systemwide sample of sophomores at the earliest possible date and that UW System Administration report the findings to the Board. The provisions of the resolution were adopted as Regent Policy Document 92-7, which was later renumbered as Regent Policy Document 5-1.

Since the Board adopted RPD 5-1, UW institutions have created their own institutional and program level assessment plans to measure student learning and other educational outcomes in order to comply with the rigorous and comprehensive assessment requirements of the HLC. Each institution has aligned its assessment tools and practices to fit the mission and learning outcomes relevant to that institution's mission and curriculum. Each institution regularly reports on student outcome data to meet HLC accreditation requirements. Based on the rigor of the accreditation requirements for each institution to have an assessment plan consisting of multiple measures, institutions are already meeting a high standard to assess student learning and other educational outcomes through the accreditation process.

This proposal recommends rescinding and removing RPD 5-1 because the provisions of the policy are obsolete and will be updated and consolidated with RPD 4-5. The measurements and associated tools identified in the policy may no longer align to the current curriculum or are no longer in place at UW institutions. Additionally, the cost of each of the national assessments listed in the current policy has increased to such a level that they are cost prohibitive for UW institutions.

## Creation of a New RPD, "Accreditation and Student Learning Assessment"

While this proposal recommends rescinding and removing RPD 4-5 and RPD 5-1 because the policies are obsolete, the UW System recognizes that accreditation and assessment of student learning are critical processes for monitoring academic quality, promoting student success, and meeting federal regulations necessary for providing federal financial aid. To continue to provide Board oversight of these essential functions, this proposal recommends creating a new policy that integrates updated provisions related to both accreditation and assessment of student learning.

The new policy reinforces current practice by stating that UW institutions are required to seek accreditation from the HLC and that UW institutions are responsible for ensuring the quality of the institutions. The policy articulates the HLC's values for its accreditation process and identifies UW institutional and UW System Administration oversight, roles, and responsibilities for the accreditation process. The proposed policy, which may be found in Attachment C, will be titled, "Accreditation and Assessment of Student Learning."

#### **Related Regent Policy Documents and Applicable Laws**

- Regent Policy Document 1-1, "Mission Statements"
- Regent Policy Document 4-12, "Academic Program Planning, Review, and Approval in the University of Wisconsin System"

See also:

• UW System Administrative Policy 175, "Accreditation Visits and Reports"

## ATTACHMENTS

- A) RPD 4-5, "Principles on Accreditation of Academic Programs" *Current*
- B) RPD 5-1, "Academic Quality Program Assessment" Current
- C) New RPD, "Accreditation and Assessment of Student Learning" *Proposed*

#### **RPD 4-5 PRINCIPLES ON ACCREDITATION OF ACADEMIC PROGRAMS (Current)**

External reviews of academic programs are a useful and valuable means of protecting quality in higher education. They can generate suggestions for program improvement that are both specific and practical. Often, too, the stimulation they give to institutional self-examination will produce improvements beyond those recommended by the accrediting body. Finally, the process of accreditation is itself a promoter of useful discussion about quality, standards, and performance in higher education.

For all of these reasons, even the strongest universities have an obligation to do their part to make accreditation work. To do so effectively, however, they must be able to argue that the accreditation process is fundamentally sound. They face a painful dilemma when they conclude that a particular accrediting agency has exceeded its competence or is using standards that relate less to quality of education than to disciplinary or professional selfinterest. They can, of course, consider the option of withdrawing. Even when that is feasible, it can only be viewed as a last resort. The best universities cannot withdraw from any accreditation process without damaging their credibility and the respect accorded to them by other institutions.

This suggests that every university has some obligation to be frank about its own expectations from accrediting bodies. What standards should the accrediting body itself meet in dealing with the universities it is designed to serve? In connection with any proposed accreditation the University of Wisconsin System believes it is appropriate to ask the accrediting agency to indicate its acceptance of or state its reservations in regard to the following principles:

- 1. Evaluation must place its emphasis on the outcome of the educational process. Criticisms by accrediting teams directed at procedural or organizational details must be based on reasonable evidence that those details affect the performance of graduates or the quality of education provided to them. Where quantitative standards are cited or advice is offered on the organization of the instructional unit, structure of the curriculum, sequencing of courses, teaching loads, methods of instruction, graduation requirements, and designation of the degree or other credentials conferred, the university has a right to expect evidence of a reasonably direct relationship between what is being recommended and the ability of the program to achieve its goals.
- 2. The standards applied in the accreditation process must not discourage experimentation, innovation, or modernization, either in teaching methods or in the curriculum itself. An accrediting body can legitimately point out deficiencies it believes will result from a particular innovation. It can ask for assurance that the institution will provide the resources the innovation will require, and it can insist on

### **Education Committee Item E.**

some plan of evaluation. What it must not do is impose standards that place obstacles in the way of originality, creativity, or innovation on the part of the faculty of the institution.

- 3. **Recommendations should be diagnostic, not prescriptive.** For example, an accrediting agency could properly question whether there is enough effort to evaluate teaching performance, or whether student input on such evaluation is adequate, but it should not try to prescribe a particular form of or approach to evaluation.
- 4. The accreditation report must explicitly recognize institutional diversity. Every university has its own unique resources, methodologies, special mission, and educational philosophy. In particular, the interplay among graduate education, undergraduate education, research and public service will differ greatly among programs and from one university to another. Each university can expect that accrediting teams will familiarize themselves with its special circumstances and resources and will take them into account in relation to the programs being reviewed.
- 5. Accreditation should not encourage the isolation or self-containment of an academic program. In larger universities with substantial program depth, even the most specialized professional school can benefit by drawing upon the library holdings, courses being taught, research in progress, and faculty interests in other schools and colleges. A university can expect an accrediting team to file a report that shows awareness of these supporting resources and actively encourages their shared use.
- 6. The burden of accreditation must be kept as light as possible, both for the institution being accredited and for the accreditation team. Size of team and duration of the accreditation visit should be limited to the minimum necessary for a productive review. Data requirements and other advance preparation should also be kept to a minimum, recognizing, however, that encouragement for self-study may be one of the best products of an accreditation review. Finally, there must be a reasonable, fair, and expeditious procedure for questioning conclusions of the accrediting body without elaborate interim or supplementary reviews or reports.
- 7. The institution being accredited should be consulted as to the composition of the accrediting team, and has the right to expect that a majority of team members will be drawn from peer institutions and comparable programs. A useful evaluation requires substantial input from persons who are directly familiar with the nature of the institution and program being accredited. Without experience at comparable universities or in similar programs, not even the most careful

observer can acquire such familiarity in the course of a brief team visit or by reading documents, however carefully prepared.

- 8. In the case of professional schools, although there must be significant input from the profession itself, the ultimate authority over educational policies must remain firmly in the hands of the academic community. If a realistic program of training for a profession is to be offered, the contributions of practitioners must be solicited and welcomed. We do our students no favor if we fail to equip them to practice according to standards enunciated by the profession and by society in general. At the same time, universities cannot escape the ultimate responsibility for what they teach, how it is taught, by whom, and to whom. They cannot meet this obligation if final authority over standards and sanctions for academic programs rests largely in non-academic hands. Forging an effective partnership between the profession and the professional schools in this regard will continue to offer a major challenge and opportunity for both groups.
- 9. The greatest help an accrediting agency can offer to a program is to demand that its educational goals be clearly stated and that the program be reasonably calculated to achieve those goals. An accrediting body can offer useful advice—but only advice—as to whether, in its opinion, the resources are adequate to meet program goals. The primary question must be whether these goals are being achieved, however, rather than whether square footage or salary levels or teacherstudent ratios or telephone accessibility meet some arbitrary measure. The essential purpose of accreditation is to assure the prospective student and the public that necessary standards of quality are being satisfied. However meritorious it may be to advance the salaries, prerequisites, or working conditions of the faculty or administration of the unit being evaluated, the accrediting process is not the proper vehicle to use for this purpose. An educational program is validated first and foremost by how well it accomplishes the goals set for it. This, in turn, rests ultimately on how well its students and graduates are able to perform—no matter how difficult that is to appraise or predict.
- 10. The accrediting process offers greatest value to established institutions when it provides an avenue toward impartial advice on the educational issues of primary importance and concern to the institution at the time.

History: Res. 3734 adopted 3/6/87; amended by Res. 7874, 3/5/99.

#### RPD 5-1 ACADEMIC QUALITY PROGRAM ASSESSMENT (Current)

- 1. The University of Wisconsin System Institutions shall continue to implement the Academic Quality Program (AQP), with special emphasis on meeting the North Central Association's accreditation guidelines for assessment.
- The University of Wisconsin System Administration shall continue to implement AQP system wide with a focus on quantitative measurements, including annual publications of the Statistical Profile and regular surveys of students and/or alumni, business and/or industry, the general Wisconsin public, and University of Wisconsin System faculty members.
- 3. The University of Wisconsin System Institutions shall provide increased institutional accountability for assessment of academic programs and student outcomes through each chancellor's annual report.
- 4. The University of Wisconsin System Administration shall provide increased system wide accountability for statewide assessment through the President's annual report. Each University of Wisconsin System Institution shall continue the assessment of students' verbal and quantitative skills, refine the techniques, and report annually on the use of assessment results in the improvement of teaching and learning.
- 5. The University of Wisconsin System shall administer the ACT-CAAP Writing Skills and Mathematics tests to a system wide sample of sophomores at the earliest possible date that value added testing is available, and System Administration shall report the results, along with national norms, to the Board of Regents. These tests will be administered periodically to cohorts of students.

History: Res. 6215 adopted 9/11/92.

## ACCREDITATION AND ASSESSMENT OF STUDENT LEARNING (Proposed)

#### Scope

This policy applies to accreditation and assessment of student learning activities at UW System institutions.

#### Purpose

The purpose of accreditation is to assure all stakeholders, including students, families, government officials and others, of the quality of higher education institutions and programs. The federal government requires that higher education institutions be accredited to be eligible for federal funding and to provide students with federal financial aid. Employers look to accreditation to evaluate the credentials of job applicants, as well as for evaluating whether to provide tuition assistance to employees. The accreditation process also provides an assurance of student learning and other educational outcomes.

#### **Policy Statement**

Each UW institution shall seek accreditation from the Higher Learning Commission, a regional accreditor, to ensure that the institution meets threshold standards for program quality and that the institution is engaged in continuous improvement and the assessment of student learning. Title IV federal student financial aid requires regional accreditation for eligibility. UW institutions may also maintain specialized accreditation for its programs as appropriate to its educational purposes.

The Higher Learning Commission's accreditation process evaluates each institution guided by the following values:

- 1. Focus on student learning
- 2. Education as a public purpose
- 3. Education for a diverse, technological, globally connected world
- 4. A culture of continuous improvement
- 5. Evidence-based institutional learning and self-presentation
- 6. Integrity, transparency, and ethical behavior or practice
- 7. Governance for the well-being of the institution
- 8. Planning and management of resources to ensure institutional sustainability
- 9. Mission-centered evaluation
- 10. Accreditation through peer review

The responsibility for ensuring the quality of academic programs and student learning rests with the institution. Institutional accreditation assesses the capacity of an institution to assure its own quality and expects the institution to produce evidence that it does so.

Each institution shall assess its goals and learning outcomes guided by an assessment plan created by the faculty for both institutional and programmatic assessment.

## **Oversight, Roles, and Responsibilities**

Each UW institution is responsible for meeting and keeping current on accreditation requirements, for preparing an accreditation report, and for accreditation visits according to the review schedules established by the Higher Learning Commission or specialized accreditation agency. The Chancellor of each institution shall serve as the contact person for Higher Learning Commission accreditation reviews.

Each institution shall also appoint an accreditation liaison officer to serve as the facilitator for this process in collaboration with university administration, faculty, and staff. For specialized accreditation, each program's administrator will serve as the contact person.

Each institution shall also create an oversight body for program approval and review as well as a body for guiding assessment of student learning activities that align with accreditation standards. Institutions shall make public the results of assessment activities.

A representative from the UW System Board of Regents will participate in accreditation visits based on the direction of the Higher Learning Commission and the Chancellor of each UW institution. If an accreditation matter arises that falls under the administrative responsibility of a UW System Administration office, then the Chancellor of the institution may invite the System office to participate in the review.

## **Related Regent Policy Documents and Applicable Laws**

- Regent Policy Document 1-1, "Mission Statements"
- Regent Policy Document 4-12, "Academic Program Planning, Review, and Approval in the University of Wisconsin System"

See also:

• UW System Administrative Policy 175, "Accreditation Visits and Reports"

Thursday, February 6, 2020

Item F.

# REGENT POLICY DOCUMENT REVIEW: RPD 4-19, "NAMING OF UNIVERSITY ACADEMIC UNITS"

## **REQUESTED ACTION**

Adoption of Resolution F., which amends RPD 4-19, "Naming of University Academic Units," to incorporate provisions related to naming academic units for corporations or other legal entities.

**Resolution F.** That, upon the recommendation of the President of the University of Wisconsin System, the Board of Regents approves the amendment of Regent Policy Document 4-19, "Naming of University Academic Units," to establish standards and guidelines for naming academic units for corporations or other legal entities.

The Capital Planning and Budget Committee will consider a separate proposal to amend RPD 19-14, "Naming of University Facilities and Land," related to naming UW buildings, facilities, and lands for corporations or other legal entities.

## SUMMARY

This proposal requests that the Education Committee consider amending RPD 4-19, "Naming of University Academic Units" to establish standards for naming UW academic units for corporations or other legal entities. The Capital Planning and Budget Committee is considering a separate proposal to amend RPD 19-14, "Naming of University Facilities and Land," to establish standards for naming buildings, facilities, and land for corporations or other legal entities.

Both RPD 4-19 and RPD 19-14 address situations where UW institutions choose to name academic units, buildings, facilities or parcels of land to recognize the scholarship, service, or financial contributions of individuals. However, there is a growing national trend toward naming university facilities after corporate or other legal entities, usually in exchange for a financial contribution to the institution. Adoption of this proposal revises RPD 4-19 to incorporate considerations required when naming academic units for a corporation or other legal entity rather than an individual. Corporations or other legal entities include for-

profit businesses, non-profit organizations, foundations, trusts, or any similar nonuniversity organization.

## Presenter

• Quinn Williams, General Counsel, UW System Office of General Counsel

## BACKGROUND

One of the first actions taken by the newly formed UW System Board of Regents in December 1971 was the adoption of Resolution 53, codified as Regent Policy Document (RPD) 71-6, authorizing institutions to name university facilities and requiring the Board's Physical Planning and Development Committee to review proposals to name a building or facility after a person. Since then, the Board has modified the policy several times, most recently as part of the Board's Regent Policy Document review process in June 2016. At that time, the Board clarified the chancellor's authority to name parcels of land and outlined criteria the Board and chancellors should consider when naming UW buildings, facilities or lands. The policy was renumbered and renamed to RPD 19-14, "Naming of University Facilities and Land," and was reformatted to meet the standards for a Regent Policy Document. A copy of RPD 19-14 is included as Attachment A.

In December 2016, the Board also adopted a new policy, RPD 4-19, "Naming of University Academic Units." The policy requires Board approval before an institution names a college or school at a UW System institution and delegates authority to UW Chancellors to name departments, programs, and centers or other academic units. Similar to RPD 19-14, the policy also establishes criteria for the Board and UW Chancellors to consider when naming UW System academic units.

## **Corporate Naming Policies**

A review of governing board and administrative policies from other university systems found that policies vary significantly in terms of whether, and the extent to which, the policies identify procedures for naming a university facility for a corporate or other legal entity. For example, the University of Minnesota Board of Regents policy indicates that the university may name "significant University assets" after individuals or "non-University entities." Similarly, the University of Missouri's policy allows institutions to name university buildings, exterior areas, landmarks, and interior spaces after individuals or "organizations," that include foundations, trusts, not-for-profit entities, corporations or other legal entities. The University of Georgia System's Board policy allows "places, colleges, or schools," to be named in honor of an "individual, corporation, foundation, or organization." SUNY allows for naming assets on behalf of an individual or "legal entity." The University of Washington's Board rules allow buildings or outdoor spaces to be named for a corporation or organization in only "rare, exceptional situations" where the entity has made a gift representing a "substantial contribution" toward the cost of a project. The University of Illinois' campus administrative policy states that the name of a facility in honor of a commercial enterprise will be determined on a case-by-case basis.

The review also identified specific provisions, summarized as follows, outlining special considerations related to approving a corporate or other organizational name for a facility or academic unit. Each of these provisions were considered in the proposed revision of RPD 4-19 and RPD 19-14.

## Due Diligence

Several policies state that proposed names of university facilities or academic units for corporate or other legal entities requires "additional due diligence" beyond that required for naming a facility or administrative unit for individuals. The Board of Regents State of Iowa policy, the University of Nebraska, Ohio State University, and the University of Texas System Board all include provisions requiring "additional due diligence" before approving names for corporate or other legal entities. The policies further describe additional due diligence as follows:

- 1. A review to ensure there are no potential conflicts of interest or no appearance of commercial influence (lowa, Nebraska, Ohio State, and Texas).
- 2. A review of the potential impact upon the academic and research autonomy of the institution (lowa and Nebraska).
- 3. Evaluation of the impact on future giving by the donor or others (lowa and Nebraska).
- 4. Consultation with general counsel (Iowa, Nebraska, Ohio State, and Texas).
- 5. Consultation with the Board's bond counsel to determine whether the naming could impact existing or future tax-exempt bonds (Iowa, Nebraska, and Texas).

The University of Texas policy also requires the Offices of the Board of Regents and Business Affairs to ensure there are no conflicts or legal issues with a proposed naming. The Iowa Board policy also requires consultation, when appropriate, with the applicable fundraising arm of the institution to ensure compliance with applicable laws and regulations.

#### Logos and Branding

Two policies reviewed included provisions intended to prevent the appearance of commercial influence when naming facilities for corporations or other legal entities.

- The University of Nebraska's policy states that a name that includes a commercial enterprise may be assigned to a facility only if the use of the name will not result in the impermissible commercial endorsement or advertising benefitting the commercial enterprise.
- The University of North Carolina's policy includes a provision stating that signage reflecting a corporate or organizational naming of a facility must conform to all University signage guidelines and may not include the organization logo or other components of branding.

## **Duration of Facility Names**

While policies often state that facility names generally remain for the life of the building, area, or space, some policies include notable exceptions for facilities named for corporate or other legal entities.

- The University of Nebraska's policy states that naming a facility in honor of a commercial enterprise will have a set number of years attached to the naming, which will be determined on a case-by-case basis and included in a signed gift agreement associated with the naming of the facility. The duration of a commercial naming should not exceed 25 years.
- The University of Texas System policy states that corporate namings for athletics facilities, arts facilities, and museums, conference centers, and non-academic and non-health facilities may receive consideration with preference given to term limits for corporate namings.
- The University of Washington's administrative policy limits the number of years it will name a building for a corporation or organization to a period not exceeding 25 years. The University of Washington also created a separate policy provision for temporary naming rights for intercollegiate athletic facilities and playing fields, which limits naming rights for a fixed term of between five and ten years. The duration depends on the amount of the contribution received for the rights.

#### Naming for Donor Recognition

The Board of Higher Education (BHE) in Massachusetts uniquely established donor thresholds for approving naming rights. Under the policy, the Board considers approving the naming rights for a new building with a minimum donation of \$2,000,000, for renovated or repurposed buildings at \$1,500,000, and unnamed buildings for donations of \$1,000,000. The policy recognizes that individual institutions vary in size and naming rights are allowed for donations under the

established thresholds if approved by the BHE. The policy requires the foundation of the institution to receive the donation.

## Name Changes

Several policies also include provisions related to renaming university facilities, spaces, and academic units. In general, these provisions state that the university reserves the right to rename any facility.

- Pennsylvania State's administrative policy states that if the name of a corporation changes after an institution names a facility for the corporation, the name of the facility would remain the same, unless the Facilities Naming Committee recommends a change.
- The University of Nebraska's Board of Regents policy states that, "Once established, a commercial enterprise name assigned to a facility shall normally remain the same notwithstanding future changes in the commercial enterprise name." However, "in the event of a name change in the commercial enterprise, the Board of Regents may in the exercise of its sole discretion elect to remove the established commercial enterprise name from the Facility or to rename the Facility, if either such action is determined to be in the best interest of the University."
- The University of Washington's policy requires that a clause in any agreement with a corporation or organization stating that any name changes during the contract period will be at the University's sole discretion, subject to approval by the Board.

#### Name Removal

Many policies include a provision authorizing the removal of an approved name in extraordinary circumstances, most commonly in instances where the naming would damage the reputation of the university or when a benefactor fails to satisfy the financial commitment associated with the naming. Some examples include:

- The University of Georgia System's policy states that it is the Board's sole discretion, in consultation with the Chancellor, to remove a name "if warranted."
- lowa's policy allows for reconsideration of the naming in extraordinary circumstances if the prior approved naming may be damaging to the reputation of the Board or the institution, or contradictory to applicable law or the policies, procedures or strategic objectives of the institution.

- The University of Minnesota's Board policy states that the Board may revoke a naming if for any reason it presents risk or harm to the reputation of the University, or if the intent of a gift or terms of a sponsorship cannot be fulfilled. The president or a delegate has the authority to remove a name for namings not approved by the Board.
- Indiana University's policy states that the University reserves the right to withdraw a name under extraordinary circumstances in cases where the continued use of a name compromises the public trust and reflects adversely upon the University or in cases where a benefactor fails to satisfy a financial commitment.

## Facilities Financed with Governmental Tax-Exempt Bonds

State and local governmental units, including public universities, often finance the construction of buildings with use of tax-exempt governmental bonds. Universities must use particular care when naming such facilities to ensure they properly assess, monitor, and manage the facility's use so as not to jeopardize the university's tax-exempt status.

Both the UW System Office of General Counsel (OGC) and the Office of Capital Planning and Budget are resources for institutions in assessing and monitoring private business use in buildings financed in tax-exempt financed buildings. In Wisconsin, the Department of Administration (DOA) has bonding authority for the University of Wisconsin System. The UW System Administration's Office of Capital Planning and Budget coordinates capital budgeting issues between the Board of Regents, UW System institutions and with the State of Wisconsin Building Commission. The Office of Capital Planning and Budget is the primary contact between DOA's Capital Finance Office regarding the issue of private business use in tax-exempt funded university facilities.

The Office of Capital Planning and Budget will work with OGC and other administrative offices to ascertain if any proposed naming for a non-governmental entity will result in a private business use that affects the status of tax-exempt bonding.

#### Naming Academic Units

While many universities have named certain types of university buildings, such as stadiums and event centers, after private businesses, the use of a corporate or other legal entity name for academic buildings and academic units is more complex. In addition to the issues related to any naming, naming an academic building or unit

after a corporate or other legal entity has the potential to create perceived or actual conflicts regarding the academic and research autonomy of the institution.

For example, in 2007, the health insurance company Wellmark Blue Cross and Blue Shield offered the University of Iowa a \$15 million donation in exchange for possible naming rights of its College of Public Health. The proposal raised concerns that the arrangement could compromise the actual or perceived academic independence of the college. The university ultimately rejected the proposal and the gift was rescinded.<sup>1</sup>

While many policies do not distinguish between procedures for naming academic units from procedures for naming other university facilities, some university system policies expressly prohibit naming an academic unit for a corporate or other organizational entity.

- Indiana University's university policy states that, "major academic facilities and major academic organizations should be permanently named for individuals and not for corporate entities."
- The University of Texas Board Policy prohibits corporate namings for academic and health buildings, colleges and schools, and academic departments "with the exception of rare and special circumstances."
- Pennsylvania State University administrative policy also prohibits the use of corporate names for academic units.

## Proposed Revisions to RPDs 4-19 and 19-14

The proposed revisions to RPDs 4-19 and 19-14 recognize the need for additional due diligence when naming a university facility, parcel of land, or an academic unit for a corporate or other legal entity.

The policies are updated throughout to include references to naming for corporations and other legal entities, in addition to individuals. The policies define other legal entities to include for-profit businesses, non-profit organizations, foundations or trusts or any similar non-university organization.

<sup>&</sup>lt;sup>1</sup> "Iowa State Seeks to Name First Buildings after Businesses," The Gazette, April 05, 2018. Retrieved on July 9, 2019 from <u>https://www.thegazette.com/subject/news/education/iowa-state-seeks-to-name-first-buildings-after-businesses-20180405</u>

The proposed policies continue to delegate authority to UW chancellors for naming academic units other than colleges and schools, for naming portions of buildings, and for naming land for individuals as currently allowed under RPD 4-19 and 19-14.

Although some university systems prohibit the use of the name of a corporation or other legal entity for academic units, RPD 4-19 would allow such names to be used in rare and exceptional circumstances.

While UW institutions may name an academic unit or building for a variety of reasons, the policy includes a provision creating an expectation that institutions negotiate naming rights as one facet of a development strategy to leverage private support for the benefit of the university. The policy also allows UW institutions to consider the level of donor support as one factor when establishing a timeframe for a naming for a corporate or legal entity.

The policies include new provisions intended to ensure that naming agreements do not create a perception of commercial influence. The policies prohibit individuals, corporations or other legal entities with UW naming agreements from using the UW System or any UW institution's name, logo, or similar branding for commercial endorsement or advertising. The policy further prohibits university exterior or way-finding signage from including a corporation or other legal entity's logo or other components of branding, with the exception of the corporation or legal entity's name.

Both policies recognize that the naming of a building, area, space, or academic unit will be in effect for an established time period, which is to be determined on a case-by-case basis.

The policies each include a provision allowing the Board to maintain, change, or remove the name of a facility, parcel of land, or academic unit in cases where the name of a corporation or other legal entity changes during the term of the agreement with the UW System.

The policies include provisions retaining authority for the Board, or UW Chancellors in cases where chancellors have been delegated authority to approve the naming, to remove a name under certain exceptional circumstances. These circumstances may arise when continued use of the name could damage the reputation of the UW System or a UW System institution, when a donor or sponsor has not met the financial terms in a naming agreement, or for any other reason of similar severity as determined by the Board or the chancellor.

## **Related Policies**

• Regent Policy Document 19-14, "Naming of University Facilities and Land"

## ATTACHMENTS

- A) RPD 4-19, "Naming of University Academic Units" Current
- B) RPD 4-19, "Naming of University Academic Units" Proposed Changes
- C) Proposed changes to RPD 19-14, "Naming of University Facilities and Land" under consideration by the Capital Planning & Budget Committee

## ATTACHMENT A: CURRENT POLICY

#### Regent Policy Document 4-19, "Naming of University Academic Units" (Current Policy)

#### Scope

This policy applies to the naming of academic units at UW institutions.

#### Purpose

The purpose of this policy is to provide Board oversight of namings which may affect the reputational interests of the UW System by providing criteria to be applied when naming academic units (for example, schools and colleges).

#### **Policy Statement**

It is the preference of the UW System Board of Regents to commemorate individuals' contributions to academic excellence through the naming of scholarships, programs, professorships, and other similar actions. However, the Board recognizes that the naming of academic units may at times be an appropriate means of recognizing individuals' service, dedication to academic excellence, or financial contributions.

An academic unit for purposes of this policy is considered to be a school, college, department, program, center, or similar unit within a UW institution.

#### School or College

Naming of a college or school within a UW institution is subject to prior approval by the Board of Regents. A request to name or dedicate a college or school shall be made by the Chancellor of the institution. A Chancellor shall submit support for such a request, demonstrating consideration of the factors below, to the UW System Office for Academic and Student Affairs for review. Any proposed naming agreement also shall be reviewed by the UW System Office of General Counsel.

#### Department, Program or Center

The Chancellor of each institution is delegated the authority to name departments, programs, and centers, or other academic units other than colleges or schools.

#### Criteria

For all namings under this policy, the following factors shall be considered:

1. Whether the individual has promoted the purpose and mission of the UW System as expressed in s. 36.01, Wis. Stats.;

- 2. Whether the reputation of the individual may reflect negatively or adversely upon the UW System or a UW System institution;
- 3. Whether the individual is in compliance with any agreements with the UW System or a particular UW System institution;
- 4. Whether any existing agreements prohibit changing or adding a name to an academic unit;
- 5. Whether there is a plan for continued recognition of an individual for whom an academic unit was previously named; and
- 6. Whether the individual was employed by the UW System or has served as an elected or appointed public official. Normally, a waiting period of at least five years must have elapsed from the time the individual's UW employment ended or the individual left public office. Exceptions may be considered under certain circumstances, including when:
  - a. The individual is no longer living; or
  - b. A gift requests the naming.

## Oversight, Roles, and Responsibilities

The UW System Office for Academic and Student Affairs shall ensure all of the requirements of this policy are met prior to a chancellor's submitting a request to name a college or school within a UW institution to the Board of Regents.

## Related Regent Policies and Applicable Laws

Regent Policy Document 19-14, "Naming of University Facilities and Lands"

History: Res. 10788, adopted 12/08/2016, created Regent Policy Document 4-19.

## ATTACHMENT B: PROPOSED CHANGES TO RPD 4-19

#### 4-19 NAMING OF UNIVERSITY ACADEMIC UNITS (Proposed Changes)

#### Scope

This policy applies to the naming of academic units at UW institutions. <u>An academic unit for</u> <u>purposes of this policy is <del>considered to be</del></u><u>defined as a school, college, department</u>, <u>program, center, or similar unit within a UW institution.</u> Naming of academic buildings shall <u>be considered under the provisions of RPD 19-14</u>, "Naming of University Facilities and <u>Land."</u>

#### Purpose

The purpose of this policy is to provide Board oversight of namings <u>whichthat</u> may affect the reputational interests of the UW System by providing criteria to be applied when naming academic units (for example, schools and colleges).

#### **Policy Statement**

It is the preference of the UW System Board of Regents to commemorate individuals' contributions to academic excellence through the naming of scholarships, programs, professorships, and other similar actions. However, the Board recognizes that the naming of academic units may at times be an appropriate means of recognizing <u>individuals'the</u> service, dedication to academic excellence, or financial contributions<u>made by an</u> <u>individual, corporation, or other legal entity</u>.

Academic units under this policy may be named for individuals or, in exceptional and rare instances, for corporations or other legal entities. For the purposes of this policy, other legal entities include any for-profit business or non-profit organization, foundation, trust, or any similar non-university organization. An academic unit for purposes of this policy is considered to be a school, college, department, program, center, or similar unit within a UW institution.

#### School or College

Naming of a college or school within a UW institution is subject to prior approval by the Board of Regents. A request to name or dedicate a college or school shall be made by the Chancellor of the institution. A Chancellor shall submit support for such a request, demonstrating consideration of the factors below, to the UW System Office for Academic and Student Affairs for review. Any proposed naming agreement <u>for a school or college</u> also-shall be reviewed by the UW System Office of General Counsel to ensure compliance with this policy and any applicable law.

#### Department, Program or Center

The Chancellor of each institution is delegated the authority to name departments, programs, and centers, or other academic units other than colleges or schools.

## Criteria

For all any namings of an academic unit under this policy, including those delegated to <u>Chancellors</u>, the following factors shall be considered:

- 1. Whether the individual, <u>corporation or other legal entity</u> has promoted the purpose and mission of the UW System as expressed in s. 36.01, Wis. Stats.;
- 2. Whether the reputation of the individual, <u>corporation or other legal entity</u> may reflect negatively or adversely upon the UW System or a UW System institution;
- 3. Whether the individual, corporation or other legal entity is in compliance with any agreements with the UW System or a particular UW System institution;
- 4. Whether any existing agreements prohibit changing or adding a name to an academic unit;
- 5. Whether there is a plan for continued recognition of an individual<u>, corporation or</u> <u>other legal entity</u> for whom an academic unit was previously named; <del>and</del>
- 6. Whether the naming represents a potential conflict of interest, appearance of commercial influence, or could compromise the institution's academic or research autonomy; and
- 7. Whether the naming is compliant with applicable laws if the naming will occur in a building financed with tax-exempt governmental bonds.

<u>A naming for an individual shall consider</u> Wwhether the individual was employed by the UW System or has served as an elected or appointed public official. Normally, a waiting period of at least five years must have elapsed from the time the individual's UW employment ended or the individual left public office. Exceptions may be considered under certain circumstances, including when: Tthe individual is no longer living; or

 $+\underline{\mathbf{T}}$  ne individual is no longer living;

A<u>a</u> gift requests the naming.

## Use of Logos and Other Branding

Any individual, corporation or other legal entity for which an academic unit is named is prohibited from using the name, logo, or other component of branding of the UW System or any UW institution as a commercial endorsement or for advertising. University exterior

or way-finding signage shall not include the logo or other components of branding, with the exception of the corporation or legal entity's name.

## Duration of Naming

Names shall be for a specified number of years. The term of the agreement shall be determined on a case-by-case basis, which may vary depending on the level of support received by the UW institution from a donor.

#### Removing or Changing a Name

In certain circumstances, it may be necessary to remove or change a name assigned to an academic unit. The UW System Board of Regents retains the authority to remove or change a name of a college or school if the name presents a risk to the institution's reputation, if the donor or sponsor fails to meet the financial obligations of the naming agreement, or as otherwise deemed necessary by the Board. The Board also retains the authority to remove or change a name of any academic unit named for a corporation or other legal authority. UW Chancellors retain the authority to remove or change the name of a department, program, or center, or academic unit other than a college and school in cases where the academic unit is subject to approval by a UW Chancellor as allowed under this policy.

If the name of a corporation or other legal entity changes during the term of a naming agreement with a UW institution, the UW System Board of Regents may exercise its discretion to maintain, change, or remove the name.

Any naming agreement between the UW System and an individual, corporation, or other legal entity shall include provisions describing the UW System Board of Regents or UW Chancellor's authority to remove or change a name.

## Oversight, Roles, and Responsibilities

The Board of Regents is responsible for considering requests to name colleges and schools within the UW System and for naming other academic units except where delegated to chancellors.

\_The UW System Office for Academic and Student Affairs <u>and the Office of General Counsel</u> shall ensure all of the requirements of this policy are met prior to <del>a chancellor's</del> submitting a<u>n institutional</u> request to name a college or school <del>within a UW institution to the Board of Regents, as required under this policy</del>.

<u>UW Chancellors shall ensure all of the requirements of this policy are met prior to naming</u> <u>departments, programs, and centers, or other academic units other than colleges or</u> <u>schools.</u>

### **Related Regent Policies and Applicable Laws**

• Regent Policy Document 19-14, "Naming of University Facilities and Lands"

History: Res. 10788, adopted 12/08/2016, created Regent Policy Document 4-19.

# ATTACHMENT C: PROPOSED CHANGES TO RPD 19-14 (For Information Only)

THE FOLLOWING POLICY IS UNDER CONSIDERATION FOR REVISION BY THE CAPITAL PLANNING & BUDGET COMMITTEE. THE POLICY AND PROPOSED REVISIONS ARE INCLUDED FOR INFORMATION ONLY.

#### RPD 19-14, "Naming of University Facilities and Lands" (Proposed Policy)

#### Scope

This policy applies to the naming of facilities, buildings, and land owned or otherwise controlled by the University of Wisconsin System Board of Regents.

#### Purpose

The purpose of this policy is to protect the assets and reputation of the UW System by providing criteria to be applied when naming a building, a facility that constitutes less than a building, and land within the campus boundaries. In addition, the policy clarifies expectations as related to the continued recognition for previously named buildings, facilities, and land.

#### **Policy Statement**

It is the preference of the Board of Regents to commemorate individuals' contributions to academic excellence through the naming of scholarships, programs, professorships, and other similar actions. However, the Board recognizes that, from time to time, there may be a desire to name university facilities or portions of the university's buildings or land after an individual-or individuals, corporation, or other legal entity. It is expected that UW institutions negotiate naming rights as one facet of a development strategy to leverage private support for the benefit of the university.

<u>Facilities, buildings, and land covered by this policy may be named for individuals,</u> <u>corporations, or other legal entities.</u> For the purposes of this policy, other legal entities <u>include any for-profit business or non-profit organization, foundation, trust, or any similar</u> <u>non-university organization.</u>

Naming of an entire building is subject to prior approval by the Board of Regents. A request to name or dedicate a building shall be made by the chancellor of the institution. A chancellor shall submit support for such a request, demonstrating consideration of the factors below, to the UW System Office of Capital Planning and Budget for review. Any proposed naming agreement for an entire building shall also be reviewed by the UW

System Office of General Counsel to ensure compliance with this policy and any applicable laws.

The chancellor of each institution is delegated the authority to name:

- facilities, when the naming involvesing less than an entire building, such as rooms, wings, or exterior amenities; and
- parcels of land.

For <u>allany</u> namings under this policy, <u>including those delegated to Chancellors</u>, the following factors shall be considered:

- 1. Whether the individual, corporation or other legal entity has promoted the purpose and mission of the UW System as expressed in s. 36.01, Wis. Stats.;
- 2. Whether the reputation of the individual<u>, corporation or other legal entity</u> may reflect negatively or adversely upon the UW System or a UW System institution;
- 3. Whether the individual<u>, corporation or other legal entity</u> is in compliance with all agreements with the UW System or a particular UW System institution;
- 4. Whether any existing agreements prohibits changing or adding a facility name;
- 5. Whether there is a plan for continued recognition of the individual<u>, corporation or other legal entity</u> for whom a building, facility, or land was previously named. A plan for continued recognition is required unless an institution can demonstrate why such recognition is no longer needed. Examples of continued recognition include such methods as a plaque, an appropriately placed monument, or incorporation of a cornerstone; and
- 6. Whether the naming represents a potential conflict of interest, appearance of commercial influence, or could compromise the institution's academic or research autonomy; and
- 7. Whether the naming is compliant with applicable laws if the naming will occur in a building financed with tax-exempt governmental bonds.

<u>A naming for an individual shall consider Ww</u>hether the individual was employed by the UW System or has served as an elected or appointed public official. Normally, a waiting period of at least five years must have elapsed from the time the individual's UW employment ended or the individual left public office. Exceptions may be considered under certain circumstances, including when:

\_<u></u><u>+</u><u>t</u>he individual is no longer living<del>;</del> or

A<u>a</u> gift requests the naming.

## Use of Logos and Branding

Any individual, corporation or other legal entity for which a UW facility, building or parcel of land is named is prohibited from using the name, logo, or other component of branding of the UW System or any UW institution as a commercial endorsement or for advertising.

<u>University exterior or way-finding signage shall not include the logo or other components</u> of branding, with the exception of the corporation or legal entity's name.

## Duration of Naming

Names shall be for a specified number of years. The term of the agreement shall be determined on a case-by-case basis, which may vary depending on the level of private support received by the UW institution from a donor.

#### Removing or Changing a Name

In certain circumstances, it may be necessary to remove or change a name assigned to a facility, building, or parcel of land. The UW System Board of Regents retains the authority to remove or change a name of a facility, building, or parcel of land if the name presents a risk to the institution's reputation, if the donor or sponsor fails to meet the financial obligations of the naming agreement, or as otherwise deemed necessary by the Board. The Board delegates authority to the UW Chancellor of the institution to remove or change the name of a facility, building or parcel of land if the name presents a risk to the institution, if the donor or sponsor fails to meet the financial obligations of the naming agreement, or as otherwise deemed necessary by the Board.

If the name of a corporation or other legal entity changes during the term of a naming agreement for a building, the Board of Regents may exercise its discretion to maintain, change, or remove the name.

Any naming agreement between the UW System and an individual, corporation, or other legal entity shall include provisions describing the Board or Chancellor's authority to remove or change a name.

## Oversight, Roles, and Responsibilities

The Board of Regents is responsible for the physical assets of the UW System and for considering requests to name an entire <u>facility or building</u>, as well as for naming portions <u>of facilities or buildings or parcels of land named except where delegated to chancellors</u>.

The UW System <u>Office of General Counsel and the</u> Office of Capital Planning and Budget shall ensure all of the requirements of this policy are met prior to <del>a chancellor's</del> submitting a<u>n institutional</u> request to <del>name a building to the</del> Board of Regents for consideration of a naming of a facility, building or parcel of land as required under this policy.

UW Chancellors shall ensure all of the requirements of this policy are met prior to naming facilities involving less than an entire building, such as rooms, wings, or exterior amenities, or parcels of land.

#### **Related Regent Policies and Applicable Laws**

- Regent Policy Document 4-19, "Naming of University Academic Units"
- Regent Policy Document 19-5, "Authorization to Remove Unneeded Structures"

History: Res. 53, adopted 12/17/1971, created Regent Policy Document 71-6; Res. 674, adopted 02/08/1974, created Regent Policy Document 74-1; Res. 2112, adopted 03/07/1980, revised Regent Policy Document 71-6 and created Regent Policy Document 80-1; Res. 5205, adopted 04/07/1989, amended Regent Policy Document 80-1; Res. 5415, adopted 02/02/1990, rescinded Regent Policy Documents 74-1 and 80-1, and created Regent Policy Document 90-1; Res. 7166, adopted 03/08/1996, rescinded Regent Policy Document 90-1; and created Regent Policy Document 96-1; subsequently renumbered 19-14; Res. 9154, adopted 03/10/2006, amended Regent Policy Document 19-14; "Naming of University Facilities and Lands."

February 6, 2020

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# REPORT OF THE VICE PRESIDENT FOR ACADEMIC AND STUDENT AFFAIRS

## **REQUESTED ACTION**

For information only.

## SUMMARY

The Vice President will provide a brief update on the UW System Task Force for Advancing Teachers and School Leaders for Wisconsin. In so doing, the Vice President will report that the Education Committee will receive the Task Force report at its April 2, 2020 meeting. The report will respond to the two questions set forth in the Task Force charge letter, which are:

- 1) How can the UW System work collaboratively with key stakeholders to develop financial incentive programs for students to: improve affordability, reduce student loan debt, address teacher workforce shortages in Wisconsin, and increase access, enrollment, and graduation from teacher education and administrative leadership programs at UW Colleges and Schools of Education?
- 2) How can the UW System engage with key stakeholders to understand their concerns, and to consider how to raise public esteem for the teaching profession in the State of Wisconsin?

As required by Regent Policy Document 4-8: Remedial Education Policy, the Vice President will lead a discussion on remedial education. The topics for discussion will be not only remedial education within the UW System, but also the college and career readiness of students within State of Wisconsin public schools. This discussion will be led by representatives from the UW System, together with representatives from the State of Wisconsin Department of Public Instruction.

#### Presenters

- Dr. Anny Morrobel-Sosa, Vice President for Academic and Student Affairs, UW System
- Dr. Sheila Briggs, Assistant State Superintendent, State of Wisconsin, Department of Public Instruction
- Dr. Jennifer Kammerud, Policy Initiatives Adviser, State of Wisconsin, Department of Public Instruction
- Alice Pulvermacher, Research Projects Director, UW System

February 6, 2020

## RESOLUTION REQUESTING THAT THE UW SYSTEM EXPLORE FUNDING OPPORTUNITIES AND SOLUTIONS IN SUPPORT OF THE UW SYSTEM REMEDIAL EDUCATION PROGRAMS AND THE TASK FORCE FOR ADVANCING TEACHERS AND SCHOOL LEADERS FOR WISCONSIN

#### **REQUESTED ACTION**

Adoption of Resolution G.3., requesting that the UW System President explore funding and solutions in support of the UW System Remedial Education programs and the Task Force for Advancing Teachers and School Leaders for Wisconsin.

Resolution G.3.: The Education Committee requests that the UW System explore funding and solutions in support of the UW System Remedial Education Programs and the Task Force for Advancing Teachers and School Leaders for Wisconsin. Specifically, the Education Committee requests that the UW System explore how to enhance teacher and school leader preparation for high need fields in Wisconsin.

#### SUMMARY

This resolution responds to the report given by the UW System Vice President for Academic and Student Affairs, Dr. Anny Morrobel-Sosa. The Vice President's Report focused on two topics:

- 1) An update on the forthcoming report from the UW System Task Force for Advancing Teachers and School Leaders for Wisconsin, and
- 2) A report on Remedial Education within the UW System, as required by Regent Policy Document 4-8: Remedial Education Policy.

This resolution requests that the UW System advance educational opportunity for all Wisconsin students by exploring funding and solutions in support of both the UW System Remedial Education programs and the UW System Task Force for Advancing Teachers and School Leaders for Wisconsin.

#### Presenter(s)

• Dr. Anny Morrobel-Sosa, UW System Vice President for Academic and Student Affairs

## **Related Policies**

• Regent Policy Document 4-8: Remedial Education Policy

## ATTACHMENTS

- A) Charge letter to the Task Force for Advancing Teachers and School Leaders for Wisconsin
- B) Remedial Education Presentation
#### Vice President of Academic and Student Affairs



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e-mail: kschmitt@uwsa.edu website: www.wisconsin.edu

DATE:	January 11, 2019
TO:	UW System Task Force for Advancing Teachers and School Leaders in the
	State of Wisconsin
FROM:	Karen Schmitt, Interim Vice President for Academic and Student Affairs
RE:	Charge to the Task Force Members

**Background.** On July 6, 2017, Education Committee Chairperson, Regina Millner initiated discussion with the Board of Regents regarding an initiative related to teacher education. Regent Millner sought an analysis of how to respond to reduced enrollment in our UW System Schools and Colleges of Education, as well as how best to provide teachers and leaders for Wisconsin schools, especially for rural school districts and in response to demand for teachers in high need content areas. Over the past year, the UW Board of Regents Education Committee has convened an educational series of speakers and panels to report on challenges and opportunities in teacher and school leader preparation and retention at both the state and national levels. After discussion of these critical issues with the Education Committee at the December 2018 Board of Regents meeting, the UW Office of Academic and Student Affairs (OASA) was asked to charge a task force to address the following priority challenges, questions, and substantive issues, and to develop an evidence-based report with actionable proposals.

**Priority Challenges.** Based on the information reported to the Education Committee, we have identified two priority challenges that are of particular concern:

- 1) The decline in enrollments across all of the UW System Schools and Colleges of Education not only in teacher education programs, but also in teacher certification and school leadership programs; and
- 2) The low number of certified teachers and qualified administrators graduating from UW System Schools and Colleges of Education programs relative to the high-demand for these educators across the State of Wisconsin.

**Questions to Address.** As a result of these challenges, I request that you develop an evidence-based report with actionable proposals to address the two following questions:

- 1) How can the UW System work collaboratively with key stakeholders to develop financial incentive programs for students to: improve affordability, reduce student loan debt, address teacher workforce shortages in Wisconsin, and increase access, enrollment, and graduation from teacher education and administrative leadership programs at UW Colleges and Schools of Education?
- 2) How can the UW System engage with key stakeholders to understand their concerns, and to consider how to raise public esteem for the teaching profession in the State of Wisconsin?

In order to facilitate your work, please know that UW System staff and faculty experts from UW-Madison have worked collaboratively to identify key issues and questions regarding higher education financial incentive programs. In addition, these staff members and faculty experts will continue to support and provide resources for the Task Force during the pendency of this project.

**Substantive Issues to Address.** Accordingly, the Task Force is encouraged to address within the report the following issues related to both financial incentive programs and public esteem for the teaching profession:

- 1) Financial Incentive Program: What are the optimal parameters for a successful financial incentive program for graduates who become certified by the Wisconsin Department of Public Instruction, and serve either as teachers or school leaders in Wisconsin School Districts?
- 2) <u>Cost Coverage</u>: What direct costs could be covered by a financial incentive program for eligible students while enrolled in UW System Schools and Colleges of Education programs (tuition, fees, living expenses)?
- 3) Governance and Coordination: How can UW System ensure coordinated oversight of the program with existing scholarship and loan forgiveness programs, including but not limited to:
  - The <u>Teacher Loan Forgiveness Program</u>, which is offered by the US Department of Education.
  - The <u>Teacher Loan Program</u>, which is administered by the State of Wisconsin Higher Education Board.
  - Bucky's Tuition Promise, which is administered by UW-Madison and available to all undergraduate students.
- 4) Administration: How is the program and associated funding to be administered and evaluated to ensure financial sustainability, responsiveness to state needs, continuous improvement and ongoing success?
- 5) <u>Research</u>: How can the program evaluation structure provide research opportunities for university scholars, so as to develop a model program, which inspires other states across the country to emulate our best practices and success?
- 6) Retention in the Profession: How can we work with key stakeholders to increase retention of teachers and school leaders in the State of Wisconsin? In particular, how can we utilize student transfer, existing programs, and "grow your own" degree programs to incentivize retention in high need fields and school districts?
- 7) <u>Communication</u>: How can we develop communication and implementation strategies to help Wisconsin residents understand the opportunities afforded by participation in a financial incentive program? For example, high school advisors, as well as college recruiters and advisors, could assist us in building public knowledge about the program, which would, in turn, increase enrollment in Schools/Colleges of Education.

The Task Force will be co-chaired by Diana Hess, Dean of the School of Education at UW-Madison; and Deborah Kerr, Superintendent of Schools, Brown Deer School District. Dr. Laura Dunek, UW System Special Assistant for Governance and Strategic Initiatives will provide support for the Task Force by convening meetings, fulfilling research requests, and writing draft materials for final approval by the Task Force.

It is my expectation that this work will be accomplished in a focused and timely manner in order to provide a report to UW System Office of Academic and Student Affairs by May 1, 2019 for presentation to the Board of Regents Education Committee on June 6, 2019.

Thank you for your willingness to participate in this important effort. Your engagement will provide the needed expertise and enthusiasm for this initiative to ensure its success.

CC: President Ray Cross Regents Chancellors Provosts

## **Remedial Education in the UW System**

Anny Morrobel-Sosa

Vice President, Academic and Student Affairs

Education Committee, February 6, 2020



## Presentation Overview

- DPI Overview of WI K-12 Student Population
- Developmental Education in UW System
- UW System Math Initiative
- Explore UW System English Initiative
- Q&A

Wisconsin Department of Public Instruction Education Committee – February 6, 2020

### Dr. Sheila Briggs Assistant State Superintendent

Jennifer Kammerud Senior Policy Advisor



## **Wisconsin K-12 Education**





### **Snapshot of School Enrollment**



Sources: Department of Public Instruction. 2017-18 data warehouse data

Private School Enrollment Data https://dpi.wi.gov/wisedash/download-files/type?field wisedash upload type value=Enrollment-Private-School&field wisedash data view value=All



### **K-12 Student Demographics**





### **Public School Enrollment 2018-19**

### Race & Ethnicity

Two or More Races 4.1%

American Indian 1.1% Asian 4.0% Black or African American 9.1% Hispanic 12.3% Pacific Islander 0.1% White 69.3%

	Percentage Total Student Population
Students with a disability	14.0
Economically disadvantaged	40.7
English Language Learners	6.0





Wisconsin

**FRL Rate** 

**Doubles** 

2001: 21%

2014: 42%

2019: 41%

### Poverty is Growing in Wisconsin Change in Free & Reduced Lunch (2007-2019)

Percent of Students Eligible for Free/Reduced Lunch School Year 2006-07



Statewide, 1 in 4 districts have student populations that are more than 50% economically disadvantaged.



Source: Department of Public Instruction WISEdash (https://wisedash.dpi.wi.gov/).



25,000

### **Homeless Student Population**

### Homeless Student Enrollment in Wisconsin 2003-2018







### **Students are in Fewer Districts**

Change Student Membership (2007-2019)

### **Declining Enrollment**

The number of districts with declining enrollment continues to increase from 53% in 2006-07 to 62% in 2018-19.

Today, 75% of our students are located in just **29% of our** districts.

Percentage Change in Enrollment from 2005-06 Base School Year 2006-07



	Cumulative Enrollment	Percentile	# of Districts	% of Districts	
	212,288	25%	9	2%	
Loss more than 20%	421,268	50%	43	10%	
Loss 1-5% Stable (-1% to 1%)	636,606	75%	123	29%	
Gain 1-5% Gain 5-10%	District En	nrollment	% of I	Districts	
Gain 20% or more	Under 3,00 Under 10,0	00	83% 98%		

Source: WISEdash (https://wisedash.dpi.wi.gov/)





## Rural Districts Fewer Students, Greater Poverty

Population Change and Major Highways 2018-19









### **Poverty Impacts Achievement**





Source: Wisconsin Department of Public Instruction. School and District Report Cards https://dpi.wi.gov/accountability/report-cards



### **Graduation to Postsecondary**



### **State Graduation Requirements**

Subject	Credits
English	4
Math	3
Science	3
Social Studies	3
Physical Education	1.5
Health	0.5
Total	15

\*Under Wis. Stats. 118.33 agriculture and career and technical education courses shall count for science credit and computer science or career and technical education courses for a math credit if determined equivalent.





### **Improving Outcomes – State Systems**

- State and Federal Accountability
- Positive Behavioral Interventions and Supports (PBIS)
- Response to Intervention (Rtl)
- Educator Effectiveness
- WISH Center
- WISEdash for Districts
  - FAFSA Completion Data
  - Data Inquiry Tools

- DEWS: Dropout Early Warning System
- CCREWS: College and Career Early Warning System
- High School Feedback Reports (Pilot with UWSA)
- Academic Standards
- Wisconsin Urban Leadership Institute





### **Ensuring Effective Transitions**

### Academic and Career Plans (ACP)

- Required Grades 6-12
- Online accounts for students
  - Career-related assessments
  - Career and college profiles
  - Financial aid and employment information
  - Direct connection with regional employers (WEDC's Inspire)
- Evaluated by UW-Madison's Wisconsin Evaluation Collaborative



Career Pathways Development (Partnership with WTCS, UWSA, WAICU)

- Specific ACPs for select occupations
- Align education and training for regional job market
- Employer partnerships with schools



## **UW System Remedial Education**



## Remediation Required and Completed





18

# Remediation is an Equity Issue

Fall 2018 New Freshmen	Remedial Math Required	<b>Remedial English Required</b>			
Total	18%	6%			
Underrepresented Minority	31%	12%			
Lower Income	27%	9%			
First Generation	25%	9%			
Nontraditional Age	29%	12%			
Data show fall 2018 new freshmen.					



# Background: 2015 Big Goals

- Reduce the number of incoming students needing remedial math
- Increase first year completion rate of students who require remedial math





## UW System Math Initiative https://www.youtube.com/watch?v=9aJaA-UN5i0



# Math Initiative Goals and Strategies

### Goals

- Ensure transferability and applicability of gateway mathematics
- Reduce the need for developmental mathematics courses
- Improve success of students in developmental and gateway mathematics

### Strategies

- Agreement on learning outcomes for gateway math
- Updated transfer for gateway math
- Multiple measures for math placement
- Bridge programs
- Math pathways
- Co-requisite developmental math
- Student success strategies



## Reduce Need for Developmental Math

- Multiple measures
- Bridge programs
- Math pathways





## Improve Success in Developmental Math

- Active learning
- Student success strategies
- Co-requisites





## Co-requisites reduce steps & improve success



Enrollment and C- or better grade in remedial and credit-bearing math within first year, by type of remedial math, among UW System new freshmen entering fall 2018, requiring remedial math, and enrolling in a remedial math course.



## Collaborate across WI education systems



# Explore English Initiative

- Analyze institution and system level developmental English course data
- Examine how to apply the Math Initiative model to future student success initiatives







Office of Academic & Student Affairs wisconsin.edu/offices/office-of-academicand-student-affairs/

Math Initiative <u>wisconsin.edu/math-initiative/</u>



February 6, 2020

#### Item H.

### RENEWAL OF CHARTER SCHOOL CONTRACT, LA CASA DE ESPERANZA CHARTER SCHOOL

#### **REQUESTED ACTION**

Adoption of Resolution H., approving the renewal of the charter school contract with La Casa de Esperanza, Inc., to continue the operation of a public charter school known as La Casa de Esperanza Charter School, for a period of four years, effective July 1, 2020 until June 30, 2024.

**Resolution H.:** That, upon the recommendation of the Chancellor of the University of Wisconsin-Milwaukee and the President of the University of Wisconsin System, the Board of Regents approves the renewal of the charter school contract with La Casa de Esperanza, Inc., maintaining a public school known as La Casa de Esperanza Charter School.

#### SUMMARY

The University of Wisconsin-Milwaukee (UWM) Office of Charter Schools submits this request to approve the renewal of the charter school contract with La Casa de Esperanza, Inc., maintaining a charter school known as La Casa de Esperanza Charter School.

La Casa de Esperanza, Inc. (La Casa, Inc.) was awarded its initial charter by the UW System Board of Regents in February 2015 and opened La Casa de Esperanza Charter School in September 2015. The school was approved for a five-year contract, effective July 1, 2015 until June 30, 2020. In 2019, the UWM Office of Charter Schools undertook an extensive review process that began with the submission of a renewal application by La Casa de Esperanza Charter School in September 2019, and the site visit by the UWM Office of Charter Schools' Evaluation Committee in November 2019. The results of the review from the UWM Evaluation Committee's site visit are detailed in the La Casa de Esperanza Performance Framework Data Dashboard as Attachment A.

The contract negotiated with La Casa, Inc., meets all the requirements of the UW-Milwaukee charter school contract. La Casa, Inc., is prepared to operate La Casa de Esperanza in accordance with all applicable state and federal requirements for charter schools. The University of Wisconsin System Office of General Counsel reviewed the contract. The full contract is available at the web link below: https://panthers-my.sharepoint.com/:b:/g/personal/dborders\_uwm\_edu/Eb08\_yolOLpEiHjzQdwXgAB2xsJdc-Lq1kQquRNdoiTbQ?e=4%3aNdbcPD&at=9

#### Presenters

- Johannes Britz, Provost, UW-Milwaukee
- Adrienne Woods, Director, Office of Charter Schools, UW-Milwaukee

#### BACKGROUND

#### Legislative Background

In 1997, the Wisconsin Legislature authorized the University of Wisconsin-Milwaukee (UWM) to grant charters in the city of Milwaukee under s. 118.40(2r), Wis. Stats. A school so authorized and approved by the UW System Board of Regents is eligible to receive public funds to operate a public charter school. These public schools, frequently referred to as "2r" charter schools, are independent schools with their own board of directors, and are not charters associated with public school districts. In addition to the "2r" charter schools in Wisconsin have been established by public school districts.

In the 2013 session of the Wisconsin Legislature, UWM's chartering authority was expanded from the geographic boundaries of the city of Milwaukee only, to a new boundary area defined as "only Milwaukee county and adjacent counties." Then under 2015 Wisconsin Act 55, the University was permitted statewide chartering authority effective July 15, 2015. With the expanded authority, the mission of the Office of Charter Schools (Office) continues to be focused on authorizing charter schools in the city of Milwaukee primarily and in other urban areas in Wisconsin where students have limited access to a variety of high-quality educational options.

UWM public charter schools are required to participate in the statewide assessment system, submit annual audits, report enrollment and fiscal claims of information to the Wisconsin Department of Public Instruction, are eligible to participate in the wide array of federal programs, and must report data as required by these programs.

#### **UWM Office of Charter Schools Review and Renewal Process**

Requests for contract renewal of an existing charter school are made by July 1 of the final year of the contract, and the evaluation process occurs during the fall of the final year of the contract. Renewals are ordinarily granted by the Board of Regents for five years except if performance issues warrant a shorter review interval for checking on progress towards improvements and specific metrics. The Performance Framework drafted by the UWM Office of Charter Schools was implemented beginning with the 2016-17 school year, and it

is the standard to which all UW-Milwaukee charter schools are held for academic, financial, and organizational performance. The Performance Framework is the guide for determining a baseline renewal recommendation, which is shared with the Evaluation Committee. The Evaluation Committee reviews the comprehensive renewal application, and committee members conduct a full-day site visit before making the final renewal recommendation, which is provided to the director of the UWM Office of Charter Schools and then to the Chancellor. This Performance Framework ensures adherence to principles and standards of the National Association of Charter School Authorizers (NACSA), as required by s. 118.40(3m)(b), Wis. Stats.

#### School Profile and Educational Program

La Casa de Esperanza Charter School is located at 410 Arcadian Avenue in Waukesha, Wisconsin. The school currently provides an academic program to students from K4 through fourth grade and will be adding fifth and sixth grade in the 2020-21 school year followed by seventh and eighth grade in the next two consecutive years.

A two-way, dual language strand will be added school-wide, along with the School's English language instruction strand in K4 to 8th grade. An 80/20 model will be used in order to ensure that the school's English-speaking students have the opportunity to become bilingual. These children will likely only be hearing Spanish spoken in school, so once they leave school, their environment is English speaking. On the other hand, the Spanish-speaking students will be surrounded with English upon leaving the school and will, therefore, be able to master the English language. The school wants to ensure that its English-speaking students are exposed to the Spanish language as much as possible to develop the Spanish language in which they will be learning.

The school will also be utilizing biliteracy instruction in the two-way, dual language classrooms. In K4 and K5, this will be utilized in social studies and science where initial instruction will be in Spanish. Beginning in first grade, the school will utilize this model in literacy. Following this model, teachers will do initial instruction in Spanish, followed by bridging activities to connect the two languages, and then an extension activity in English.

The school will utilize Pearson's Envision Math Curriculum in grades K5 to eighth, which is research-based and standards-based. It uses blended instruction (digital and print) and can be customized.

All curriculum is aligned with the Common Core Standards in K5 through 8th grade and the Wisconsin Early Model Learning Standards in K4. Progress is monitored through NWEA's MAP assessments that are administered three times per year. Language acquisition will be monitored through WIDA's ACCESS assessment (English) and WIDA's Podemos assessment (Spanish). English Language Learners and special education students will be supported by qualified personnel in academic areas.

Financial literacy instruction will continue to be offered through La Casa's Center for Financial Stability. The school's after-school academic program will continue to include homework help. The school's after-school enrichment program currently includes violin lessons, soccer, Spanish classes, Girls on the Run, robotics, literacy, and board game clubs, and will continue to be expanded and modified in the next four years to address students' interests and needs.

#### **Governance and Leadership**

The La Casa de Esperanza Charter School will be operated by La Casa de Esperanza, Inc., a nonprofit, community-based organization that was founded in 1966. La Casa de Esperanza, Inc. is governed by a seven- to nine-member Board of Directors. La Casa de Esperanza, Inc. is led by Mr. Anselmo Villarreal, Ph.D., who reports to the Board of Directors.

The La Casa de Esperanza Board of Directors will ultimately be responsible for ensuring compliance with all applicable laws and regulations related to the school. The Board of Directors includes a chairperson, chairperson-elect, secretary, and treasurer. The current composition of the Board includes members with expertise in areas of education, legal, finance, business, human resources, medical, and marketing. The composition will be further examined, and the number of members potentially expanded, to ensure that expertise in all areas necessary for governance of a charter school is represented. The Board holds regular meetings four times per year and holds its annual meeting in November. The Board also utilizes three committees including executive and governance, education, and finance and risk management. Current ad-hoc committee meets four times per year, with the exception of the ad-hoc committees, which meet as needed. All minutes of committee meetings are approved by the Board of Directors.

The La Casa de Esperanza, Inc. Board of Directors will delegate general school oversight to the education committee, a subcommittee of the Board of Directors. The Education Committee will be responsible for reviewing, advising, and ensuring achievement. The Education Committee will be responsible for monitoring the school's programs and services, and developing, reviewing, and recommending financial and educational policies of the school. The Education Committee is responsible for providing the La Casa de Esperanza, Inc. Board of Directors with regular reports about its activities and the status of the school. Members of the Education Committee will be appointed by the Board of Directors of La Casa de Esperanza, Inc.

#### **Financial Condition and Compliance**

La Casa de Esperanza is in compliance with its budgets, audits and overall remains financially sound. Overall, La Casa de Esperanza Charter School met 56.3% of the financial performance measures outlined in the Performance Framework. The attached

Performance Framework Data Dashboard further details the school's financial performance.

#### Legal and Contractual Requirements

All other legal and contractual compliance items required by the UWM Office of Charter Schools, including state and federal regulations, have been met by La Casa de Esperanza. Overall, the school met 95.9% of the organizational performance targets outlined in the Performance Framework. The attached Performance Framework Data Dashboard further details the school's organizational performance.

#### **Academic Performance**

Overall, La Casa de Esperanza Charter School met 50% of the academic performance targets outlined in the Performance Framework. The attached Performance Framework Data Dashboard further details the school's academic performance.

#### **Recommendations for Improvement**

Based on the review and analysis of La Casa de Esperanza Charter School renewal application and the observations during the renewal site visit, below are recommendations for continued improvement as suggested by the UWM Office of Charter Schools' Evaluation Committee on November 7, 2019:

- 1. Create a plan for implementation of the dual language program
- 2. Create mission-specific measures for academic achievement in Spanish
- 3. Provide stabilization of leadership and create a succession plan

La Casa de Esperanza Charter School must address the recommendations and submit responses to the UWM Office of Charter Schools by June 1, 2020.

#### **Recommendation for Board of Regents Approval**

Based on the findings and recommendations of the comprehensive review of the UWM Office of Charter Schools' Evaluation Committee, the UWM Office of Charter Schools, Provost Britz, and Chancellor Mone recommend that the renewal of the charter for La Casa de Esperanza Charter School be approved by the Board of Regents for a four-year contract renewal beginning on July 1, 2020 and ending June 30, 2024.
# **Previous Action**

On February 6, 2015, the Board of Regents approved the initial charter school contract with La Casa de Esperanza, Inc., to operate a charter school known as La Casa de Esperanza Charter School, effective July 1, 2015 through June 30, 2020.

# ATTACHMENTS

A) La Casa de Esperanza Performance Framework Data Dashboard

#### La Casa de Esperanza Charter School Data Dashboard

La Casa de Esperanza Charter School is currently in the 5<sup>th</sup> year of its 5-year contract that began in 2015-16.

Figure 1: Enrollment and Demographics

	2015-16	2016-17	2017-18	2018-19
Total Enrollment	82	118	146	154
English Language Learners	4.9%	3.4%	2.1%	3.9%
Free/Reduced Lunch	12.2%	5.9%	8.9%	68.8%
Special Education	7.3%	4.2%	12.3%	10.4%
African American	15.9%	19.5%	26.7%	25.3%
Hispanic	64.6%	48.3%	47.3%	48.7%
White	15.9%	25.4%	19.9%	18.2%

Figure 2: School Report Card. Target: Receive an Overall Accountability Rating of 3, 4, or 5 stars or a
Satisfactory using the Alternate Rating. La Casa de Esperanza met this target in 2016-17 and 2018-19

Year	<b>Overall Accountability Score</b>	<b>Overall Accountability Rating</b>	
2015-16	No Report Card	No Report Card	
2016-17	Alternate Rating	Satisfactory Progress	
2017-18	Alternate Rating	Needs Improvement	
2018-19	Alternate Rating	Satisfactory Progress	

Figure 3: State English/Language Arts (ELA) Assessment Achievement. Target: Percent of students in the school scoring proficient or advanced on the state assessment in ELA is at least the average of the percent proficient or advanced in all schools in the local district and the state. La Casa de Esperanza Charter School first administered the Forward Exam in 2018-19, as it was the first year that the school had students in a tested grade (Grade 3). Only 18 students were enrolled in that grade, and their results were compared to the 3<sup>rd</sup> grade results in Waukesha and the state. La Casa de Esperanza Charter School failed to meet the target in 2018-19.



Figure 4: State Math Assessment Achievement. Target: Percent of students in the school scoring proficient or advanced on the state assessment in math is at least the average of the percent proficient or advanced in all schools in the local district and the state. La Casa de Esperanza Charter School first administered the Forward Exam in 2018-19, as it was the first year that the school had students in a tested grade (Grade 3). Only 18 students were enrolled in that grade, and their results were compared to the 3<sup>rd</sup> grade results in Waukesha and the state. La Casa de Esperanza failed to meet this target in 2018-19.



Figure 5: State ELA Assessment (Local/Comparable). Target: Percent of students in the school scoring proficient or advanced on the state assessment in ELA is the same or higher than neighborhood or demographically comparable schools. La Casa de Esperanza failed to meet this target in 2018-19.



Figure 6: State Math Assessment (Local/Comparable). Target: Percent of students in the school scoring proficient or advanced on the state assessment in math is the same or higher than neighborhood or demographically comparable schools. La Casa de Esperanza failed to meet this target in 2018-19.



	La Casa	Banting	Blair	Hadfield	Whittier
% Minority	81.8%	71.4%	76.3%	44.6%	65.0%
% Econ Dis	68.8%	55.1%	69.1%	68.2%	77.7%

Figure 7: MAP RIT Growth Reading. Target: At least 50% of students meet or exceed fall-to-spring growth norms in reading. La Casa de Esperanza met this target in 2016-17, 2017-18, and 2018-19.



Figure 8: MAP RIT Growth Math. Target: At least 50% of students meet or exceed fall-to-spring growth norms in math. La Casa de Esperanza met this target in 2016-17, 2017-18, and 2018-19.



Figure 9: Reading MAP RIT Growth for Subgroups. Target: Subgroups (i.e. racial/ethnic minorities, Special Education) with 20 or more students achieving average fall-to-spring growth in their reading RIT scores that are at least 110% of the average target RIT growth. La Casa de Esperanza met this target in 2016-17 and partially met this target in 2017-18, before falling just short of the target in 2018-19. Note that only 19 Hispanic students tested in reading in 2015-16, falling short of the 20 required for the target to be included for the year.



Figure 10: Math MAP RIT Growth for Subgroups. Target: Subgroups (i.e. racial/ethnic minorities, Special Education) with 20 or more students achieving average fall-to-spring growth in their math RIT scores that are at least 110% of the average target RIT growth. La Casa de Esperanza failed to meet this target in 2015-16, but met the target in the last three years of its current contract.



Figure 11: Attendance. Target: Attendance rate in the school is at least the average of the local district and the state attendance rates. (Note: This data is lagged one year due to reporting timelines.) La Casa de Esperanza failed to meet this target in all years of its current contract.



Figure 12: Current Ratio. Target: Current ratio of assets to liabilities is greater than or equal to 1.1 or current ratio is between 1.0 and 1.1 and the current-year ratio is higher than last year's ratio. La Casa de Esperanza met this target in 2015-16, but failed to meet this target in the remaining years of the current contract.



Figure 13: Enrollment Variance. Target: Average of actual September and January enrollment counts divided by projected budgeted FTE equals or exceeds 95%. La Casa de Esperanza failed to meet this target in all years of its current contract.



Figure 14: Default. Target: Not in default of loan covenants and not delinquent with debt service payments. La Casa de Esperanza met this target in all years of its current contract.

Year	Result
2015-16	Not in Default or Delinquent
2016-17	Not in Default or Delinquent
2017-18	Not in Default or Delinquent
2018-19	Not in Default or Delinquent

Figure 15: Debt-to-asset Ratio. Target: Total liabilities-to-assets ratio is less than 0.9. La Casa de Esperanza met this target in all years of its current contract.



Organizational Performance. Across all four years of its current contract that data are available, La Casa de Esperanza Charter School met 95.9% of the Organizational Performance Framework targets. Three of the four years, staff ratings of perception of school safety fell below the target of 3, which is equivalent to a B average (2.50 in 2015-16, 2.33 in 2016-17, and 2.55 in 2017-18). Also, in 2018-19 the school failed to meet the minimum completion rate for parent surveys, which are used to assess the perceived safety in the school. The remaining items were met for all years of the current contract.

February 6, 2020

# CHARTER SCHOOL CONTRACT, MILESTONE DEMOCRATIC SCHOOL

## **REQUESTED ACTION**

Adoption of Resolution I., approving the charter school contract with Milestone Democratic School, Inc. to operate a public school known as Milestone Democratic School, for a period of five years, effective July 1, 2020 until June 30, 2025.

**Resolution I.:** That, upon the recommendation of the President of the University of Wisconsin System, the Board of Regents approves the charter school contract with Milestone Democratic School, Inc., maintaining a charter school known as Milestone Democratic School, for the period of five years, effective July 1, 2020 until June 30, 2025.

## SUMMARY

The University of Wisconsin System Administration Office of Educational Opportunity (OEO) submits this request to approve the charter school contract with Milestone Democratic School, Inc., maintaining a charter school known as Milestone Democratic School.

Milestone Democratic School is a secondary school that will serve children in grades 7-12. The school is focused on a teacher-powered and student-led school design that includes personalized and project-based learning and experiences for students.

The contract negotiated by the University of Wisconsin System Administration Office of Educational Opportunity and Milestone Democratic School, Inc., meets all requirements of the OEO model charter school contract. Milestone Democratic School, Inc., is prepared to operate Milestone Democratic School in accordance with all applicable state and federal requirements for charter schools. The University of Wisconsin System Administration Office of General Counsel reviewed the contract. The full contract is available at the web link below:

https://drive.google.com/file/d/1eET2TIxHRIVtQKdVQIi20xtdPKIvmo-o/view

The Wisconsin Department of Public Instruction (DPI) received notice of OEO's intent to authorize Milestone Democratic School, Inc., on February 19, 2019. Subsequently, DPI awarded a \$750,000 charter school planning grant to support the school's efforts to close opportunity gaps and eliminate achievement gaps.

#### Presenter

• Aaron Seligman, Director, Office of Educational Opportunity, UW System Administration

## BACKGROUND

#### **Legislative Background**

The Office of Educational Opportunity was created under 2015 Act 55, which granted authority to the Director of the OEO to contract with a person to operate a charter school. Under 2015 Act 55, the Director's authorizing authority was limited to districts with enrollment memberships over 25,000. However, 2017 Act 59 removed this student enrollment restriction.

Since its inception in 2015, the mission of the OEO has been to incubate educational innovations, improve known best practices, and increase educational equity. The aim of the OEO is to be the *Wisconsin Idea* in action, by increasing access to high-quality public educational options, supporting efforts to close opportunity gaps, and disseminating information about what is learned through OEO's efforts.

#### UW System Office of Educational Opportunity Review and Renewal Process

Requests for contract renewal of an existing charter school are made by July 1 of the final year of the contract, and the evaluation process occurs during the fall of the final year of the contract. Renewals are ordinarily granted by the Board of Regents for five years except if performance issues warrant a shorter review interval for checking on progress toward improvements and specific metrics. The Performance Framework drafted by the Office of Educational Opportunity is the standard to which all UW System Administration charter schools are held for academic, financial, and organizational performance. The Performance Framework is the guide for determining a baseline renewal recommendation, which is shared with the Charter School Advisory Council. The Advisory Council reviews the comprehensive renewal application, and committee members conduct a full-day site visit before making the final renewal recommendation, which is provided to the OEO Director. This Performance Framework ensures adherence to principles and standards of the National Association of Charter School Authorizers (NACSA), as required by s. 118.40(3m)(b), Wis. Stats.

#### NACSA's Principles & Standards for Quality Charter School Authorizing (2012)

NACSA's *Principles & Standards for Quality Charter School Authorizing (2012)* emphasizes that a quality authorizer establishes standards for school performance that are clear,

quantifiable, rigorous, and attainable. NACSA also recommends that authorizers develop and formally adopt a Performance Framework that includes academic, financial, and organizational performance measures for use by schools and authorizers to establish expectations, guide practice, assess progress, and inform decision making over the course of the charter term and at renewal or revocation. The *Core Performance Framework and Guidance* document created and published by NACSA provided the foundation for developing the University of Wisconsin System Administration Office of Educational Opportunity Framework. Additionally, the UWSA-authorized charter school leaders and other stakeholders were included in the development process by providing input and feedback.

# School Profile and Design

Milestone Democratic School believes in student voice as the most effective solution to two deeply intertwined problems: (1) schools where students are disengaged from their own learning and (2) civic life where citizens are disengaged from their own democracy. If schools can become places where students learn to be open and trusting with each other, to make decisions through dialogue and deliberation, and to think critically, then these two intertwining problems can begin to be resolved, from the bottom up. Milestone Democratic School seeks to become this place of learning, and seeks to do so based on a foundation of democratic participation at all stages of planning and operations.

Milestone Democratic School will be a secondary school, serving up to 200 students in grades 7-12. The learning program is centered in:

- Small-group advisories: mixed-age groups of 16 to 20 students with one trusted advisor who works closely with students every day.
- Personal Learning Plans: each student works with their advisor every term to develop a plan for meeting academic, social, and emotional learning competencies and standards. As students move through a term, frequent and regular one-on-one check-ins with their advisor will focus on formative assessment of students' progress towards the goals described in their Personal Learning Plan. At the end of each term, advisors will meet to review summative assessment of all work completed and to evaluate which competencies have been met.
- A Special Education coordinator will work directly with all advisors to ensure that students with disabilities incorporate all required elements of their Individualized Education Program (IEP) into the structure of the Personal Learning Plan (PLP). The Special Education coordinator will present to the Governance Board for approval a clear set of policies and procedures for accomplishing the effective combination of IEP and PLP within all legally required bounds.
- Student-directed, project-based learning: students propose, develop, and self-assess their learning through structured and managed projects. Place-based instructional practices are leveraged whenever possible. Learning takes place in the community and region, and travel is incorporated into the curriculum whenever possible.

- *Leaving to Learn*: all students' weekly schedules are built around high-quality internships, service learning, and/or early college experiences.
- Participatory governance of the school itself as *action civics*. This includes distributive leadership practices embedded into the management of the day-to-day school affairs and restorative practices, democratic deliberation, and design thinking. Highly qualified professional educators are trained and retained through providing a professional environment and learning community. Partnerships with the UW System will be sought out to maintain professional development plans and sustain innovation.

During its planning year, the Design Team (a diverse group of students and community members) has met weekly and conducted site visits and listening sessions around the region and virtually with school leaders and community members. It developed a comprehensive series of social, emotional, and academic competencies (including academic, vocational, citizenship, and personal development skills as indicated by statute), aligned with Common Core State Standards, Next Generation Science Standards, and Wisconsin Academic Standards, and developed a comprehensive scope and sequence for personalized learning.

In addition, the Design Team worked to include meaningful involvement of adults from diverse backgrounds during the planning process. The team sought engagement with the families and communities the school intends to serve, including involvement of parents of color and parents of potential students during the planning process. The Design Team developed and has begun to implement a plan for professional development of the Governance Board including training in cultural competency, strategies for authentic engagement with communities of color, restorative justice and other areas that are pivotal to the success of the school. It has secured a school location that is accessible to all students and is conducive to the type of learning environment the school seeks to create.

Milestone Democratic School demonstrates innovative practices because it is designed with the end user, the student, and therefore will be highly contextualized to the needs of the students in the local community. It will be a student-designed space: the students are codesigners of the teacher-led school. The school will be in a perpetual state of design, which will lead to continual innovation in teaching and learning.

The school will increase educational equity by developing the agency and leadership capacity of all students. The school will recruit and retain students living in poverty and build partnerships with organizations in Dane County serving at-risk youth and children from underserved populations. It will place student voice and educational opportunities in the design of the school that will prepare students to be informed and active citizens living in a democracy.

#### **Governance and Leadership**

The Governance Board of Milestone Democratic School, Inc, provides oversight and direction of the school. The Board has three primary purposes: (1) support the mission, vision, and raise the profile of the school, (2) raise funds for the school, and (3) oversee the Teacher Professional Practice (TPP), an independently incorporated cooperative self-governed by the staff of the school, to ensure that that the charter agreement is upheld. The board includes diverse members with experience as school designers, leaders, and atrisk student program advisors.

The Governance Board reviews the competency design submitted by the Design Team and the scope and sequence submitted by the TPP to ensure their compliance with statute, the charter contract, and the values of Milestone Democratic School. The role of the Governance Board during operations is to support the school's goal of building agency in students via authentic democratic control of their institution. As such, the Governance Board serves in an oversight and authorization capacity for the decision-making authority of School Design and School Meeting, where operations decisions are made, and the TPP, where operations decisions are executed.

Milestone Democratic School will hold an all-school meeting weekly to make all decisions about how the school operates that are not described in the School Plan, make necessary adjustments to certain elements of the School Plan, and to receive report-backs from each advisory. All decisions made by the School Meeting shall be reviewed by the Governance Board for compliance with local, state, and federal law, with the master charter contract, and with the values of Milestone.

The TPP will also facilitate monthly community engagement events during which students, staff, families, and community stakeholders are invited to provide relevant information and invite participation in the democratic decision-making process that will ensure the school stays up-to-date with community needs.

## **Recommendation for Approval by the Board of Regents**

The Office of Educational Opportunity engaged in an extensive application review process. Based on analysis of the application materials submitted by Milestone Democratic School, Inc., the Office of Educational Opportunity recommends the contract with Milestone Democratic School, Inc., to operate Milestone Democratic School be approved by the Board of Regents for a five-year contract effective July 1, 2020 through June 30, 2025. February 6, 2020

# FRESHWATER COLLABORATIVE OF WISCONSIN

## **REQUESTED ACTION**

For information only.

#### SUMMARY

This presentation will provide an update on the status of planning for the Freshwater Collaborative of Wisconsin (FCW). This initiative builds upon the collective assets of all 13 four-year institutions to collaborate on freshwater research, training, innovation and economic development.

#### Presenters

- Mark Mone, Chancellor, UW-Milwaukee
- Johannes Britz, Provost, UW-Milwaukee

## BACKGROUND

At the June 6, 2019 meeting of the UW System Board of Regents, the 13 institutions of the University of Wisconsin System (UWS) launched the Freshwater Collaborative of Wisconsin (FCW). The purpose of the Freshwater Collaborative is to:

- Establish the nation's most significant, integrated, multi-institutional higher education program serving the freshwater economy, allowing students to traverse disciplines and focus areas across all 13 UW System campuses;
- Attract local, regional and global talent to Wisconsin, securing Wisconsin's role as the "Silicon Valley of Water;"
- Fill the global, regional, and local demand for a water workforce through explicit structuring of curriculum, training, and workplace experience;
- Solve local, regional, and global water resource problems through collaborative research across the natural science, agriculture, engineering, social science, economics and policy arenas; and
- Solidify Wisconsin's world leadership in freshwater science, technology, entrepreneurship, and economic growth.

Item J.

# Previous Action or Discussion

• At its June 6, 2019, the Board of Regents requested periodic updates on the Freshwater Collaborative. This presentation is the third in a series of such updates.

February 6, 2020

# HIGH IMPACT PRACTICES (HIPS) IN UNEXPECTED PLACES

#### **REQUESTED ACTION**

For information only.

#### SUMMARY

This presentation tackles the following question: How does a large campus, such as UW-Madison, help students feel included through its array of educational opportunities? The presentation begins with an overview of UW-Madison's high impact practices, which are often considered small class, or group experiences. This beginning serves as the point of departure for the remainder of the presentation: large classes can be high-impact, too. Provost Scholz will be joined in his presentation by three colleagues, all of whom teach undergraduate classes with large student enrollment and deliver spectacular learning experiences for their students.

#### Presenters

- Dr. Karl Scholz, Provost, UW-Madison
- Dr. David Johnson, Senior Lecturer, Department of Economics
- Dr. Stephen R. Meyers, Vilas Distinguished Professor, Department of Geoscience
- Dr. Mary Louise Roberts, WARF Distinguished Lucie Aubrac Professor and Plaenert Bascom Professor of History, Department of History