

BOARD OF REGENTS OF THE UNIVERSITY OF WISCONSIN SYSTEM

Education Committee

Thursday, July 8, 2021

8:45 a.m. – 10:15 a.m.

Gordon Dining & Event Center, 2nd floor
770 W. Dayton Street,
Madison, Wisconsin
Via Webex Videoconference

- A. Calling of the Roll
- B. Declaration of Conflicts
- C. Proposed Consent Agenda
 - 1. Approval of the Minutes of the June 3, 2021 Meeting of the Education Committee
 - 2. UW-Eau Claire: Approval of Bachelor of Science and Bachelor of Arts in Bioinformatics
 - 3. UW-Platteville: Approval of Master of Science in Sport Administration
 - 4. UW-Whitewater: Approval of Bachelor of Science in Cybersecurity
 - 5. UW-Whitewater: Approval of Master of Science in Marketing
- D. UW-Stout: First Reading of Revised Mission Statement
- E. Approval of Changes to Regent Policy Document (RPD) 4-12, "Academic Program Planning, Review, and Approval in the University of Wisconsin System"
- F. Report of the Vice President for Academic and Student Affairs
- G. Update: Freshwater Collaborative of Wisconsin

**NEW PROGRAM AUTHORIZATION (IMPLEMENTATION)
BACHELOR OF SCIENCE AND BACHELOR OF ARTS IN
BIOINFORMATICS,
UW-EAU CLAIRE**

REQUESTED ACTION

Adoption of Resolution C.2., authorizing the implementation of the Bachelor of Science and Bachelor of Arts in Bioinformatics program at the University of Wisconsin-Eau Claire.

Resolution C.2.: That, upon the recommendation of the Chancellor of UW-Eau Claire and the President of the University of Wisconsin System, the Chancellor is authorized to implement the Bachelor of Science and Bachelor of Arts in Bioinformatics program at the University of Wisconsin-Eau Claire.

SUMMARY

The B.S. and B.A. in Bioinformatics will contribute directly to the UW-Eau Claire's mission to promote excellence in teaching, scholarship and research, and service to the community. The proposed new academic degree program supports the *University Strategic Plan 2025* vision to create "distinction in health and human wellbeing" and the goal to offer a liberal arts education with a focus on collaborative research between student and faculty. The 120-credit, interdisciplinary program draws on UW-Eau Claire faculty expertise and curricula in the departments of biology, computer science, and mathematics. Enrolled students will have multiple opportunities to meet many of their general education requirements through major and supporting coursework. Program graduates will have the programming and statistical skills to be employed as data scientists or data analysts generally, with a focus on data science in the life science sector specifically. The Bureau of Labor Statistics National Industry-Occupational Employment Matrix projects a 30.9% increase in demand in these fields between 2019 and 2029.

Provost

- Patricia Kleine, Provost and Vice Chancellor, UW-Eau Claire

BACKGROUND

This proposal is presented in accord with UW System Administrative Policy 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting (revised March 31, 2020, available at <https://www.wisconsin.edu/uw-policies/uw-system-administrative-policies/policy-on-university-of-wisconsin-system-array-management-program-planning-delivery-review-and-reporting-2/>).

Related Policies

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

ATTACHMENTS

- A) Request for Authorization to Implement
- 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 AND BACHELOR OF ARTS IN
BIOINFORMATICS
AT UNIVERSITY OF WISCONSIN-EAU CLAIRE
PREPARED BY UW-EAU CLAIRE**

ABSTRACT

The University of Wisconsin-Eau Claire (UW-Eau Claire) proposes to establish a Bachelor of Science/Arts [B.S./B.A.] in Bioinformatics. Bioinformatics is the science of storing, extracting, organizing, analyzing, interpreting, and using biological information. The program grows out of existing strengths in biology, computer science, and mathematics, as well as from the mission of UW-Eau Claire (UWEC) to provide “educational opportunities responsive to the needs of our communities, state, region and beyond,” and the 2025 Strategic Plan goal to “achieve national distinction for programmatic leadership health and wellbeing.” Development of the program responds to a projected increase in the need for computer and information research scientists, data scientists, and software developers in bioinformatics and a shortage of bioinformatics programs nationwide and specifically in the upper Midwest (Bureau of Labor Statistics). Graduates will be equipped to pursue careers in bioinformatics and data science, or graduate work in the life sciences as well as advanced degrees in the field. The program will be comprised of 120 total credits, including UW-Eau Claire’s Liberal Education Core and required and elective coursework in biology, chemistry, computer science and mathematics. Although not required in the program, opportunities for student/faculty collaborative research will be encouraged and widely available.

PROGRAM IDENTIFICATION

University Name

University of Wisconsin-Eau Claire

Title of Proposed Academic Program

Bioinformatics

Degree Designation(s)

Bachelor of Science/Arts

Mode of Delivery

Single university; face-to-face delivery

Department or Functional Equivalent

This interdisciplinary program will be housed administratively in the Department of Mathematics, which houses undergraduate programs in statistics, research, and applied mathematics. The Department of Mathematics also houses a Master of Science in Data Science program. The Department of Mathematics will collaborate with the Department of Biology and the Department of Computer Science in oversight of the curriculum and the mentoring and advising of students.

College, School, or Functional Equivalent

College of Arts and Sciences

Proposed Date of Implementation

August 2022

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 57 students will have enrolled in the program and 24 students will have graduated from the program. The average student retention rate is projected to be 80%, based on data from students in related majors such as computer science, mathematics, and biology.

Table 1: Five-Year Academic Program Enrollment Projections

Students/Year	Year 1	Year 2	Year 3	Year 4	Year 5
New Students	15	15	15	15	15
Continuing		12	22	30	30
Total Enrollment	15	27	37	45	45
Graduating				12	12

Tuition Structure

For full-time students enrolled in the B.S./B.A. in Bioinformatics, standard tuition and fee rates will apply. For the current academic year, residential tuition and segregated fees total \$4,435 per semester for a full-time student enrolled in 12-18 credits per semester. Of this amount, \$3,681 is attributable to tuition and \$754 is attributable to segregated fees (which include textbook rental). Nonresident tuition and segregated fees total \$8,645 per semester for a full-time student enrolled in 12-18 credits per semester or \$714 per credit. Of this amount, \$7,891 is attributable to tuition and \$754 is attributable to segregated fees. Part-time Wisconsin students would pay \$370 per credit in tuition and fees while part-time Minnesota students would pay \$377 per credit in tuition and fees. Nonresident, part-time students would pay \$714 per credit. Given UW-Eau Claire's student demographics, student enrollment in the program is likely to be composed largely of full-time students from Wisconsin paying residential tuition and full-time students from Minnesota paying reciprocal tuition.

DESCRIPTION OF PROGRAM

Overview of the Program

Bioinformatics is the science of storing, extracting, organizing, analyzing, interpreting and using biological data. Bioinformatics incorporates data and analytical approaches from the biological sciences, computer science, data science, and mathematics. Bioinformatics as a field developed out of the need to organize and analyze the increasingly large amounts of biological data being generated by modern molecular sequencing, expression, interaction, and functional characterization technologies and approaches. Bioinformatics analyses are increasingly required to address many biological questions. Therefore, individuals with bioinformatics skills are now a necessary component of many teams addressing questions in biology, including, but not limited to the elucidation of basic molecular/genetic mechanisms, the discovery of targets for drug discovery, the study of structural and functional relationships, and molecular evolution. Bioinformaticians with special interest and skills in computer science or mathematics can also focus on the development of new algorithms and new approaches to data analysis.

This proposed comprehensive major in bioinformatics is designed for multiple student populations:

- Future biologists who are interested in areas such as molecular biology, genetics, and evolutionary biology, and who aspire to be involved in research.
- Future computer scientists with interest in information technologies, who have an interest in developing and maintaining software used in molecular biology, genetics, and evolutionary biology.
- Future mathematicians, statisticians, and data scientists with interest in using statistical techniques to analyze datasets encountered in molecular biology, genetics, and evolutionary biology.

The B.S./B.A. in Bioinformatics will require 120 total credits, including required liberal education coursework, 60 credits in the major, and electives.

Student Learning Outcomes and Program Objectives

Upon completion of the B.S./B.A. in Bioinformatics, students will:

- Explain and apply core concepts in biology, computer science, and mathematics, especially as they apply to data analysis.
- Explain and apply the chemical principles that underlie biochemistry, molecular biology, and genomics.
- Use software to extract information from large databases and use that information in computer modeling and data analysis.

- Use problem-solving skills, including the ability to develop new algorithms and methods of data analysis.
- Explain and apply fundamental methods in probability and statistics to the analysis of biological datasets.
- Explain the intersection of life and information sciences, the core of shared concepts, language, and skills.
- Understand terminology used in molecular biology, genetics, evolutionary biology, information theory, and database management.
- Explain the construction of predictive mathematical models of biological systems.

Program Requirements and Curriculum

The proposed baccalaureate degrees in bioinformatics will include a major offered in the Department of Mathematics, in collaboration with the Departments of Biology and Computer Science. All three departments reside in the College of Arts and Sciences. The curriculum for the major consists of a core of 60 credits from biology, chemistry, computer science, and mathematics. In addition, a student will complete 60 credits to satisfy university requirements for liberal education and the 120-credit minimum graduation requirement. A list of recommendations for some of the general elective credits that will be needed to meet the 120-credit minimum is provided as a framework for the student and faculty mentor to discuss post-baccalaureate plans for employment in the bioinformatics sector or for graduate school.

The program design encourages timely degree completion, while simultaneously providing students with opportunities to participate in high-impact practices such as student/faculty collaborative research experiences and travel to national research conferences. For example, with financial support from UW-Eau Claire's Office of Research and Sponsored Programs (ORSP), students, mentored by faculty, have completed research in bioinformatics-related areas including analyzing a large gene family involved in selective protein degradation in land plants and algae, and distinguishing closely related ancestral populations via linear discriminant analysis on genetic data. Projects proposed for fall 2021 include a study of machine learning for medical examination report processing and an investigation of biometric authentication in the healthcare environment. Students in bioinformatics will be very well qualified to participate in similar research projects.

Although it is expected that most students with the bioinformatics major will select the B.S. in Bioinformatics, it is the College of Arts and Sciences' policy to provide students the option of a Bachelor of Science or Bachelor of Arts degree for most majors. Those students with a bioinformatics major who select the Bachelor of Arts degree are required to meet an additional foreign language competency requirement, which can be satisfied, for example, by satisfactory completion of a course such as Spanish II, French II, or Beginning Ojibwe II. Most languages also would fulfill a written and oral communication Liberal Education Core requirement. Table 2 illustrates the program curriculum for the B.S./B.A. in Bioinformatics.

Table 2: B.S./B.A. in Bioinformatics Program Curriculum**University and Liberal Education Requirements Not Met by the Bioinformatics Major**

Liberal Education (LE) Core:

Social Sciences, Arts and Humanities, Written and
Oral Communication, Equity/Diversity/Inclusivity, 44 credits
Global Perspectives, Civic and Environmental Issues,
Creativity, Integration, Service Learning

General Electives 16 credits

Subtotal: 60 credits

Bioinformatics Core Courses

Calculus I	MATH 114	4 credits
Calculus II	MATH 215	4 credits
Elementary Statistics	MATH 246	4 credits
Discrete Math	MATH 314	3 credits
Foundations of Biology I	BIOL 221	4 credits
Foundations of Biology II	BIOL 222	3 credits
Foundations of Biological Inquiry	BIOL 223	2 credits
Genetics	BIOL 323	3 credits
Genetics Inquiry	BIOL 324	2 credits
Chemical Principles	CHEM 115	6 credits
Organic Chemistry I with Lab	CHEM 325	4 credits
Big Picture in Bioinformatics	CS/BIOL 149	1 credit
Computing in Python: Procedural Programming	DS 150	4 credits
Data Structures and Algorithms in Bioinformatics	DS 250	4 credits
Applied Bioinformatics I	DS/BIOL 342	4 credits
Applied Bioinformatics II	DS/BIOL 343	4 credits
Unix Systems Programming	CS 388	3 credits
Junior Seminar-career readiness	CS/BIOL 393	1 credit
Subtotal: 60 credits		

Total Credits**120 credits****Suggestions for general elective credits to guide faculty mentor and student when planning post-baccalaureate career**

Molecular and Cell Biology	BIOL 305	4 credits
Infectious Disease Ecology	BIOL 306	3 credits
Evolution	BIOL 308	3 credits
Ecology	BIOL 321	3 credits
Biology of Microorganisms	BIOL 361	5 credits
Current Topics in Virology and Immunology	BIOL 402	4 credits
Advanced Cell and Molecular Lab	BIOL 405	4 credits
Molecular Genetics	BIOL 409	4 credits
Developmental Biology	BIOL 460	4 credits
Fundamentals of Biochemistry	CHEM 352	4 credits
Biochemistry I with Lab	CHEM 452/453	5 credits
Biochemistry II	CHEM 454	3 credits

Epidemiology	EHPH 450	3 credits
Linear Algebra	MATH 324	4 credits
Linear Regression and Time Series	MATH 441	4 credits
Machine Learning	CS 425	3 credits

Although research experiences are not a required element of the curriculum, the experience and commitment of program faculty to student/faculty collaborative research and the research agreement with Mayo Clinic will ensure students have a wide range of these opportunities throughout the bioinformatics program. For example, in addition to the projects outlined above, four UW-Eau Claire undergraduate students are currently collaborating with UWEC faculty and Mayo Clinic on two different projects investigating the use of artificial intelligence to analyze CT scans.

Assessment of Outcomes and Objectives

The B.S./B.A. in Bioinformatics will participate in all established university assessment processes. Prior to implementation, program faculty will develop an initial seven-year assessment plan. The plan will outline how data on each outcome will be gathered and analyzed at least twice prior to the program's first academic program review. The program's assessment plan will be reviewed by the University Assessment Committee. Each year, the program will gather data on outcomes, discuss results, identify changes that can be made to enhance learning, and report those activities in an annual program assessment report. These annual reports will be reviewed by the University Assessment Committee on a rotating basis. Moreover, as an interdisciplinary program, assessment of student learning outcomes and program objectives will build upon and benefit from similar assessment as other established programs in the departments of biology, computer science, and mathematics.

Diversity

Faculty in the departments of mathematics, biology, and computer science are committed to inclusive excellence in science and technology. Recent program reviews for the departments of mathematics and biology document efforts to diversify their faculty, and document numerous successes of their efforts. These recent program reviews document professional development of their faculty to improve awareness of matters related to equity and diversity. In fact, individuals on the mathematics and biology faculties have taken university leadership roles creating professional development opportunities for instructors in other academic departments, to increase attention to inclusive excellence at the institutional level. During these program reviews, faculty in these departments also document leadership of pedagogical initiatives to explore and promote equity, diversity, and inclusion in the undergraduate curriculum. These program reviews include documentation describing how departments sponsor annual outreach events for middle school and high school teachers and their students, to expand access and diversify entry into the STEM fields. For example, the Department of Mathematics sponsors an annual Sonia Kovalevsky Day, which brings together middle and high school girls and their

teachers from across the region to UW-Eau Claire for hands-on activities, workshops, and discussions to expand awareness of the career opportunities in STEM. Sonia Kovalevsky Day has been especially successful in reaching out to young women of color.

All three departments have established mentoring and advising structures that promote and provide access to undergraduate research and internships. Professors in these departments document a history of including students from underrepresented groups in their research, enhanced by funding from the UW-Eau Claire Office of Research and Sponsored Programs and from other agencies. For example, individuals in the Department of Mathematics were principal investigators for a National Science Foundation (NSF) project titled *Partnership for Undergraduate Research: Enhancing the Mathematics Curriculum*.¹ The outcomes of this project included expansion of the undergraduate mathematics curriculum at UW-Eau Claire by creating a new comprehensive mathematics major focused on undergraduate research and graduate school preparatory courses. Faculty from the affiliated departments have also provided research experiences to underrepresented students from two-year technical schools and the former UW Colleges, through a National Science Foundation grant that introduced undergraduate research to students from two-year institutions, with the goal of encouraging them to continue their education and obtain a baccalaureate degree.² Faculty from these academic departments have also served as mentors of undergraduates in the UW-Eau Claire Ronald E. McNair Scholars program. This program is part of a federally funded TRIO program aimed at increasing the attainment of Ph.D. degrees by students from underrepresented segments of society such as first-generation, low-income individuals, and members from racial and ethnic groups historically underrepresented in graduate programs.

The interdisciplinary nature of bioinformatics will also provide a broad framework for high school students in these programs who are undecided about a specific STEM program, as well as first-year undergraduates with academic potential and interest in the broad areas of biology, computer science, data science, applied mathematics, and statistics. The bioinformatics core curriculum will provide such students with both structure and malleability, as their academic interests in STEM mature and become more focused through their undergraduate career. Such programs having both structure and flexibility are important to enhancing institutional retention and graduation rates, resulting in increased inclusive excellence.

Collaborative Nature of the Program

UW-Eau Claire and Mayo Clinic Health System (Mayo) have a collaborative research agreement, announced in 2017, which enables research collaborations between Mayo

¹ National Science Foundation. https://nsf.gov/awardsearch/showAward?AWD_ID=1451801. Accessed 6/3/21.

² National Science Foundation. https://nsf.gov/awardsearch/showAward?AWD_ID=1460728. Accessed 6/3/21.

clinicians and UW-Eau Claire faculty, staff, and students. There are UW-Eau Claire and Mayo resources specifically dedicated to supporting these collaborations. Because of the very nature of this bioinformatics program involving biology, statistics, and data science, students and faculty will find opportunities similar to those outlined above to establish collaborative research projects with Mayo clinicians.

Projected Time to Degree

A student with high school preparation to start in Calculus I, and who enrolls in 15 credits per semester, will be able to complete the program in eight semesters. Students with lower-level high school preparation may need to take pre-calculus coursework in their first semester. Consistent with the UW System Math Initiative, UW-Eau Claire offers a gateway mathematics curriculum for undergraduates in the STEM pathways that minimizes credits related to pre-calculus coursework. Students interested in a bioinformatics major but who are not prepared for Calculus I in their first semester will be prepared to take the course in their second semester. Mathematics courses are commonly available in summer and winter sessions, as are courses in the Liberal Arts core, thus allowing students with lower-level math preparation to complete in four years.

Program Review

UW-Eau Claire's formal academic program review occurs every seven years. The review process includes a program self-study (e.g., enrollment data, course offerings, completions, financial and other resources) and a review by an internal committee of faculty reviewers and an external reviewer. Both internal and external reviewers are asked to make recommendations for program improvements. Program review recommendations may attend to curricular revisions, increasing diversity efforts, strengthening efforts to improve student success, enhancing high-impact practices, staffing, and so on. Reviewer reports and recommendations are submitted to the college dean, the academic policies committee, and the provost, with final recommendations shared in writing from the provost's office. Programs report on their progress toward implementing recommendations two years following the program review.

Accreditation

No specialized accreditation will be pursued for this program. The program fits within the institutional accreditation by the Higher Learning Commission.

JUSTIFICATION

Rationale and Relation to Mission

Planning for the B.S./B.A. in Bioinformatics emerged from existing institutional strengths in natural sciences, mathematics, computer science, and data science, as well as from the mission of UW-Eau Claire to provide "educational opportunities responsive to the needs of our communities, state, region and beyond." The focus on the biological sciences

and statistics is consistent with other programs recently implemented at UW-Eau Claire, including neuroscience, public health, and biomedical engineering. It supports the *University Strategic Plan 2025* vision to create “distinction in health and human wellbeing.” It is also tied to UW-Eau Claire’s strategic goal to offer a liberal arts education with a distinct focus on student faculty collaborative research. The proposed comprehensive interdisciplinary B.S./B.A. in Bioinformatics will utilize the curricular offerings and expertise from departments with established programs and accomplished faculty and will build upon the designation of UW-Eau Claire as the *Center of Excellence for Faculty and Undergraduate Student Research Collaboration* within the UW System.

In addition to the research partnership with Mayo Clinic Health System, this proposed bioinformatics major also can leverage the UW-Eau Claire Institute for Health Sciences (IHS), founded in 2017. The mission of IHS is to promote multidisciplinary and interdisciplinary collaborations in the areas of curriculum, research, scholarship, and service, as well as develop and strengthen linkages with regional health care providers. Students in the bioinformatics program will have skills and knowledge related to biology and data science, and will naturally benefit from connections with regional health care providers catalyzed by IHS.

As further evidence of the alignment of the bioinformatics program with the institutional mission, in 2017, the university founded the UW-Eau Claire William J. and Marian A. Klish Health Careers Center. This career center provides students with relevant graduate/professional school advising as well as information and advising on career opportunities in a variety of health science fields. Again, upon graduation, students in the bioinformatics program will have skills and knowledge relevant to pursuit of research in graduate school or careers in the health sciences, and some will benefit from Klish Health Career Center resources.

University Program Array

The B.S./B.A. in Bioinformatics is rooted in well-established and well-regarded UW-Eau Claire curricula in biology, computer science, and mathematics. Most core courses and all electives are courses already being taught. However, students with skills and interest that cross between biology, statistics, computer science, and data science will benefit from content in new courses specific to bioinformatics. Students will also benefit from the career advising and research mentoring structure provided by the framework of this interdisciplinary program. The combination of courses required, and the research opportunities provided to students, will differentiate this program from others in the associated departments. In some cases, adding bioinformatics majors to core courses and electives may require additional staffing, while in other cases those additional students may allow for more efficient use of teaching resources and allow some courses to be offered to all students more often.

Other Programs in the University of Wisconsin System

There are no equivalent programs in UW System. Although UW-Parkside offers a major in molecular biology and bioinformatics, the curriculum does not include the array of computer science and mathematics courses included in the proposed UW-Eau Claire program. Hence, the UW-Parkside program lacks the data science focus of this proposed bioinformatics major.

Need as Suggested by Current Student Demand

The institution has an increasing number of students with interest in the biological sciences, and who also have a high aptitude in mathematics and statistics. Many such students enter UW-Eau Claire with high school preparation that allows them to start with Calculus I or higher, and to even enroll in upper-division probability and statistics courses. These students typically also have interest and aptitude for programming. The current traditional program arrays in the departments of biology, computer science, and mathematics tend to “silo” students into one of the disciplines, unnecessarily causing atrophy of skills and interest in the other disciplinary areas. For example, a student with interest in the biological sciences who earns college credit in high school for Calculus I and Elementary Statistics might decide to focus on courses in biology and chemistry and eschew mathematics and programming. As another example, a first-year undergraduate with aptitude in statistics or programming might not understand that acquisition of “domain knowledge” such as that in the biological sciences will position them for a career as a data scientist in the life science employment sector. As noted above, a student not prepared to begin in Calculus I but who is interested in bioinformatics would be able to begin with precalculus work in the first semester and proceed to Calculus I in the second. The bioinformatics program will provide a framework that will nurture such students, giving them structure to develop their programming and statistical skills, while developing domain knowledge in the life sciences. Furthermore, collaborations with the affiliated departments of biology, computer science, and mathematics will provide such students with a broad array of faculty expertise for research mentoring and career advancement.

Potential student demand for this program is evident based on analysis of occupational demand projections and available degree programs in bioinformatics, particularly in the upper Midwest. According to the Bureau of Labor Statistics (BLS), demand for careers associated with a degree in bioinformatics is expected to increase between 16.5 and 25.6% between 2018 and 2028.³ At the same time, IPEDS data indicate that in AY 2017-18 only 222 undergraduate degrees were granted in biometrics nationwide. None of those degrees were granted in Wisconsin or Minnesota. Among midwestern states, only Nebraska (7), Iowa (4), Illinois (16), and Michigan (3) granted undergraduate

³ U.S. Bureau of Labor Statistics, Occupational Employment Statistics (May 2019 All Data link). <https://www.bls.gov/oes/tables.htm>. Accessed 3/3/2021.

degrees in biometrics.⁴ Increased demand for students qualified to work in biometrics-related occupations, coupled with the low number of programs available regionally and nationwide, forecasts a growing demand that a program at UW-Eau Claire can help address.

Need as Suggested by Market Demand

The BLS National Industry-Occupational Employment Matrix predicts an increase in demand of 25.6% for software developers and 16.5% for computer and information research scientists in bioinformatics between 2018 and 2028.⁵ The average projected growth across occupations is 5.2%, and careers related to this degree program are among those identified as fastest growing by the BLS.

Also, as explained above, bioinformatics is in essence “data science in the life science sector.” As such, graduates of the program will have the programming and statistical skills to be employed as a data scientist or data analyst. The BLS National Industry-Occupational Employment Matrix predicts an increase in demand for data scientists of 30.9% between 2019 and 2029.⁶ Moreover, the BLS lists statistician as among the fastest growing occupations, with a 34.6% increase in demand between 2019 and 2029.⁷

⁴ Integrated Postsecondary Education Data System (IPEDS), Completions File, <https://nces.ed.gov/ipeds/datacenter/DataFiles.aspx?goToReportId=7>. (Cohort examined included U.S. public, 4-year or above and private not-for-profit, 4-year or above degree granting primarily baccalaureate or above.) Accessed 2/26/21.

⁵ U.S. Bureau of Labor Statistics, National Industry-Occupational Employment Matrix. <https://www.bls.gov/emp/tables/industry-occupation-matrix-industry.htm>. Accessed 3/3/2021.

⁶ U.S. Bureau of Labor Statistics, National Industry-Occupational Employment Matrix. <https://www.bls.gov/emp/tables/industry-occupation-matrix-industry.htm>. Accessed 3/3/2021.

⁷ U.S. Bureau of Labor Statistics, National Industry-Occupational Employment Matrix. <https://www.bls.gov/emp/tables/industry-occupation-matrix-industry.htm>. Accessed 3/3/2021.

University of Wisconsin - Eau Claire						
Cost and Revenue Projections For Newly Proposed Program (Bioinformatics)						
	Items	Projections				
		2022	2023	2024	2025	2026
		Year 1	Year 2	Year 3	Year 4	Year 5
I	Enrollment (New Student) Headcount	15	15	15	15	15
	Enrollment (Continuing Student) Headcount	0	12	22	30	30
	Enrollment (New Student) FTE	15	15	15	15	15
	Enrollment (Continuing Student) FTE	0	12	22	30	30
	Total Students FTE	15	27	37	45	45
II	Total New Credit Hours	0	0	0	0	0
	Existing Credit Hours	60	60	60	60	60
III	FTE of New Faculty/Instructional Staff	0	0	1	1	1
	FTE of Current Fac/IAS	0.6	0.6	0.6	0.6	0.6
	FTE of New Admin Staff	0	0	0	0	0
	FTE Current Admin Staff	0	0	0	0	0
IV	Revenues					
	From Tuition	\$110,430	\$198,774	\$272,394	\$331,290	\$331,290
	Program Revenue (Grants)	\$0	\$0	\$0	\$0	\$0
	Program Revenue - Other	\$0	\$0	\$0	\$0	\$0
	GPR (re)allocation	\$0	\$0	\$0	\$0	\$0
	Total New Revenue	\$110,430	\$198,774	\$272,394	\$331,290	\$331,290
V	Expenses					
	Salaries plus Fringes					
	Faculty/Instructional Staff	\$70,800	\$72,216	\$191,660	\$195,494	\$199,403
	Other Staff	\$0	\$0	\$0	\$0	\$0
	Other Expenses					
	Facilities	\$0	\$0	\$0	\$0	\$0
	Equipment	\$0	\$0	\$0	\$0	\$0
	Other BluGold Supercomputing Cluster	\$10,000	\$15,000	\$20,000	\$25,000	\$30,000
	Other (please list)	\$0	\$0	\$0	\$0	\$0
	Total Expenses	\$80,800	\$87,216	\$211,660	\$220,494	\$229,403
VI	Net Revenue	\$29,630	\$111,558	\$60,734	\$110,796	\$101,887

Submit budget narrative in MS Word Format

Provost's Signature: 

Date:

5-14-2021

Chief Business Officer's Signature: 

Date:

5-13-2021

COST AND REVENUE PROJECTIONS NARRATIVE UNIVERSITY OF WISCONSIN-EAU CLAIRE BACHELOR OF SCIENCE/ARTS IN BIOINFORMATICS

Introduction

The delivery mode for the proposed bioinformatics degrees will be face-to-face instruction in classrooms on the campus. The proposed baccalaureate degrees in bioinformatics will include a major offered in the Department of Mathematics in collaboration with the Departments of Biology and Computer Science. The curriculum for the major consists of a core of 60 credits from biology, chemistry, computer science, and mathematics. Of this 60-credit core of courses, 18 credits will be taken primarily by bioinformatics majors. Courses corresponding to these 18 credits will be offered in rotation: nine credits each semester. Therefore, in order to deliver this classroom instruction for the program, either 0.75-1.00 FTE will need to be reassigned within the collaborating departments of biology, computer science, and mathematics, or new FTE will be required.

Section I – Enrollment

Enrollment projections are based on (a) data from institutional enrollments in programs with similar focus in the three collaborating departments and (b) national IPEDS student demand data for biomathematics, bioinformatics, and computational biology from 2014 to 2018. Approximately 1,500 undergraduates have a major declared in one of the three collaborating departments, with a corresponding incoming fall cohort of about 350 first-time college students. From this data, 15 new students are projected to start the bioinformatics program each year, some coming from the pool of 350 who would have otherwise first selected a major in biology, computer science, or mathematics, while some will be attracted to the institution by the attractiveness of a degree in bioinformatics. A typical retention rate of 80% is projected, as some students initially intending on a STEM major switch to a non-STEM program, and others decide to switch from bioinformatics to a broader STEM major such as software engineering or statistics/applied mathematics. It is anticipated that most students in the bioinformatics program will be full time, hence headcount and FTE will be the same. With the enrollment projections described above, it is expected that after the fourth year of implementation, about 12 students will have graduated with a major in bioinformatics.

Section II – Credit Hours

The proposed B.S/B.A. in Bioinformatics is a 120-credit program, with 60 credits in the bioinformatics course and 60 credits to meet graduation requirements for the UW-Eau Claire liberal education program. As described above, of the 60 credits in the bioinformatics core, 18 credits will be taken primarily by bioinformatics majors. Courses

corresponding to these 18 credits will be offered in rotation: nine credits each semester. By the end of the first year of implementation, all new courses will be available for enrollment.

Section III – Faculty and Staff Appointments

The bioinformatics program will rely heavily on existing UW-Eau Claire instructional resources to deliver biology, chemistry, computer science, and mathematics courses in the program core. Moreover, some mentorship of students in the bioinformatics program by faculty will take the form of undergraduate research collaborations outside of the classroom curriculum. Similarly, faculty will also serve as career advisors for third-year and fourth-year students in the program. Therefore, it is estimated that 0.75-1.00 FTE will be required for delivery of aspects of the program unique to students in the bioinformatics program. After the first two years of the program, UW-Eau Claire will be better able to assess the extent to which this FTE can be realized by reassignments within the collaborating departments of biology, computer science, and mathematics, or whether new FTE will be required. If new FTE should be required, it is expected a person would be hired by one of the three collaborating academic departments, and this person would also teach liberal education and other specialized courses for majors in that academic department. The Cost and Revenue Projections worksheet reflects the addition of 1.0 FTE in Year 3.

Section IV – Program Revenues

Tuition Revenues

Tuition revenue is based upon continuing and new students who originally enrolled at the university to pursue the bioinformatics major. Tuition revenue assumes constant resident tuition of \$7,362 per year for full-time students. Segregated fees are not included in the tuition revenue calculation. In Year 1, tuition revenue of \$110,430 (15 student FTE x \$7,362) is expected. By the fourth year, 45 students in the program are projected, so the “steady state” annual tuition revenue will be \$331,290.

Program/Course Fees

All bioinformatics students will be required to take CHEM 115 (Chemical Principles) and CHEM 325 (Organic Chemistry I). Each course has a \$20 per student special course fee associated with the laboratory portion of the course. Fees collected are allocated to the Department of Chemistry for delivery of the lab components of these two courses.

General Program Revenue (GPR)

Tuition revenues corresponding to the student FTE projections are not assigned directly to the program or to the college. On the UW-Eau Claire campus, all GPR dollars are centrally managed at the university administration level and allocated to programs as needed to support general education as well as the needs of specific programs.

Section V – Program ExpensesSalary and Fringe Expenses

As described in Section III, estimates of 0.75-1.00 FTE will be required for delivery of aspects of the program unique to students in the bioinformatics program. After the first two years of the program, UW-Eau Claire will be better able to assess the extent to which this FTE can be realized by reassignments within the collaborating departments of biology, computer science, and mathematics, or whether new FTE will be required. If there were a case where an additional 1.00 is required, salary plus fringe expenses are conservatively estimated to be \$118,000 per faculty FTE, to reflect the higher salaries typically earned by STEM faculty.

Other Expenses

It is anticipated that some undergraduate research collaborations involving students in the bioinformatics major will make use of the Blugold High Performance Computer Cluster. Costs related to use of the cluster for this program are expected to grow from \$10,000 in Year 1 to \$30,000 in Year 5. When students and faculty propose such research projects for funding by the Office of Research and Sponsored Programs, they will request funds to support high-performance computing needs.

Section VI – Net Revenue

In summary, the budget projections estimate positive net revenue of \$29,630 in Year 1 and ranging from \$60,734 to \$111,558 in the other four years. As noted above, all GPR funds are centrally managed by university administration. As such, this positive net revenue is expected to support the allocation of an additional position to help deliver high-demand courses in the bioinformatics core that are taken by students in other STEM programs, such as Foundations of Biology (BIOL 221/222), Calculus 1 (MATH 114), or Chemical Principles (CHEM 115). This position is indicated in the Year 3 faculty/instructional staff line of the spreadsheet.



University of Wisconsin-Eau Claire

105 Garfield Avenue • P.O. Box 4004 • Eau Claire, WI 54702-4004

May 11, 2021

Tommy Thompson, Interim President
University of Wisconsin System
1720 Van Hise Hall
1220 Linden Drive
Madison, WI 53706-1559

Dear President Thompson:

I am submitting this letter and associated materials in support of the University of Wisconsin-Eau Claire's (UW-Eau Claire's) proposed comprehensive B.S./B.A. in Bioinformatics for review, consideration, and approval by University of Wisconsin System Administration and the University of Wisconsin System Board of Regents.

As noted in the authorization documents, bioinformatics is the science of storing, extracting, organizing, analyzing, interpreting, and using biological information. Students completing this major will be well qualified to meet the growing need for computer and information research scientists, data scientists, and software developers. Students will also be well prepared for graduate work in life sciences or data science. The major is consistent with UW-Eau Claire's mission to serve the needs of the region, focus on undergraduate research, and commit to rigorous, intentional and experiential undergraduate education.

The proposed major is a collaboration between the Departments of Biology, Chemistry, and Mathematics, and grows from established strength in those units. UW-Eau Claire's College of Arts and Sciences and Department of Mathematics are well positioned to serve as the academic home for this major. The sixty credits of required and elective coursework are drawn from biology, chemistry, mathematics, computer science and data science. Students earning the B.S./B.A. in Bioinformatics also complete UW-Eau Claire's Liberal Education Core, ensuring a firm foundation in the knowledge, skills, and responsibilities of a broadly educated person, and the ability to integrate and apply knowledge.

Students majoring in bioinformatics will have access to high impact experiences in research, including work associated with UW-Eau Claire's research agreement with Mayo Clinic Health System. Student research at UW-Eau Claire is supported through the Office of Research and Sponsored programs with support for student research travel and for participation in research during semester and summer sessions. Students will have access to existing laboratory facilities in biology and computer science as well as to the Blugold High Performance Computer Cluster. Students will also have access to UW-Eau Claire's other signature high impact experiences—cultural immersions and internships.

Excellence. Our measure, our motto, our goal.

Office of the Provost and Vice Chancellor for Academic Affairs • Schofield 206 • 715-836-2320
fax: 715-836-2902 • www.uwec.edu/acadaff

Tommy Thompson, Interim President

Page 2

May 11, 2021

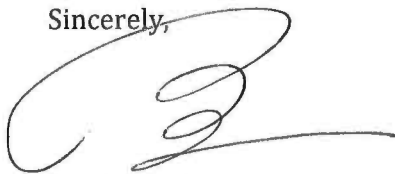
After reviewing the proposal, I am confident sufficient resources exist to sustain this program. All instructional resources are in place to deliver the curriculum initially. Despite the financial impacts of the COVID-19 pandemic, UW-Eau Claire's financial situation is such that there is no concern about launching these programs. Strategic one-time cost reductions and a lower enrollment loss than feared have allowed UW-Eau Claire to maintain a solid financial footing throughout the pandemic.

The proposed major has been approved through UW-Eau Claire's shared governance program approval process (March 23, 2021). All programs at the University are subject to an in-depth review every seven years. Assessment of student learning on program outcomes will be conducted each year in keeping with standard UW-Eau Claire practice. Student retention, time-to-graduation, graduation rates, and participation in high impact practices will be monitored as part of program review and in decisions about allocation of instructional positions.

In closing, I enthusiastically support the proposal for a B.S./B.A. in Bioinformatics and look forward to UW System Administration and UW System Board of Regents' granting UW-Eau Claire the authority to offer the major.

Thank you in advance for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Patricia A. Kleine', with a large, stylized initial 'P' and a long horizontal flourish extending to the right.

Patricia A. Kleine
Provost and Vice Chancellor for Academic Affairs

**NEW PROGRAM AUTHORIZATION (IMPLEMENTATION)
MASTER OF SCIENCE IN SPORT ADMINISTRATION,
UW-PLATTEVILLE**

REQUESTED ACTION

Adoption of Resolution C.3, authorizing the implementation of the Master of Science in Sport Administration program at the University of Wisconsin-Platteville.

Resolution C.3.: 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 Master of Science in Sport Administration program at the University of Wisconsin-Platteville.

SUMMARY

The University of Wisconsin (UW)-Platteville proposes to establish a Master of Science in Sport Administration (SPAD). The new program will directly support the institutional mission of building curricular strengths and creating an inclusive educational experience. In addition, the proposed program will contribute to the institution's Strategic Plan by enhancing access for diverse populations. Specifically, this graduate program will better prepare students for leadership positions in youth sport, professional sport, esports, and intercollegiate sports through a curriculum focused on global perspectives. This program responds to the growing professionalization of the sport industry where a post-baccalaureate degree is increasingly required for administrative leadership positions in sport. Students who complete this program will have a strong understanding of ethical and inclusive leadership, legal aspects, budgetary, marketing, and event management skills necessary to provide leadership in the Sport Administration profession. This graduate program will utilize a service-based pricing model for tuition and will consist of 30 credits to include courses in organizational change, accounting, budget management, diversity of sport, event management, career and identity development, marketing, the global influence of sport, and a practicum capstone experience. This program will specifically prepare students for careers in the growing area of global sport administration. The Bureau of Labor Statistics (BLS) predicts national growth of 10% in sport leadership by 2029.

Provost

- Tammy Evetovich, Provost and Vice Chancellor of Academic Affairs, UW-Platteville
- Kristina M. Navarro, Director of Intercollegiate Athletics and Recreation, Assistant Chancellor, Associate Professor of Health and Human Performance, UW-Platteville

BACKGROUND

This proposal is presented in accord with UW System Administrative Policy 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting (revised March 31, 2020, available at <https://www.wisconsin.edu/uw-policies/uw-system-administrative-policies/policy-on-university-of-wisconsin-system-array-management-program-planning-delivery-review-and-reporting-2/>).

Related Policies

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

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

ATTACHMENTS

- A) Request for Authorization to Implement
- 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 SPORT ADMINISTRATION
AT UNIVERSITY OF WISCONSIN-PLATTEVILLE
PREPARED BY UW-PLATTEVILLE**

ABSTRACT

The University of Wisconsin (UW)-Platteville proposes to establish a Master of Science in Sport Administration (SPAD). The new program will directly support the institutional mission of building curricular strengths and creating an inclusive educational experience. In addition, the proposed program will contribute to the institution's strategic plan by enhancing access for diverse populations. Specifically, this graduate program will better prepare students for leadership positions in youth sport, professional sport, esports, and intercollegiate sports through a curriculum focused on global perspectives. This program responds to the growing professionalization of the sport industry where a post-baccalaureate degree is increasingly required for administrative leadership positions in sport. Students who complete this program will have a strong understanding of ethical and inclusive leadership, legal aspects, budgetary, marketing, and event management skills necessary to provide leadership in the Sport Administration profession. This graduate program will utilize a service-based pricing model for tuition and will consist of 30 credits to include courses in organizational change, accounting, budget management, diversity of sport, event management, career and identity development, marketing, the global influence of sport, and a practicum capstone experience. This program will specifically prepare students for careers in the growing area of global sport administration. The Bureau of Labor Statistics (BLS) predicts national growth of 10% in sport leadership by 2029.¹

PROGRAM IDENTIFICATION

University Name

University of Wisconsin-Platteville

Title of Proposed Academic Degree Program

Sport Administration

Degree Designation(s)

Master of Science

¹ <https://www.bls.gov/ooh/entertainment-and-sports/mobile/athletes-and-sports-competitors.htm>

Mode of Delivery

Single university; 50% or more distance delivery

Department or Functional Equivalent

Department of Health and Human Performance

College, School, or Functional Equivalent

School of Liberal Arts and Education (LAE)

Proposed Date of Implementation

September 2021

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 100 students will have enrolled in the program and 62 students will have graduated. The average student retention rate is projected to be 88% based on current campus data for graduate students.

Table 1: Five-Year Academic Degree Program Enrollment Projections

Students/Year	Year 1	Year 2	Year 3	Year 4	Year 5
New Students	10	15	20	25	30
Continuing Students		9	13	18	22
Total Enrollment	10	24	33	43	52
Graduating Students		9	13	18	22

Tuition Structure

The Master of Science in Sport Administration program will utilize a service-based pricing model for tuition. For the current academic year, residential tuition for graduate students is \$715 per credit. Graduate students are not charged segregated fees at UW-Platteville. No applicable fees will be charged at this time.

DESCRIPTION OF PROGRAM**Overview of the Program**

This program will consist of 30 credits. This includes 27 credits of coursework and a three-credit, in-person campus-based practicum experience. Seven new courses will be developed within the Health and Human Performance department. The remaining nine credits will draw from the existing graduate coursework in the School of Business. The core faculty for this program are currently part of the university, have doctoral degrees in related fields, conduct research in this area, and guide student applied research and practicum experiences. As a scholar-practitioner program, students will also learn from

current sport leaders who serve as adjunct faculty in the Health and Human Performance department. Many content courses are taught by graduate-qualified faculty practitioners who bring a unique and real work perspective to administration of sport in its many forms.

Student Learning Outcomes and Program Objectives

The objective for the new Sport Administration program is to prepare future professionals who are highly capable of work in leadership roles in a variety of sport organizations. Individuals pursuing this degree path may directly work in roles specific to professional and collegiate sport in event management, marketing, revenue generation, student-athlete development, diversity, equity, and inclusion. Individuals may also immediately enter roles in the United States Olympic governing bodies for Olympic sports or work to lead and manage esports programs where individuals compete in an online virtual environment.

Graduates with a Master of Science in Sport Administration will:

1. Demonstrate advanced understanding of and analyze research on an original problem related to current issues in sport.
2. Demonstrate advanced knowledge of legal, governance, and compliance rules in sport.
3. Demonstrate advanced ability to understand and apply financial reports and budget management in sport.
4. Communicate effectively in written, visual, and oral formats to share current knowledge in an area of sport administration.
5. Demonstrate advanced ability to enhance relationships and partnerships across sport organizations.

The curriculum will be guided by the Commission on Sport Management Accreditation (COSMA) standards, National Collegiate Athletic Association (NCAA) and National Association of Collegiate Directors of Athletics (NACDA) professional standards.

Program Requirements and Curriculum

Table 2 illustrates the program curriculum for the proposed program. The program requires 30 credits, of which 27 credits are content-specific and three credits comprise a capstone and practicum component.

Table 2: Master of Science in Sport Administration Program Curriculum

Courses required for graduation:

HHP 5010: Introduction to Sport Administration	3 credit(s)
OCL 7330: Org Change Leadership Theory & Practice	3 credit(s)
HHP 5050: Career Construction and Identity Development in Sport Administration	3 credit(s)
HHP 6040: Diversity and Inclusion in Sport Administration	3 credit(s)
HHP 7050: Legal Aspects of Sport Administration	3 credit(s)
ACCT 7210: Applied Accounting	3 credit(s)
HHP 7070: Sport Administration in a Global Society	3 credit(s)
BUSADMIN 6630: Marketing Management	3 credit(s)
HHP 7030: Event Management in Sport Administration	3 credit(s)
HHP 7970: Capstone and Practicum in Sport Administration	3 credit(s)

Total Credits

30 credit(s)

Assessment of Outcomes and Objectives

The program will have an assessment plan as required by the university. Student Learning Outcomes (SLOs) for the program will be assessed on a two-year cycle, as aligned with the institutional process and timeframe. The main assessment activities include:

Benchmark Assessments

1. Course-embedded assessments in the introductory course will track student progress toward SLO 1. Students will complete a literature review demonstrating their ability to read, analyze, and synthesize educational research and make it relevant to practice.
2. The portfolio from the practicum course will track student progress toward developing an action plan based upon a current issue in the field as evidence toward SLO 2.
3. Course-embedded assessments in the practicum course will track student progress toward SLOs 3 and 4. Students will connect the scholarship and their action plan (SLO 3). Students will develop an issues paper and presentation to assess evidence of written, visual, and oral communication skills (SLO 4).
4. A course-embedded diversity action project in the Diversity and Equity course will track student progress toward SLO 5 by showing evidence of increasing their cultural fluency.

Final Assessment of Learning Outcomes

1. The program coordinator will use supervisor evaluations in the practicum course to measure how students have developed scholar-practitioner skillsets and applied them to leadership environments in the field (SLOs 2 and 3), as well as improving their own cultural fluency (SLO 5).

2. The program coordinator will use the final practicum project to assess each student's ability to understand and analyze research related to an original problem worthy of examination (SLO 1). The final project will measure how each student is able to apply a data-driven action research project to inform and improve practice as a sport leader. Communication skills will also be assessed through the written report and oral presentation (SLO 4).

Information gathered from these assessment activities will be compiled to evaluate the program. All this information will be shared with the Academic Planning Council (APC), the institutional governance body responsible for program review, as well as with members of the Department of Health and Human Performance (HHP) at the end of the spring semester every year. Revisions will be made to the program curriculum based upon the assessment plan every two years.

Diversity

UW-Platteville and the HHP strive to foster an environment of inclusive excellence and provide resources for initiatives in that regard. Specifically, the university recently restructured its diversity initiatives and multiple offices to provide increased support and advocacy for faculty, staff, and students. This includes the addition of the Office of Multicultural Student Affairs Diversity Fellows program. The program will work in partnership with the Division of Diversity, Equity, and Inclusion (DEI) to intentionally recruit and attract low-income and underrepresented populations to the university and program. Program curriculum will directly advance conversations around inclusive excellence through courses such as the required Diversity and Inclusion in Sport Administration course. SLOs for the program also contribute to these goals. For example, SLO 5 will be assessed to reflect cultural fluency. In addition, students and fellows within the program will learn specifically about how DEI is paramount to success in sport leadership settings during the practicum experience.

The Sport Administration program will advance inclusive excellence through its curriculum, its recruitment of diverse faculty and students, and its practicum experiences. This program will work intentionally with the AOF/AOP program and the Division of Diversity, Equity, and Inclusion on student recruitment. This will be weaved throughout the curriculum and all 10 courses via personal reflections and assignments that culminate in the capstone course, career, and identity development courses. Current funding is allocated for graduate assistantships to attract diverse applicants to the program.

The program also benefits from university initiatives to recruit instructors from underrepresented populations. Inclusivity and diversity are essential components to the coursework and practicum experience in this proposed program. Current instructors are active members of the Minority Opportunities Athletic Association (MOAA). In this way, the program addresses the increased access component of the Strategic Plan, to foster diversity and inclusion and, specifically, to prepare diverse leaders for leadership roles in

sport organizations. The program coordinator and program faculty work to ensure that a diverse pool of qualified practicum supervisors work with students to foster the teaching and learning experience in the field. This program aligns with strategic initiatives at the university to recruit students of underrepresented populations and enhance underrepresented coaches in leadership positions.

The UW-Platteville 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. This program will continue to work in partnership with the Office of Multicultural Student Affairs with the AOP fellowship program.

Collaborative Nature of the Program

No formal collaborations exist from a curricular standpoint. However, the program will already feature five different field placement sites in southwest Wisconsin for student practicums at regional sports organizations that the new Sport Administration program can leverage. Institutions including Loras College, University of Dubuque, UW-Platteville Richland, UW-Platteville Baraboo, UW-Platteville Athletics, and UW-Platteville Recreation and Wellness have offered to help the new program develop new practicum opportunities on their campuses and extend options for students. These programs would allow students to complete an eight-week experience within their division onsite, and report to a program partner that is a member of the program's advisory board.

Projected Time to Degree

The program will take 15-24 months for full-time graduate students to complete. Both traditional and nontraditional students may seek to complete this program at various full- and part- time enrollment statuses. Students who complete the program in 15-18 months are typically employed part-time or as graduate assistants at UW-Platteville and can take nine graduate credits in spring and fall semesters with six credits each in two summer sessions. Students who are working full time typically enroll in 3-6 credits each term (fall, spring, summer, and optional winter interim session). Part-time students complete the program in two to three years depending on credit enrollment.

Program Review

The program will follow the review cycle established by the faculty for other graduate programs. The audit and review process is intended to facilitate continuous program improvement and is conducted for all academic programs. As part of the process, the program's faculty engage in a self-study review of the program's key learning outcomes on an annual basis. That review is then forwarded to the Academic Planning Council (APC), on a six-year cycle with a mini-review completed biannually. This process examines mission-fit, resource efficiency, academic quality, and service quality for both core and historically marginalized groups. An evaluation report is presented to and discussed with the faculty, APC, dean, and provost.

Accreditation

The program will not seek accreditation in a discipline-specific area. It will participate in the university-wide accreditation processes with the Higher Learning Commission. The curriculum will be guided by the Commission on Sport Management Accreditation (COSMA) standards, National Collegiate Athletic Association (NCAA), and National Association of Collegiate Director of Athletics (NACDA) professional standards.

JUSTIFICATION

Rationale and Relation to Mission

The Master of Science in Sport Administration program will contribute directly to the mission of the UW System by developing an opportunity for nontraditional students to continue higher education in a niche emphasis. This will contribute to UW-Platteville's mission to "become broader in perspective and produce a culturally responsive and competent workforce." This program responds to the growing professionalization of the sport industry where a post-baccalaureate degree is increasingly required for administrative leadership positions in sport. In addition, this responds to a current student- and alumni-cited demand for focused programming in Sport Administration.

This program will specifically build upon the UW-Platteville strategic plan goals of enhancing access to programming that does not exist across the state through the incorporation of online learning and esports. Esports often take the form of organized, multiplayer video game competitions, particularly between professional players, individually or as teams.

University Program Array

Currently, the University of Wisconsin-Platteville offers a robust array of graduate programs in management. This program will extend this expertise to a new market with a focus on Sport Administration. In addition, there is an undergraduate feeder program in the Health and Human Performance Sport Management minor. Political science programs and social science programs also support this area of need.

Other Programs in the University of Wisconsin System

Currently, there are three other UW System M.S. programs that include content related to sport administration. The scholar-practitioner model for the UW-Platteville Sport Administration program distinguishes the proposed program from other graduate programs in the UW System. In addition, this program suggests a focus on a burgeoning area of esports leadership. Most other programs focus on preparation at the undergraduate level across the state and region with no master's component. The UW-Platteville Sport Administration program has a singular focus on the master's level as a terminal degree for immediate career placement in sport leadership.

The University of Wisconsin-Madison offers an M.S. in Educational Leadership and Policy Analysis with a focus in Higher, Postsecondary, and Continuing Education (HPCE). It offers concentration options in intercollegiate athletic administration, two-year colleges, and student affairs administration. This is a higher education-based program, not sport leadership. This program does intend to develop an online program in future years. The UW-Platteville hybrid program will be more tailored to practitioner on-campus experiences during the practicum component.

The University of Wisconsin-Whitewater offers an M.S.E. in Higher Educational Leadership program with an emphasis in Athletics Administration. However, this is an emphasis only and not a full master's level program. Further, this emphasis is centric to collegiate sport while the UW-Platteville Sport Administration master's program encompasses professional, youth, and esports leadership.

UW-Parkside offers an M.S. in Sport Management face-to-face, which is different than the proposed online program for nontraditional students. UW-Platteville has discussed practicum collaboration with both UW-Whitewater and UW-Parkside.

Need as Suggested by Current Student Demand

Enrollment in the undergraduate HHP emphasis of sport management has grown steadily from 10 to 30 students since its inception in 2013. With increased emphasis on health, wellness, and management of sport, students in various undergraduate disciplines would seek to continue their education in this master's program. The professionalization of the industry and the increasing requirement for a post-baccalaureate degree in administrative leadership will move students from bachelor's programs into programs like this one.

Need as Suggested by Market Demand

The Bureau of Labor Statistics (BLS) predicts national growth of 10% in sport leadership by 2029.² In addition, as the field of intercollegiate athletics administration as well as interest in the profession continues to grow, job seekers cite obtaining a graduate degree as a form of credentialing or requisite step for entry into the field. Given the increasingly competitive field, many aspiring sport leaders at the collegiate level now pursue graduate degrees as an intentional way of differentiating themselves from the competition. In a recent study focused on career preparation, 53% of participants viewed an advanced degree as a prerequisite qualification to entering the field of sport administration. Further, 74% of participants cited a graduate degree as an essential credential to work with student-athletes.³

²<https://www.bls.gov/ooh/entertainment-and-sports/mobile/athletes-and-sports-competitors.htm>

³ Bernhard, L. M., Haslerig, S. J., Navarro, K., & Houston, D. A. (2016). Masters of sport: Graduate school pathways of aspiring intercollegiate athletics professionals. *Journal for the Study of*

A recent market research study identified nearly 9,000 national job openings in June 2016 related to Sport Leadership on HigherEdJobs, with 13% from the Midwest. Table 3 summarizes positions in Wisconsin and the Midwest from this study and includes information on sport leadership jobs from a survey of open positions posted on the NCAA and NACDA (National Association of Collegiate Directors of Athletics) job board between January and March 2020.⁴

Table 3. Sample Monthly Job Openings by Position in Wisconsin and Midwest

Administrative Leadership Position	WI	Midwest
Athletics and Coaching	1	64
Business and Financial Services	21	85
Development and Fundraising	6	96
Compliance	5	15
Student Development/Advising	5	21
Marketing/Sales	8	38
Development and Corporate Relations	7	40
Budget and Finance	3	9
Event Management	7	23

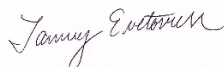
Postsecondary and Tertiary Education, 1, 85-102. Retrieved from
<http://www.jspte.org/Volume1/JSPTev1p085-102Bernhard2085.pdf>

⁴ <https://www.bls.gov/oes/current/oes119033.htm> and
<https://nces.ed.gov/ipeds/trendgenerator/tganswer.aspx?sid=5&qid=30>.

University of Wisconsin - Platteville						
Cost and Revenue Projections For Master of Science in Sport Administration						
	Items	Projections				
		2022	2023	2024	2025	2026
		Year 1	Year 2	Year 3	Year 4	Year 5
I	Enrollment (New Student) Headcount	10	15	20	25	30
	Enrollment (Continuing Student) Headcount	0	9	13	18	22
	Enrollment (New Student) FTE	10	15	20	25	30
	Enrollment (Continuing Student) FTE	0	9	13	18	22
II	Total New Credit Hours	150	360	495	645	780
	Existing Credit Hours	0	0	0	0	0
III	FTE of New Faculty/Instructional Staff	0	0	0	0	0
	FTE of Current Fac/IAS	0.25	0.5	0.5	0.5	0.5
	FTE of New Admin Staff	0	0	0	0	0
	FTE Current Admin Staff	0	0	0	0	0
IV	Revenues					
	<i>From Tuition</i>	\$107,250	\$257,400	\$353,925	\$461,175	\$557,700
	<i>From Fees</i>					
	<i>Program Revenue (Grants)</i>					
	<i>Program Revenue - Other</i>					
	<i>GPR (re)allocation</i>					
	Total New Revenue	\$107,250	\$257,400	\$353,925	\$461,175	\$557,700
V	Expenses					
	Salaries plus Fringes					
	<i>Faculty/Instructional Staff</i>					
	<i>Other Staff</i>					
	Other Expenses					
	<i>Facilities</i>					
	<i>Equipment</i>					
	<i>Other (please list)</i>					
	<i>Other (please list)</i>					
	Total Expenses	\$0	\$0	\$0	\$0	\$0
VI	Net Revenue	\$107,250	\$257,400	\$353,925	\$461,175	\$557,700

Submit budget narrative in MS Word Format

Provost's Signature:



Date: 03/22/2021

Chief Business Officer's Signature:



Date: 03/22/2021

COST AND REVENUE PROJECTIONS NARRATIVE UNIVERSITY OF WISCONSIN-PLATTEVILLE MASTER OF SCIENCE IN SPORT ADMINISTRATION

Introduction

The University of Wisconsin-Platteville proposes to establish a Master of Science in Sport Administration (M.S. in Sport Administration). The development of this program responds to the recognized shortage of Sport Administration professionals throughout the state and region. The program makes use of courses currently offered by the School of Business and adds seven new Sport Administration courses.

Section I – Enrollment

Estimated student demand for a Sport Administration major is based on the high demand for professionals in this area.¹ The program conservatively estimates initial enrollments to be 10 FTE in the first year. The program projects a steady growth in student enrollments reaching 52 by the fifth year. The program typically does not have part-time students.

Section II – Credit Hours

Students will complete a total of 30 credits. Of these credits, 21 credits are delivered by the Department of Health and Human Performance (HHP) and the nine remaining credits are delivered by the School of Business. All programs have capacity to accommodate additional students. Typically, a student takes 15 credits per year. Student credit hours (SCH) are calculated by multiplying the new and continuing student FTE by 15 (the number of program credits taken each year).

Section III – Faculty and Staff Appointments

In the initial five years of the program, current courses have capacity to absorb the program's students. By Year 3, current capacity in faculty FTE will be utilized to accommodate the new courses in the program and growth in demand in existing health and human performance courses.

Section IV – Program Revenues

Tuition Revenues

The program will be supported by tuition revenue. For students enrolled in the Master of Science in Sport Administration program, service-based pricing will apply. For the current academic year, residential tuition for graduate students is \$715 per credit. Of this

¹ [https://www.burning-glass.com/blog/demand/Sport Administration jobs/](https://www.burning-glass.com/blog/demand/Sport%20Administration%20jobs/).

amount, \$715 is attributable to tuition and \$0 is attributable to segregated fees. Graduate students are not charged segregated fees at UW-Platteville. The program does not currently have any applicable fees or grant, program, or general revenue.

Section V – Program ExpensesSalary and Fringe Expenses

No additional salary expenses are anticipated for the first five years of the program. Instructional capacity exists in the program's first- and second-year courses. By the third year of the program and again in the fifth year, additional instructional FTE will be needed. The Department of Health and Human Performance and the School of Business have the capacity within their respective staff and course rotations to support this program.

The program will require minimal support staff in the initial years of the program. As with faculty and staff teaching capacity, there is also capacity at the administrative levels to support this program.

Section VI – Net Revenue

The program is expected to have net revenues beginning with the first year. The program does not expect a negative impact from COVID-19. Instructional staff capacity is not needed until Year 2, which can be accommodated with current staffing levels. While the Fall 2021 enrollments are to be determined, anticipated enrollment estimates are very conservative.



UNIVERSITY OF WISCONSIN
PLATTEVILLE
ACADEMIC AFFAIRS

March 23, 2021

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

Re: Provost Letter of Commitment for Implementation of a MS in Sport Administration

Dear President Thompson:

The University of Wisconsin-Platteville is pleased to request authorization to implement a Master of Science in Sport Administration. The Notice of Intent for this major was circulated to UW-System campuses and the program has been unanimously approved by all governance bodies including the budget commission, academic planning council, graduate council, and faculty senate.

I have reviewed the budget and enrollment assumptions, within the context of COVID 19 planning, with the university's budget office and the Department of Health and Human Performance and the School of Business and believe that UW-Platteville is more than able to successfully launch this program.

This program responds to shortages of sport administration professionals within Wisconsin and across the upper Midwest. This program responds to the growing professionalization of the sport industry where a post-baccalaureate degree is increasingly required for administrative leadership positions in sport. Students who complete this program will have a strong understanding of ethical and inclusive leadership, legal aspects, budgetary, marketing and event management skills necessary to provide leadership in the Sport Administration profession. The curriculum offers cross-disciplinary study through coursework in accounting and organizational leadership. This cross-disciplinary inclusion provides participating students with a well-rounded view of the field of sport administration.

The proposed program has been designed to meet the university's definition and standards of quality and will make a meaningful contribution to the university's select mission, overall academic plan, and academic degree program array. 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.

A handwritten signature in cursive script that reads 'Tammy Evetovich'.

Tammy Evetovich, Provost and Vice Chancellor, Academic Affairs

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

**NEW PROGRAM AUTHORIZATION (IMPLEMENTATION)
BACHELOR OF SCIENCE IN CYBERSECURITY,
UW-WHITewater**

REQUESTED ACTION

Adoption of Resolution C.4., authorizing the implementation of the Bachelor of Science in Cybersecurity program at the University of Wisconsin-Whitewater

Resolution C.4.: 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 Bachelor of Science in Cybersecurity program at the University of Wisconsin-Whitewater.

SUMMARY

The University of Wisconsin-Whitewater proposes to establish a Bachelor of Science (B.S.) program in Cybersecurity. The development of this program responds to the UW-Whitewater strategic goals by improving student access and successful completion of an academic degree program that leads to a successful career. The implementation of this program, together with an already successful online master's program in Cybersecurity and the Cybersecurity Center for Business at UW-Whitewater, will further respond to the regional and national needs for cybersecurity talent to protect both business and government from cybersecurity attacks. Establishing the program will provide students with exposure to studies in cybersecurity operation, management, design, and implementation. Graduates will be better equipped to pursue cybersecurity careers such as security engineers, security analysts, security consultants, and security managers.

The B.S. in Cybersecurity program is comprised of 120 credits. Major requirements comprise 39-57 credits and will offer students the choice to select from three emphases: a comprehensive emphasis, a general emphasis that allows students to select a minor, and a cyber operations emphasis that is designed as a seamless transfer pathway for two-year technical college graduates. The program will be offered both face-to-face and online. Standard UW-Whitewater undergraduate tuition rates will apply.

Provost

- John Chenoweth, Provost and Executive Vice Chancellor for Academic Affairs, UW-Whitewater

BACKGROUND

This proposal is presented in accord with UW System Administrative Policy 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting (revised March 31, 2020, available at <https://www.wisconsin.edu/uw-policies/uw-system-administrative-policies/policy-on-university-of-wisconsin-system-array-management-program-planning-delivery-review-and-reporting-2/>).

Related Policies

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

ATTACHMENTS

- A) Request for Authorization to Implement
- 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 CYBERSECURITY
AT THE UNIVERSITY OF WISCONSIN-WHITewater
PREPARED BY UW-WHITewater**

ABSTRACT

The University of Wisconsin-Whitewater proposes to establish a Bachelor of Science (B.S.) program in Cybersecurity. The development of this program responds to the UW-Whitewater strategic goals by improving student access and successful completion of an academic degree program that leads to a successful career. In doing so, the implementation of this program, together with an already successful online master's program in Cybersecurity and the Cybersecurity Center for Business at UW-Whitewater, will further respond to the regional and national needs of cybersecurity talents for protecting both business and government from cybersecurity attacks. Establishing the program will provide students with exposure to studies in cybersecurity operation, management, design, and implementation. Graduates will be better equipped to pursue cybersecurity careers such as security engineers, security analysts, security consultants, and security managers.

The B.S. in Cybersecurity program is comprised of 120 credits. Major requirements comprise 39-57 credits and will offer students the choice to select from three emphases: a comprehensive emphasis, a general emphasis that allows students to select a minor, and a cyber operations emphasis that is designed as a seamless transfer pathway for two-year technical college graduates. The program will be offered both face-to-face and online. Standard UW-Whitewater undergraduate tuition rates will apply.

PROGRAM IDENTIFICATION

Institution Name

University of Wisconsin-Whitewater

Title of Proposed Program

Cybersecurity

Degree/Major Designations

Bachelor of Science

Mode of Delivery

Single institution with face-to-face delivery at initial implementation. Online courses will be added progressively so that 50% or more courses will be offered via distance delivery by Year 5.

Department or Functional Equivalent

Department of Computer Science

College, School, or Functional Equivalent

College of Letters and Sciences

Proposed Date of Implementation

January 2022

Projected Enrollments and Graduates by Year Five

Table 1 represents enrollment and graduation projections for students entering the program over the next five years. Given the anticipated implementation data, Year 1 projections include only enrollments for Spring 2022. The new students in Year 1 represent transfer students, while continuing students are those expected to change to the new major from others on campus. It is estimated the new student enrollment will be 15 in Year 2 and grow by a moderate rate of 30% for each of the next three years. This estimated increase rate is comparable to the B.S. in Computer Science program and the M.S. in Cybersecurity program at UW-Whitewater, and it aligns with high-job growth rate in the cybersecurity area. Average attrition is expected to be 20% based on the average retention rate of 80% for undergraduate students at UW-Whitewater. The number of graduates is estimated to be 20% of the total student population of the previous year starting in Year 2, when the first class of transfer students will graduate. This graduation ratio estimate is based on the graduation number in the Computer Science major at UW-Whitewater. By the end of Year 5, it is expected 102 students will have enrolled in the program and 21 students will have graduated.

Table 1: Five-Year Degree Program Enrollment Projections

Students/Year	(Spring 2022 semester only)	Year 2	Year 3	Year 4	Year 5
New Students	4	15	20	26	34
Continuing Students	3	6	16	25	35
Total Enrollment	7	21	36	51	69
Graduating Students	0	0	4	7	10

Tuition Structure

Standard UW-Whitewater undergraduate tuition rates will apply. Based on Fall 2020 tuition rates, full-time resident tuition and fees for students enrolled in 12-18 credits per semester is \$3,867.42, of which \$3,259.44 is tuition. Full-time, nonresident student tuition

and fees are \$8,303.34, of which \$7,695.36 is tuition. Fees for both full-time residents and nonresidents include \$523.35 for segregated fees and \$84.63 for textbook rental. For students enrolled in less than 12 credits, tuition is \$320 per credit for Wisconsin residents and \$684 for nonresidents. Part-time and nonresident students pay an additional \$42.10 for segregated fees and \$6.88 for textbook rental. Students who enroll in online courses will also pay \$50 per credit hour for an online course in the College of Letters and Sciences.

DESCRIPTION OF PROGRAM

Overview of the Program

The B.S. in Cybersecurity program at UW-Whitewater will educate future Cybersecurity professionals to identify, prevent, detect and respond to security attacks that endanger the safety of property and people. Students in the program will learn to design and implement actionable security solutions by considering both human and technical factors. The practice-oriented learning environment will help prepare students to obtain positions such as security analysts, security consultants, vulnerability testers, security engineers, or security managers.

The proposed program is comprised of 120 credits, including 38-49 credits of general education requirements (GER). Major requirements include three emphases. The 39-credit general emphasis allows student to pursue an additional minor or major of interest. The 54-credit cyber operations emphasis provides a smooth transfer path for students with associate degrees in Cybersecurity from two-year technical colleges. The 57-credit comprehensive emphasis allows students to study multiple aspects of cybersecurity in depth, together with solid foundations in computer science, mathematics, and information technology. Every student also needs to satisfy the unique requirements specific to each emphasis together with up to 49 credits GER specified by the College of Letters and Sciences.

Student Learning Outcomes and Program Objectives

By the end of the program, students with an B.S. in Cybersecurity will be able to:

1. Analyze security risks in computer systems or organizations using appropriate tools or methodologies and provide efficient solutions.
2. Apply security principles and practices to maintain operations in the presence of risks and threats.
3. Design, implement, and evaluate a software, system, or strategy to prevent, detect, and respond to attacks.
4. Communicate effectively on organizational cybersecurity strategies and policies that address internal and external threats.
5. Recognize responsibilities of individuals and organizations to comply with legal, ethical, and regulatory requirements in cybersecurity.

6. Function effectively as a member or leader of a team engaged in security system design, implementation, evaluation, or operation.

Program Requirements and Curriculum

Students enrolled in the B.S. in Cybersecurity must complete at least 120 credits and obtain a 2.0 GPA for both the major and the bachelor's degree to graduate. Table 2 illustrates the curriculum for the proposed program. Students will choose from one of three emphases. All students must complete 49 credits of GER specified by the College of Letters and Sciences; however, up to 11 credits required for the Cybersecurity major are double-counted toward the GER.

Tables 2 illustrates the program curriculum for the three emphases of the proposed program. In addition to the 38-49 credits of GER, students enrolled in the program will complete a set of major requirements combined with requirements unique to each major. Specifically, students enrolled in the:

- Comprehensive emphasis must complete 17 credits of unique core requirements, 57 credits of required and elective coursework in the major, and 0-8 credits of additional electives.
- General emphasis must complete 9 credits of unique core requirements, 39 credits of required and elective coursework in the major, 24 credits of coursework in an additional minor or a second major, and 0-10 credits of additional electives.
- Cyber operations emphasis may transfer up to 18 credits of applied technical coursework and must complete 9 credits of unique core requirements, 36 credits of required and elective coursework in the major, and 8-19 credits of additional electives. This emphasis is only available to transfer students with associate degrees in information technology or related disciplines. It is designed to maximize the transferrable credits while satisfying the degree requirements.

Table 2: B.S in Cybersecurity with Requirements

General Education Requirements		38-49 credits
Unique requirements		9-17 credits
<i>Common to all emphases</i>		
COMPSCI 172/174	Introductory Programming	3 credits
COMPSCI 215 / MATH 280	Discrete Structures/ Discrete Mathematics	3 credits
ENGLISH 370/371/372	Technical Writing	3 credits
<i>Additional core requirements for the Comprehensive Emphasis</i>		
MATH 250/253	Applied Calculus Survey for Business and Social Science / Calculus and Analytic Geometry I	5 credits
STAT 342	Applied Statistics	3 credits
Major requirements		39-57 credits
<i>Required Courses</i>		
<ul style="list-style-type: none"> 45 credits of the following are required for the Comprehensive Emphasis 33 credits of the following are required for the General Emphasis 30 credits of the following are required for the Cyber Operations Emphasis 		
CYBER 101	Introduction to Cybersecurity	3 credits
COMPSCI 222 ⁴	Intermediate Programming with C++	3 credits
COMPSCI 223 ^{1, 3}	Data Structures	3 credits
COMPSCI 271	Computer Organization and Assembly Programming	3 credits
COMPSCI 460 ⁵	Computer Networking	3 credits
ITSCM 331 ²	System Administration	3 credits
ITSCM 332 ¹	Network Administration	3 credits
COMPSCI 342 ^{1, 3}	Digital Forensics	3 credits
COMPSCI 353	Cybersecurity Law and Policy	3 credits
COMPSCI 354	Intrusion Detection and Incident Response	3 credits
COMPSCI 424 ^{1, 3}	Operating Systems	3 credits
COMPSCI 455	Cryptography and Network Security	3 credits
COMPSCI 456 ³	Computer System Security	3 credits
ITSCM 452	Information Assurance and Security	3 credits
CYBER 459	Systems Security Engineering	3 credits
¹ General Emphasis - course is an elective in the major		
² General Emphasis – may substitute COMPSCI 481-Web Server and Unix Administration		
³ Operations Emphasis – course is an elective in the major		
⁴ Operations Emphasis – may substitute COMPSCI 220 – Intermediate Programming in Java		
⁵ Operations Emphasis – may substitute ITSCM 332 – Network Administration		
<i>Elective Courses in the Major</i>		
<ul style="list-style-type: none"> 12 credits of the following for the Comprehensive Emphasis 6 credits of the following for the General Emphasis, except as indicated above, and excluding those marked below.⁶ 6 credits for the Cyber Operations Emphasis selected from same set of courses 		

allowed for the General Emphasis, excepted as indicated.³

CYBER 358	Security Operations in the Cloud	3 credits
COMPSCI 332 ⁶	Introduction to Artificial Intelligence	3 credits
COMPSCI 366	Database Management Systems	3 credits
COMPSCI 381 ⁶	JavaScript and DHTML	3 credits
COMPSCI 382 ⁶	Server-Side Scripting	3 credits
COMPSCI 433	Theory of Algorithms	3 credits
COMPSCI 441	Web Security	3 credits
COMPSCI 452	Malware Analysis	3 credits
COMPSCI 461	Mobile Computing Architecture	3 credits
COMPSCI 481	Web Server and Unix Administration	3 credits
ITSCM 314 ⁶	Database Design and Administration	3 credits
ITSCM 385	Agile Project Management	3 credits
ITSCM 444	IT Security Analytics	3 credits

Minor Requirements

0-24 credits

24 credits required for the General Emphasis

Applied Technical Skills

0-18 credits

18 credits required for the Cyber Operations Emphasis - these credits represent approved information technology courses transferred under an articulation agreement with a technical college

Additional Elective Credits

0-19 credits

Comprehensive Emphasis - students select and additional 0-8 credits

General Emphasis – students select 0-10 credits

Cyber Operations Emphasis – students select 8-19 credits

Total Credits

120 credits

Assessment of Outcomes and Objectives

The proposed B.S in Cybersecurity program will be regularly assessed according to the procedures in the Computer Science department, as overseen by the assessment committee. Direct measures to assess outcomes and objectives will include exams, writing assignments, software design and implementation assignments, lab reports, and reports for individual and team projects. Students will complete an exit survey upon completion of their degree as an indirect assessment measure of the program. The assessment results will be disseminated to the Computer Science department as well as the College of Letters and Sciences assessment committee by the end of the spring semester every year, with appropriate changes implemented and documented within the subsequent academic year. A comprehensive program self-study will be completed every five years following the University of Wisconsin-Whitewater's audit and review process.

Diversity

Similar to most STEM (Science, Technology, Engineering, and Mathematics) fields, the number of female experts in the cybersecurity workplace is relatively low. According to the study conducted by (ISC)² on cybersecurity workforce in 2020,¹ the number of female cybersecurity professionals participating in their study is only 21% in North America. Additionally, 26% of the 2017 U.S. cybersecurity workforce were ethnic/racial minorities, which is roughly in line with the 28% of the general U.S. population who are racial/ethnic minorities. However, the percentage is lower for certain minority groups like Hispanic (4%) and African American (9%).² The proposed B.S. in Cybersecurity program will address those inequities regarding women and minority groups through special group-targeted recruitment, external education grants, and closer collaboration with two-year colleges.

Faculty and staff in the Department of Computer Science have established direct connections with many school districts and their computer or technical teachers in southern Wisconsin and northern Illinois. The department will expand this recruitment effort by including more school districts with higher proportions of minority student population and reach out to more women students who enroll in programming courses through their teachers. Once these students have enrolled in the program, they will be assigned to advisors who are the best at understanding their background and supporting their success. The hands-on experience-oriented curriculum and the exciting ex-curricular activities like cybersecurity competitions designed for this program are also expected to engage students and support their success.

UW-Whitewater will strive to attract women and students from minority groups through external grants in research and education. Examples of such grant programs include the National Science Foundation (NSF) Secure and Trustworthy Cyberspace (SaTC)

¹ "Cybersecurity Professionals Stand Up to a Pandemic," *An (ISC)² Cybersecurity Workforce Study*, 2020.

² "Innovation Through Inclusion: The Multicultural Cybersecurity Workforce"—*An (ISC)² Global Information Security Workforce Study*, 2017.

program's education designation grants, the NSF's Broadening Participation in Computing program,³ the National Initiative for Cybersecurity Education (NICE) K-12 Cybersecurity Education Outreach Program,⁴ and the Department of Defense (DoD) STEM Education grant program. These grant efforts will be strengthened by the existing collaborations between the current cybersecurity faculty and the Pre-College program at UW-Whitewater that has been running programs targeting low-income family students in Wisconsin.

The cyber operations emphasis of the B.S. in Cybersecurity program is created to facilitate transfer for technical college students with associate degrees in information technology and related areas. This collaboration effort with the technical colleges will enhance UW-Whitewater's area of coverage with larger numbers of lower-income, first-generation, and underrepresented minority students. In fact, the ethnic minority student population for technical college students has stayed around 23%, which is significantly higher than the 17% at UW-Whitewater.

Finally, the Department of Computer Science will give preference to women and minority faculty during the hiring process for new faculty in support of this new program when it is possible. If successful, these hired faculty will be assigned to advise women and minority students. The department will also support these faculty to apply for external grants that help broaden participation in cybersecurity areas.

Collaborative Nature of the Program

The program will be offered in collaboration with other departments at UW-Whitewater, including the Information Technology and Supply Chain Management department in the College of Business and the Mathematics department in the College of Letters and Sciences.

The Department of Computer Science has recently reached an articulation agreement with Waukesha County Technical College (WCTC) for their information technology students to transfer into the computer science program at UW-Whitewater. The department will seek to collaborate with WCTC on the Cybersecurity program articulation agreement once this proposed program is approved. UW-Whitewater will communicate with other UW System universities regarding this program; however, no planning for collaboration with other UW universities is underway at this time.

Projected Time to Degree

It is anticipated that a full-time student can complete the B.S. in Cybersecurity program within four years, and a WTCS transfer student with an associate degree in IT-Cybersecurity Specialist could complete the degree at UW-Whitewater within two years.

³ <https://www.nsf.gov/cise/bpc/>.

⁴ <https://www.nist.gov/news-events/news/2020/04/notice-funding-opportunity-k12-cybersecurity-outreach-program>.

Program Review

The program will be reviewed via the UW-Whitewater audit and review process.⁵ 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 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 self-study also identifies 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. The review is then forwarded to the university's Audit and Review Committee, which provides critical feedback and makes recommendations for improvement. An evaluation report is presented to and discussed with the program's faculty, audit and review committee, dean, and provost. The Computer Science department chair will coordinate the review process and disseminate the results to stakeholders according to the standard five-year cycle. Feedback from the review process is reviewed by the program and will be used to further improve the program.

Accreditation

There is no obligatory accreditation for B.S. in Cybersecurity program. The program is developed to align with the DHS/NSA National Centers of Academic Excellence in Cyber Defense (CAE-CD) program requirements.⁶ The designation application process might be initiated after the program has run for at least 3 years, as required by the CAE-CD designation.⁷

JUSTIFICATION

Rationale and Relation to Mission

The B.S. in Cybersecurity program aligns with the UW-Whitewater mission and strategic plan.⁸ Specifically, it aligns with Goal 1 of the strategic plan: "We will improve student access and success" as it will improve student access to the high-demand cybersecurity 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, especially through the collaboration with the Cybersecurity Center for Business at UW-Whitewater to serve the related community, it also aligns with Goal 2: "We will transform lives and impact society" through "...providing high-quality academic

⁵See <https://www.uww.edu/assessment/program-review/audit-and-review>.

⁶ <https://niccs.us-cert.gov/formal-education/national-centers-academic-excellence-cae>.

⁷ NCAE-C requirements https://www.iad.gov/NIETP/documents/Requirements/CAE-CDE_Criteria_2020.pdf.

⁸ For more information see <https://www.uww.edu/strategic-plan>.

programming that prepares our graduates...who lead successful lives and productive careers and to make positive contributions to the State of Wisconsin, to our nation, and to the world.”

The United States is keenly in need of cybersecurity professionals to protect the country in both the private and public sectors. This need brought Dan Stein, the U.S. Department of Homeland Security Branch Chief for Cybersecurity Education and Awareness, to visit UW-Whitewater in May 2017 to promote cybersecurity education. In addition, cybersecurity careers are well-compensated. For instance, according to CyberSeek,⁹ a project supported by the National Institute of Standards and Technology (NIST), U.S. Department of Commerce, and National Initiative for Cybersecurity Education (NICE), the average salary is \$91,000 for a cybersecurity consultant, \$99,000 for a cybersecurity engineer, and \$103,000 for a cybersecurity manager/administrator.

Institutional Program Array

UW-Whitewater has two Cybersecurity related programs: a 27-credit B.B.A. program in Information Technology with an emphasis in Networking and Security; and a 24-credit Cybersecurity minor program. While these two programs provided some foundational courses in cybersecurity and related areas, the new B.S. program in Cybersecurity will allow students to have an all-round study of cybersecurity and its multi-discipline foundations. It will also better prepare students for challenging jobs in cybersecurity.

The proposed B.S. in Cybersecurity program will also set up a bridge with the Master of Science in Cybersecurity program at UW-Whitewater launched in Fall 2020. Students will be able to pursue the 4+1 option—an accelerated plan that allows students to earn both a bachelor’s degree and a master’s degree in Cybersecurity in five years. Furthermore, this new B.S. program paves a smooth pathway from associate degrees to graduate studies in Cybersecurity—an option that was not previously available in Wisconsin.

Finally, UW-Whitewater is also home to the Cybersecurity Center for Business (CCB).¹⁰ The CCB provides apprentice programs, administers a cybersecurity range, and works in partnerships with governmental agencies. The current Cybersecurity faculty has been collaborating with the CCB in education grants sponsored by the Department of Labor (DoL) and Department of Defense (DoD). These awards total over \$3 million. The cyber ranges launched by the CCB will improve the chance for UW-Whitewater to obtain more federal education grants that, in turn, can support development of a diverse Cybersecurity workforce, through this and other academic programs.

⁹ Information retrieved from <https://www.cyberseek.org/>.

¹⁰ For more information about the CCB, See <https://cybersecuritycenterforbusiness.org/>.

Other Programs in the University of Wisconsin System

Currently, UW-Platteville is the only UW System institution that has a bachelor's degree program in Cybersecurity. The 75-credit program has only one emphasis with 13 credits of coursework in cybersecurity, 12 credits in criminal justice, 14 credits in mathematics, and 36 credits in computer science. In contrast, the proposed B.S. in Cybersecurity program at UW-Whitewater is more comprehensive: it offers three emphases, including one emphasis that paves a smooth pathway for technical college students to pursue B.S. and M.S. degrees in Cybersecurity; it requires students to take up to 39 credits of security-focused courses in the comprehensive emphasis and up to 24-27 credits in the other emphases; and it will cover both technological and managerial aspects of cybersecurity as a result of interdisciplinary collaboration between the College of Letters and Sciences and the College of Business and Economics. In addition, the collaboration with UW-Whitewater's Cybersecurity Center for Business (CCB) will provide unique education and practice opportunities not available in other institutions.

UW-Stout, UW-Parkside, and UW-Green Bay offer emphasis, concentration, or certifications in Cybersecurity within their Computer Science or Information Technology programs—but these are not cybersecurity major programs, and none of the programs require more than 12 credits of cybersecurity-focused coursework.

Illinois has several Cybersecurity programs that offer in-depth study in cybersecurity. Both DePaul University and Loyola University offer comprehensive cybersecurity programs that are over 60 credits; Western Illinois University has a 57-credit comprehensive major in Cybersecurity; Illinois State University offers a 79-credit major in Cybersecurity, and University of Illinois-Springfield offers a 36-credit major in Information Systems Security. In Minnesota, Saint Cloud State University offers a 77-79 credits comprehensive Cybersecurity program. However, none of them offer multiple emphases like the proposed program at UW-Whitewater.

Need as Suggested by Current Student Demand

The current Cybersecurity programs offered by UW-Whitewater have signaled the popularity of this major. As of spring 2021, the master's program launched in Fall 2020 has an enrollment of 26 students, and the undergraduate minor program started in Fall 2019 has an enrollment of 32 within two years of launch. These are signals of strong demand in a B.S. in Cybersecurity program based on the experience with the Computer Science program at UW-Whitewater that started in 2012. The Computer Science department has also received consistent student queries asking when a major in cybersecurity could be started so students do not have to go to schools in Illinois or Minnesota.

There is also high demand for the cyber operations emphasis in the program, which is designed specifically for technical student transfers. There is a solid demand for a four-year cybersecurity program from technical college students. There are at least seven IT-Cybersecurity Specialist associate degree programs in the WTCS, with a total estimated

enrollment of over 400. Historical data shows that about 30% of students with an associate degree in IT pursue a B.S. degree in related fields. The pathway provided by the proposed program allows most of those students to pursue a bachelor's and a master's degree in Cybersecurity.

Need as Suggested by Market Demand

The supply of Cybersecurity workers remains very low nationally. According to the most recent data of CyberSeek,¹¹ the ratio of existing Cybersecurity workers to cybersecurity job openings is 1:8. By comparison, the national average for all jobs is 3:7.¹²

The CyberSeek data also reveals fast growth of cybersecurity job openings in the United States. According to data from October 2019 through September 2020, there were approximately 521,617 job openings, which increased by almost 70% compared to 2018 when there were 314,000 job openings, and the 2018 figure was 50% greater than the 209,000 open positions in 2015. Local and regional job markets had dramatic increases in open positions over the past two years. Wisconsin openings increased more than 80% from 2,900 in 2018 to 5,248 in 2020. Illinois increased from 13,000 to 17,861, and Minnesota has increased from 5,600 to 8,618. Recently, program faculty and staff have observed a growing number of students from computer science and information technology programs at UW-Whitewater placed into cybersecurity departments of local companies such as Acuity, CUNA, and Northwestern Mutual. This indicates a strong growth potential for cybersecurity education.

The U.S. Bureau of Labor Statistics (BLS) includes the field of cybersecurity within the occupational area of information security analysts. According to these data, occupational growth in this area between 2019 and 2029 is expected to grow by 31%, reflecting an increase of more than 40,000 new openings during that time.¹³

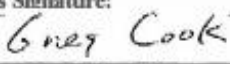

An Academic Program Demand Analysis (APDA) report was prepared by Ruffalo Noel Levitz to assess the market share of current academic offerings at UW-Whitewater against the regional demand for similar programs. The APDA report placed both Computer Science and Information Technology degrees in the highest-ranked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

¹¹ For additional information please see <https://www.cyberseek.org/heatmap.html>.

¹² Information retrieved from <https://www.nist.gov/news-events/news/2020/07/cyberseektm-data-confirms-ever-present-need-expand-cybersecurity-talent>.

¹³ BLS, Occupational Outlook Handbook, Information Security Analysts, retrieved from <https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm> (visited May 02, 2021).

**COST AND REVENUE PROJECTIONS
UNIVERSITY OF WISCONSIN WHITEWATER
BACHELOR OF SCIENCE IN CYBERSECURITY**

	Items	Projections				
		2022 Spring	2022-2023	2023-2024	2024-2025	2025-2026
		Year 1 (Spring 2022 semester only)	Year 2	Year 3	Year 4	Year 5
I	Enrollment (New Student) Headcount	4	15	20	26	34
	Enrollment (Continuing Student) Headcount	3	6	16	25	35
	Enrollment (New Student) FTE	3.76	14.1	18.8	24.44	31.96
	Enrollment (Continuing Student) FTE	2.82	5.64	15.04	23.5	32.9
II	Total New Credit Hours	54.5	204.3	272.4	354.1	463.1
	Existing Credit Hours	40.9	81.7	217.9	340.5	476.7
III	FTE of New Faculty/Instructional Staff	0	0	1	1	1
	FTE of Current Fac/IAS	0	0.375	0	0.25	0.5
	FTE of New Admin Staff	0	0	0	0	0
	FTE Current Admin Staff	0	0	0.125	0.125	0.125
IV	Revenues					
	From Tuition	\$25,511	\$76,533	\$131,200	\$185,866	\$251,466
	From Fees	\$1,200	\$4,500	\$6,000	\$7,800	\$10,200
	Program Revenue (Grants)	\$0	\$0	\$0	\$0	\$0
	Program Revenue - Other	\$0	\$0	\$0	\$0	\$0
	GPR/PR (re)allocation	\$0	\$0	\$0	\$0	\$0
	Total New Revenue	\$26,711	\$81,033	\$137,200	\$193,666	\$261,666
V	Expenses					
	Salaries plus Fringes					
	Faculty/Instructional Staff	\$ -	\$ 43,050	\$ 117,096	\$ 149,298	\$ 182,740
	Other Staff	\$0	\$0	\$4,500	\$4,500	\$4,500
	Other Expenses					
	Facilities	\$0	\$0	\$0	\$0	\$0
	Equipment	\$0	\$0	\$2,000	\$2,000	\$2,000
	Marketing	\$0	\$3,000	\$3,000	\$3,000	\$3,000
	Supplies	\$0	\$500	\$500	\$500	\$500
	Total Expenses	\$0	\$ 46,550	\$127,096	\$159,298	\$192,740
VI	Net Revenue	\$26,711	\$34,483	\$10,104	\$34,369	\$68,926
Provost's Signature:			Date:			
			05/12/2021			
Chief Business Officer's Signature:			Date:			
			5/11/21			

COST AND REVENUE PROJECTIONS NARRATIVE UNIVERSITY OF WISCONSIN-WHITewater BACHELOR OF SCIENCE IN CYBERSECURITY

Introduction

The proposed B.S. in Cybersecurity at UW-Whitewater is a 120-credit program that builds on an existing 24-credit minor program in Cybersecurity. The major will be a multi-disciplinary program and will include a sequence of courses that cover topics in cybersecurity as well as computer science, information technology, and mathematics. The program will rely primarily on resources that are currently in place at the beginning, but staffing will be increased as the enrollment grows over time. Any additional costs will be covered by tuition revenue and fees garnered through anticipated enrollments.

Section I – Enrollment

Student FTE calculations for both new and continuing students are based on Fall 2019 data showing that 88% of UW-Whitewater students enrolled full-time and 12% of students enrolled part-time, which is considered half-time at UW-Whitewater and in these calculations. Therefore, FTE enrollments are calculated assuming 1.0 FTE for 88% of student headcount and 0.5 FTE for 12% of student headcount.

Year 1 includes only one semester, i.e., Spring 2022. The new students in Year 1 are transfer students, while continuing students are students changing to the new major from others on campus. Continuing students in Year 2 and later are those students who enrolled in the proposed Cybersecurity major in the previous year(s) and are continuing into later years. It is assumed that an equal number of students switch into and out of the Cybersecurity major.

It is estimated that the new student enrollment will be 15 in the second year and grow by a moderate rate of 30% (based on the actual growth rate of the B.S. in Computer Science program at UW-Whitewater) for each of the next three years. Attrition is expected to be no more than 20% based on the average retention rate of 80% for undergraduate students at UW-Whitewater. The number of graduates is estimated to be 20% of the total student population of the previous year starting in Year 2 when the first class of transfer students will graduate. This figure is similar to the numbers in the computer science major.

Section II – Credit Hours

Students enrolled in the B.S. in Cybersecurity must complete 120 total credits to graduate. A full-time student is expected to graduate in four years, thus yielding an overall average of 30 credits per year. For the comprehensive emphasis, students must take 74 credit hours in the major and unique requirements, which accounts for 62% of the total credit hours. The general emphasis and the cyber operations emphasis require students to take 48 and 45 hours in the major and unique requirements, respectively. Correspondingly,

this represents 40% and 37.5% of the total credits. It is estimated that the general, comprehensive, and cyber operations emphasis will make up 40%, 40%, and 20% of the total enrollment, respectively. By taking the average over the three emphases, it results in $0.4 \times 62\% + 0.4 \times 40\% + 0.2 \times 37.5\% = 48.3\%$ of the total credits being the major program requirements. (This calculation removes the credits taken for general education requirements from the credit-hour calculation for the program.) Correspondingly, the average FTE per year in the major is calculated as $\text{FTE} \times 30 \text{ credits} \times 0.483$.

Section III – FTE of Faculty and Staff Appointments

Year 1 consists of only the Spring 2022 semester. No faculty/IAS FTE is needed in Year 1 because the number of students is small, students will take courses already being offered, and seats will be available in the course sections. Beginning in Year 2, additional FTE will be needed. The additional FTE estimate is based on a 24-credit load, or eight sections of 3-credit courses. The offering of new courses and additional sections of existing courses will be planned based on student status and enrollment numbers. For example, in Year 2 there will be two sections of new courses and one additional section of existing courses (three sections in total, equal to .375 FTE). By Year 5, there will be five sections of new courses and seven additional sections of existing courses (12 sections in total, equal to 1.5 FTE). To accommodate the anticipated student enrollment, the program will need to hire one new faculty by Year 3. A one-course reassignment (FTE of .125) for program coordination will begin in Year 3.

Section IV – Program Revenues

Tuition Revenues

Tuition estimates are based on the percentages of resident and nonresident students comprising Fall 2017 UW-Whitewater campus undergraduate enrollment. Tuition revenues were calculated assuming 83% resident students (at \$271.62 per credit hour) and 17% nonresident students (at \$641.28 per credit hour). This yields an average tuition of \$334.46 per credit hour across all students. (Note that calculations include new and continuing students.) Tuition is multiplied by .8 to account for students taking credits in the tuition plateau. Tuition revenues are only those attributable to new student FTE and credit hours.

Program/Course Fees

Students who enroll in online courses will pay \$50 per credit hour for an online course in the College of Letters and Sciences. Revenues from fees are calculated at \$150 for a 3-credit course multiplied by the number of new enrollments (headcount) each year. It is assumed that approximately two 3-credit courses will be offered per year online. Therefore, the calculation for fees for each year is $\$300 \times \text{the number of new enrollments (headcount)}$. Note that new enrollment is used as a conservative estimate of the number of students enrolling in online courses. If continuing students take online courses, revenue

from online course fees will be higher than the included estimates. Similarly, revenue from online course fees will be higher when students enroll in a fully online program format.

Section V – Program Expenses

Salary and Fringe Expenses

Current and new FTE attributable to the program are included in the salary and fringe estimates. Anticipated costs include a one-course reassignment for the program coordinator beginning in Year 3.

The salary and fringe expenses are calculated according to the FTE estimate in Section III. It is expected that UW-Whitewater will have one new faculty in Year 3 to support the program. There is no staff needed for Year 1. The salary of the involved faculty is expected to be \$82,000 plus 40% fringe in Year 2 and increased by 2% each year. The total salary and fringe expenses are estimated to be \$43,050 in Year 2 and \$182,740 in Year 5.

Other Expenses

Facilities are in place to deliver the proposed program. The equipment cost is \$2,000 for virtual environment starting in Year 3. The marketing cost of \$3,000 per year will include costs for high school outreach activities, marketing materials, and mailing expenses for admitted students.

Section VI – Net Revenue

Positive net revenue is projected from Year 1 and thereafter. The net revenue will be reinvested to expand course offerings, support faculty development, expand recruiting activities, support general education courses, and otherwise support the college and the institution.



May 14, 2021

Tommy Thompson
Interim President, UW System
1720 Van Hise Hall
1220 Linden Drive
Madison, WI 53706

Dear Interim President Thompson:

Please accept this as UW-Whitewater's Letter of Commitment for our new Bachelor of Science (BS) program in Cybersecurity. The Internet brings great convenience and efficiency to our society by connecting people and things, but it also creates risks for security attacks that endanger property and people's safety. The Bachelor of Science (B.S.) in Cybersecurity program at UW-Whitewater responds to the regional and national needs of cybersecurity talents for protecting both business and government from cybersecurity attacks. The program will train future Cybersecurity professionals to identify, prevent, detect and respond to security attacks that endanger the safety of property and people. Students in the program will learn to design and implement actionable security solutions by considering both human and technical factors. The practice-oriented learning environment will help prepare students to obtain positions such as security analyst, security consultant, vulnerability tester, security engineer, or security manager.

The program will include three emphases. The Comprehensive Emphasis allows students to study different aspects of cybersecurity together with necessary foundations in computer science and mathematics. The General Emphasis allows students to pursue a minor or another major, and the Cyber Operation Emphasis provides a smooth transfer path for students with associate degrees in Cybersecurity from Wisconsin Technical College System (WTCS) schools.

The curriculum is built under the guidance of the NICE (National Initiative for Cybersecurity Education) Cybersecurity Workforce Framework¹. It aims at training students for designing, developing, implementing, operating, and maintaining systems and strategies so that they can serve different work roles in the NICE framework's workforce categories: Securely Provision, Operate and Maintain, Oversee and Govern, Protect and Defend, Analyze, Collect and Operate, and Investigate. This curriculum is reflected in the following student learning outcomes.

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

1. The BS 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 was developed by an academic department and college that have demonstrated high standards of quality. Our campus is continuously

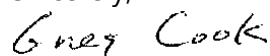
<https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-181r1.pdf>

engaged in strategic planning and campus academic planning activities. As part of these processes, we have been intensively reviewing all of our academic programs. In a recent report provided by the marketing firm Ruffalo Noel Levitz (RNL), Cybersecurity was identified as an area of growth that UW-Whitewater should consider. It is clear that this new program will provide a meaningful addition to our campus program array, and our College of Letters and Sciences 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 Computer Science, the College of Letters and Sciences Curriculum Committee, the Dean of the College of Letters and Sciences, the University Curriculum Committee, and the Faculty Senate. 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 bachelor'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. The college curriculum committee and the University curriculum committee 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 BS 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. The 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,



Greg Cook, Ph.D.

Interim Provost and Executive Vice Chancellor for Academic Affairs

cc: Dwight Watson, Chancellor
Joan Cook, Interim Associate Provost
Frank Goza, Dean, College of Letters and Sciences
Carleen Vande Zande, Associate Vice President of APEI, UW System

**NEW PROGRAM AUTHORIZATION (IMPLEMENTATION)
MASTER OF SCIENCE IN MARKETING,
UW-WHITewater**

REQUESTED ACTION

Adoption of Resolution C.5., authorizing the implementation of the Master of Science in Marketing program at the University of Wisconsin-Whitewater.

Resolution C.5.: 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 Marketing program at the University of Wisconsin-Whitewater.

SUMMARY

The University of Wisconsin (UW)-Whitewater proposes to implement an online Master of Science (M.S.) in Marketing. The M.S. in Marketing is a fully online, 30-credit program that includes graduate coursework across three departments. The M.S. in Marketing program builds on the strength of two existing graduate certificates and a Marketing emphasis offered within the Master of Business Administration (M.B.A.) program. Thus, the proposed program will utilize existing course offerings from these programs. The program aligns with the UW-Whitewater mission and academic plan by meeting the growing needs of the region and providing professional and graduate programs that offer students the opportunity to advance in their specific fields. Wisconsin has high employment in the occupational areas of market research analysts and specialists, and substantial growth is projected through 2028.

The M.S. in Marketing will provide specialized and advanced education in marketing including foundational theories, advanced tools and techniques, and strategic and practical application and domain-related expertise. Graduates will be prepared to apply various aspects of marketing, to analyze complex marketing problems, to develop effective marketing strategies and tactics, as well as to leverage consumer insights and artificial intelligence for digital marketing and other data-driven marketing touchpoints in a global marketplace. The M.S. in Marketing is designed for both professionals and recent college

graduates who aspire to advance their careers in marketing. Students enrolled in the M.S. in Marketing will pay the graduate online business tuition rate.

Provost

- John Chenoweth, Provost and Executive Vice Chancellor for Academic Affairs, UW-Whitewater

BACKGROUND

This proposal is presented in accord with UW System Administrative Policy 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting (revised March 31, 2020, available at <https://www.wisconsin.edu/uw-policies/uw-system-administrative-policies/policy-on-university-of-wisconsin-system-array-management-program-planning-delivery-review-and-reporting-2/>).

Related Policies

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

ATTACHMENTS

- A) Request for Authorization to Implement
- 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 MARKETING
AT THE UNIVERSITY OF WISCONSIN-WHITewater
PREPARED BY UW-WHITewater**

ABSTRACT

The University of Wisconsin (UW)-Whitewater proposes to implement an online Master of Science (M.S.) in Marketing. The M.S. in Marketing is a fully online, 30-credit program that includes graduate coursework across three departments. The M.S. in Marketing program builds on the strength of two existing graduate certificates and a Marketing emphasis offered within the Master of Business Administration (M.B.A.) program. Thus, the proposed program will utilize existing course offerings from these programs. The program aligns with the UW-Whitewater mission and academic plan by meeting the growing needs of the region and providing professional and graduate programs that offer students the opportunity to advance in their specific fields. Wisconsin has high employment in the occupational areas of market research analysts and specialists, and substantial growth is projected through 2028.

The M.S. in Marketing will provide specialized and advanced education in marketing including foundational theories, advanced tools and techniques, and strategic and practical application and domain-related expertise. Graduates will be prepared to apply various aspects of marketing, to analyze complex marketing problems, to develop effective marketing strategies and tactics, as well as to leverage consumer insights and artificial intelligence for digital marketing and other data-driven marketing touchpoints in a global marketplace. The M.S. in Marketing is designed for both professionals and recent college graduates who aspire to advance their careers in marketing. Students enrolled in the M.S. in Marketing will pay the graduate online business tuition rate.

PROGRAM IDENTIFICATION

Institution Name

University of Wisconsin-Whitewater

Title of Proposed Program

Marketing

Degree Designations

Master of Science

Mode of Delivery

Single institution, 50% or more distance delivery (fully online)

Department or Functional Equivalent

Department of Marketing

College, School, or Functional Equivalent

College of Business and Economics

Proposed Date of Implementation

January 2022

Projected Enrollments and Graduates by Year Five

Table 1 illustrates the enrollment and graduate projections for the M.S. in Marketing. New student headcount reflects first-time, re-entering, or transfer student enrollments. In Year 1, it is anticipated that 10 students will enroll in the spring and summer 2022 semesters. Subsequent years' projections reflect a full academic year and 30% annual growth. These enrollment growth projections are based on local and regional job market demand; the large pool of prospective students who complete undergraduate majors, minors, or certificates in marketing; and enrollment trends observed in other M.S. offerings in the College of Business and Economics (COBE), such as the M.S. in Data Analytics and the M.S. in Cybersecurity programs. By the end of Year 5, it is expected that 131 students will have enrolled in the program and 72 will have graduated. Continuing student enrollment, on average, is projected to be 86% based on the retention rates of the M.B.A. program, M.S. in Data Analytics program, and the M.S. in Cybersecurity program, which is 90%.

Table 1: Five-Year Academic Program Enrollment Projections

Students/Year	Year 1 (2021-2022)	Year 2 (2022-2023)	Year 3 (2023-2024)	Year 4 (2024-2025)	Year 5 (2025-2026)
New Students	10	20	25	33	43
Continuing Students	0	9	18	23	30
Total Enrollment	10	29	43	56	73
Graduating Students	0	8	16	21	27

Tuition Structure

Students enrolled in the M.S. in Marketing will pay the per-credit graduate online business tuition rate of \$652 (2021-22). 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.

DESCRIPTION OF PROGRAM

Overview of the Program

The 30-credit M.S. in Marketing will provide specialized and advanced education in marketing through an emphasis on foundational theories, advanced tools and techniques, and strategic and practical applications. In comparison to an undergraduate program, the M.S. program will offer deeper knowledge and skills in marketing, along with practical and domain-related expertise. The comprehensive program curriculum will provide students with knowledge about various aspects of marketing, emphasizing critical thinking and analysis of complex marketing problems, developing effective marketing strategies and tactics appropriate to the environmental context, and leveraging consumer insights and artificial intelligence for digital marketing and other data-driven marketing touchpoints in a global marketplace. The M.S. in Marketing is designed for both professionals and recent graduates who aspire to advance their careers in marketing.

The 30-credit interdisciplinary degree program has three components: (1) Core Marketing (20 credits); (2) Core M.B.A. (four credits); and (3) Analytics (six credits). Students are required to complete 23 graduate marketing credits and seven graduate elective credits. Of the seven elective credits, students must take a minimum of three credits from the Department of Information Technology and Supply Chain Management (ITSCM). Students may take two credits from the Department of Management and two credits from an interdisciplinary course. All courses in the M.S. program already exist and are regularly offered.

Student Learning Outcomes and Program Objectives

The student learning outcomes are designed around COBE graduate guidelines and insights from the American Marketing Association's Professional Certified Marketer (PCM)¹ and Association of International Product Marketing & Management (AIPMM) Certified Brand Manager² professional certifications for marketing practitioners. As well, they are aligned with the Association of American Colleges & Universities Essential Learning Outcomes.³ Upon completion of the M.S. in Marketing degree, students will:

1. Understand the role of the marketing function and its relationship to other business functions.
2. Analyze and apply insights and other information about a firm's competencies, competition, and customers to develop recommendations for strategic marketing decisions.

¹ AMA PCM: <https://www.ama.org/certifications/>.

² AIPMM Certified Brand Manager: <https://aipmm.com/certified-brand-manager>.

³ AAC&U Essential Learning Outcomes. <https://www.aacu.org/leap/essential-learning-outcomes>.

3. Understand how marketing managers utilize the firm's resources to create, deliver, and communicate value for customers, and capture value for the firm.
4. Apply frameworks to gather, manipulate, and analyze data to design solutions for marketing problems.
5. Apply industry-standard frameworks, tools, and technologies to facilitate the marketing problem-solving process.

Program Requirements and Curriculum

Students enrolling in the program are expected to meet current admission standards for COBE graduate business programs. Table 2 lists the program curriculum for the proposed program. All courses are part of the current course rotation. The degree program will consist of 30 credits, including 23 marketing credits that include quantitative analysis (e.g., MARKETNG 731), four M.B.A. core electives, and three analytic elective credits. Program graduates will also need to complete an extensive capstone project in MARKETNG 770 Brand Management that is beyond what non-M.S. in Marketing students (e.g., those enrolled in the M.B.A. program) must complete. M.S. in Marketing students must take MARKETNG 770 after completing 18 credits. A student who has already taken MARKETNG 770 as part of the M.B.A. program that switches to the M.S. in Marketing will need to complete the capstone project.

The marketing courses (23 credits) are all currently offered as marketing M.B.A. electives and represent key strategic areas in the field. Core M.B.A. elective courses included in the program represent key knowledge areas relevant to marketing. Analytic elective courses focus on key business and marketing metrics and are currently part of the Graduate Certificate in Digital Marketing and Artificial Intelligence. All courses are part of the current graduate curriculum and leverage the existing M.B.A. emphasis in Marketing, Graduate Certificate in Marketing Strategy, and Graduate Certificate in Digital Marketing and Artificial Intelligence.

Compared to current graduate programs containing marketing courses: (1) M.B.A. students with a marketing emphasis take nine elective marketing credits. MARKETNG 747 and MARKETNG 731 are also required (14 of 36 total credits in marketing courses). (2) The Graduate Certificate in Marketing Strategy has 14 required marketing credits. (3) The Graduate Certificate in Digital Marketing has 11 required marketing credits and 3 analytic credits from ITSCM (ITSCM 774 or 779). Students completing either or both graduate certificates will be encouraged to convert their stackable certificate degree(s) to earn the M.S. in Marketing.

Table 2: M.S. in Marketing Program Requirements and Curriculum

Program Prerequisites:		
None		
Core Marketing Courses (20 credits):		
MARKETNG 747	Marketing Strategy	2 credits
MARKETNG 751	Consumers Insights & Customer Experience	3 credits
MARKETNG 761	International Marketing	3 credits
MARKETNG 767	Entrepreneurial Marketing Strategy	3 credits
MARKETNG 770	Brand Management	3 credits
MARKETNG 772	Digital Marketing	3 credits
MARKETNG 777	Artificial Intelligence in Marketing	3 credits
Select two of the following Core M.B.A. Courses (4 credits):		
MARKETNG 766 <i>or</i> MANGEMNT 759	Ethics in the Marketplace (766) <i>or</i> Social Responsibility of Business (759)	2 credits
BEINDP 740	Persuasion and Negotiation Strategies	2 credits
ITSCM 745	Strategic Technology and Innovation Management	2 credits
ITSCM 770	Fundamentals of Project Management	2 credits
Analytics (6 credits):		
MARKETNG 731	Quantitative Analysis for Business	3 credits
ITSCM 774 <i>or</i> ITSCM 779	Data Analytics and Business Intelligence <i>or</i> Visual Analytics for Business	3 credits
Total Credits		30 credits

Assessment of Outcomes and Objectives

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

- Course-embedded assessment. To ensure sustainability of assessment efforts, assessment will take place in a subset of classes, with the particular set of classes in which assessment occurs rotating from year to year. Depending on the course and subject, examples of direct assessment measures include problem sets, case studies, exams, assignments, project reports, presentations, and related online discussions. Each of the student learning outcomes will be assessed in at least two of the core courses.
- A capstone project. MARKETNG 770 Brand Management will assess students' understanding of the topics and application of knowledge learned in coursework to a realistic context. Students will complete this course in their last 12 credits. The capstone project will be beyond what non-M.S. in Marketing students must complete in MARKETNG 770.
- An exit survey upon completion of the degree. This serves as an indirect assessment measure of the program.

- An alumni survey conducted after graduation. 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. All information will be shared with the Assessment Committee in the COBE and Economics and with members of the Department of Marketing at the end of the spring semester every year, in accordance with university assessment planning. Appropriate curricular and/or pedagogical changes will be determined based on the assessment data to ensure consistency with guidelines prescribed in the relevant professional certifications and implemented within the subsequent two-year assessment cycle. A comprehensive program self-study will be completed every five years following the UW-Whitewater audit and review process.⁴

Diversity

The Department of Marketing supports the Inclusive Excellence Goals and Diversity Objectives within the university's Strategic Plan to recruit a larger and increasingly diverse undergraduate and graduate student body, and improve retention and graduation success of all students to narrow the retention and graduation equity gaps.⁵ The curriculum for the proposed M.S. in Marketing will maintain key tenets of the existing programs offered by the program that advance inclusive excellence. High-Impact Educational Practices (HIPs) like collaborative projects and experiential learning with community partners are integrated within the curriculum. These curricular practices have been shown to be beneficial for college students from many backgrounds and create an inclusive learning environment.

Inclusive excellence is emphasized in current recruitment and retention efforts of faculty, staff, and students, and these practices will be applied to the proposed program. The Department of Marketing has long recognized the importance of diversity and offers between \$6,000 and \$9,000 in scholarships to minority students annually. Gender diversity is evident through a number of metrics. Using spring 2021 data, 62% of students pursuing a UW-Whitewater M.B.A. with a marketing emphasis were female; this rate is second only to human resource management⁶ and far exceeds the overall M.B.A. program average of 38% as reported by the Association of M.B.A.s.⁷ At the undergraduate level, 40% of marketing majors are female, again far outpacing the college overall.⁸

⁴ UW-Whitewater Audit & Review. See <https://www.uww.edu/assessment/audit-and-review>.

⁵ 2017-2020 UW-Whitewater Strategic Plan. See <https://www.uww.edu/strategic-plan/goal-1>.

⁶ UW-Whitewater Current Enrollment Statistics Report (Spring 2021). See <https://www.uww.edu/documents/registrar/Reports-tatistics/Enrollment/EnrollmentStatistics2211.pdf>.

⁷ AMBA Application and Enrollment Report (2020). See <https://www.associationofmbas.com/wp-content/uploads/2020/12/AMBA-app-enrol-report-2020-Final.pdf>.

⁸ UW-Whitewater Current Enrollment Statistics Report (Spring 2021).

The Department of Marketing upholds the UW-Whitewater Value of Diversity, which states, “We believe in the dignity of all individuals and we cultivate an accessible, inclusive, and equitable culture where everyone can pursue their passions and reach their potential in an intellectually stimulating and respectful environment.”⁹ These values are incorporated into student service and hiring practices. All programs and support services provided or recommended by the department are available to all students and the department is involved in and supports the campus-wide strategic priority to reduce equity gaps in student access to services and success.¹⁰ In support of these values, Department of Marketing faculty serve on the COBE and the university's Inclusive Excellence committees, and are responsible for identifying, evaluating, and promoting inclusive excellence best practices in accordance with the university's Strategic Plan.

Department of Marketing faculty regularly participate in the COBE Summer Business Institute that focuses on minority students and their enrollment and retention, as well as the Women in Business recruitment program. The department promotes the minority scholarship opportunities at the COBE Summer Business Institute, via the university's scholarship website, and Department of Marketing instructors directly nominate students from marketing courses and student organizations. The department aims to expand the minority scholarship opportunities to M.S. in Marketing students.

Once students are enrolled in the program, department instructors actively monitor student engagement and success throughout the semester and implement intervention and outreach efforts within courses to help struggling students improve learning and attain outcomes. The Department of Marketing's efforts around student success and retention are also evident via the five-year 3.0% DFW(I) grade rate (the lowest rate among COBE Departments), compared to 7.1% for all COBE departments, and 10.5% at the university level.¹¹

Currently, 40% of the department's tenure track faculty are from minority groups and 33% of all instructors are female. The Marketing department hiring practices are guided by the Chancellor's statement on Equal Opportunity: “The University of Wisconsin-Whitewater is fully committed to equal opportunity in employment and affirmative action in employment and to being in compliance with all federal and state laws, executive orders, policies, plans, rules and regulations.”¹²

⁹ UW-Whitewater Mission, Vision, Values. See <https://www.uww.edu/strategic-plan/mission-vision-value>.

¹⁰ UW-Whitewater 2017-2022 Strategic Plan. See <https://www.uww.edu/strategic-plan/goal-1>.

¹¹ UW-Whitewater DFW(I) Three Year Summary Report. See <https://www.uww.edu/documents/ir/University%20Data/Student%20Success/DFWI/DFWI%20Analysis%20by%20College%20and%20Department.pdf>.

¹² UW-Whitewater Equality Opportunity and Affirmative Action Policy. See <https://www.uww.edu/policies/equal-opportunity>.

Collaborative Nature of the Program

The M.S. in Marketing is a cross-departmental collaboration that includes the departments of Marketing, ITSCM, and Management at UW-Whitewater. The M.S. in Marketing will be offered by UW-Whitewater as a single institution. No external collaborations are planned at this time. The Dean of the COBE meets twice annually with the heads of all UW System business programs and will communicate with other UW System universities regarding the proposed program.

Projected Time to Degree

It is anticipated that a part-time student in the proposed UW-Whitewater M.S. in Marketing 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 a summer term. 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 the UW-Whitewater audit and review process.¹³ The audit and review process 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. Elements addressed in the self-study include assessment of student learning outcomes; 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 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 program faculty, audit and review committee, dean/s, and provost. The Audit and Review self-study 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 address progress toward improving graduates' achievement of the UW-Whitewater Master's-Level Learning Objectives.

Accreditation

As part of the COBE, the M.S. in Business Analytics will participate in the Association to Advance Collegiate Schools of Business (AACSB) accreditation process. Additionally, the program will participate in UW-Whitewater's Higher Learning Commission accreditation process. No discipline-specific accreditation exists for Marketing; however, the program is aligned with the American Marketing Association's Professional Certified Marketer (PCM) and the Association of International Product Marketing & Management (AIPMM) Certified Brand Manager professional certifications for marketing practitioners.

¹³ For information regarding the UW-Whitewater program audit and review process please see <https://www.uww.edu/assessment/program-review/audit-and-review>.

JUSTIFICATION

Rationale and Relation to Mission

The M.S. in Marketing program aligns with the UW-Whitewater mission to pursue knowledge that is sparked by innovation, as well as the academic plan.^{14,15} In particular, the program supports Goal 1 of the academic plan to “(d)evlop programs to meet the growing needs and changing demographics of the region,” Goal 4 to “(p)rovide professional and graduate programs that offer students the opportunity to develop into professional leaders within specific fields of expertise,” and the Anticipated Academic Growth Areas, which include applied professional programs. Support has been expressed by internal stakeholders, including the Dean of the UW-Whitewater COBE as well as the UW-Whitewater Marketing department’s advisory board.

Institutional Program Array

The UW-Whitewater program array was reviewed at the onset of the planning process. The university currently offers an M.B.A. emphasis in Marketing and two relevant graduate certificates: (1) Marketing Strategy and (2) Digital Marketing and Artificial Intelligence. The proposed program will have a symbiotic relationship with these existing programs by allowing UW-Whitewater to attract students who are interested solely in an M.S. in Marketing while leveraging current graduate course offerings.

Other Programs in the University of Wisconsin System

UW-Madison is the only UW university that offers a master’s degree in the specific curricular area of marketing. UW-Madison offers an M.B.A. and an M.S. in Business: Marketing. Neither is offered via distance delivery, and the M.S. is intended for students on the way to earning the Ph.D. in Business.¹⁶ UW-Milwaukee offers a 30-credit M.S. in Management degree, with a concentration in Marketing.¹⁷ The concentration has 18 credits of core marketing courses and 12 credits of marketing electives. The program is not offered online. The UW-Whitewater’s M.S. graduate program would be the only fully online M.S. in Marketing program offered by UW System.

¹⁴ <https://www.uww.edu/strategic-plan/mission-vision-value>.

¹⁵ The UW-Whitewater Academic Plan is available at <http://www.uww.edu/Documents/acadaff/Academic%20Planning%20ApprovedFeb132018.pdf>.

¹⁶ Information regarding the UW-Madison M.S. in Business: Marketing was retrieved from <https://guide.wisc.edu/graduate/marketing/business-marketing-ms/>.

¹⁷ Information regarding the UW-Milwaukee M.S. in Management, Marketing concentration was retrieved from <https://catalog.uwm.edu/business/management-marketing-ms/#requirementstext>.

Need as Suggested by Current Student Demand

The M.S. in Marketing will allow UW-Whitewater to build on the strength of its existing and planned programs. The Department of Marketing has been offering a stand-alone undergraduate major in Marketing since 1976, and an emphasis within the M.B.A. program. In fall 2020 the Department of Marketing implemented two online graduate certificates. At the undergraduate level, Marketing is one of the largest degree programs at UW-Whitewater and represents a potential pipeline for student demand for the M.S. in Marketing. Table 3 illustrates fall enrollment trends for undergraduate and graduate programs, as well as most recent spring enrollment data for graduate programs. As shown, the demand for undergraduate marketing degrees has held steady despite declines in overall university enrollment, and the demand for graduate degrees in marketing has increased significantly, attesting to the increased demand for master's-level coursework in marketing at UW-Whitewater. A master's degree in marketing will be a timely and significant addition to the array of programs at UW-Whitewater, while leveraging existing courses and resources at the graduate level.

Table 3. Marketing Program Enrollment at UW-Whitewater

	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Spring 2021
Marketing BBA	678	706	695	625	663	
Undergraduate Marketing Minor	126	89	99	96	85	
Undergraduate Marketing Certificates					11	
TOTAL UNDERGRADUATE	804	795	794	721	759	
M.B.A.: Marketing Emphasis	50	49	44	63	77	82
Graduate Certificate: Marketing Strategy (Fall '20)					2	5
Graduate Certificate: Digital Marketing and Artificial Intelligence (Fall '20)					2	2
TOTAL GRADUATE	50	49	44	63	81	89

Source: Institutional Research and Planning, UW-Whitewater

Need as Suggested by Market Demand

According to the McKinsey Global Institute report on "The Future of Work in America," digital technologies are bringing far-reaching changes to consumer behavior and the marketing discipline. In response, organizations require employees who can manage strategy and marketing decisions as firms experience radical changes to their business model as part of this digital transformation. According to the Bureau of Labor Statistics (BLS), marketing-related job titles have strong occupational projections over the next decade. Between 2019-2029, BLS data project that job growth will be faster than average for the occupations of marketing managers (+7% growth rate), market research analysts and marketing specialists (+18%), and public relations specialists including social media

(+7%).¹⁸ Wisconsin¹⁹ and other regional data for Illinois and Minnesota also indicate a positive outlook for marketing employment. Wisconsin has high employment in market research analysts and marketing specialists,²⁰ with 13,140 jobs in 2019. This figure represents 4.58 out of every 1,000 jobs across all occupational categories. Growth in this occupation is projected to be 18.8% between 2019-2029. Marketing managers²¹ and public relations specialists²² also have above-average projected growth within the state (6.5% projected state growth each) that aligns with regional growth projections. Additionally, the Chicago-Naperville-Elgin-IL-IN-WI metropolitan area, which includes southeast Wisconsin and northern Illinois regions served by UW-Whitewater, has one of the highest employment levels related to market research analysts and marketing specialists and marketing managers (6.41 out of every 1,000 jobs), indicating that regionally there is potential for high demand.

BLS information also shows that specialized master's degrees may help differentiate job applicants for these positions, and that those with master's degrees will have the best job outlook. According to BLS, employment growth will be driven by an increasing use of data and market research across many industries, including big data associated with social media comments, online product reviews, and other sources that provide insights on consumer behaviors and preferences.

Data indicate recent national hiring trends within the marketing discipline are driven by employers seeking marketing managers with expertise and skills to help brands navigate the digital transformation of business and marketing strategy and the rise in marketing analytics. Through an analysis of LinkedIn job postings, LinkedIn's 2021 Jobs on the Rise Report indicates a strong outlook for six marketing-related career paths involving analytical and digital media skillsets based on growth in hiring since 2019. The six areas all experienced at least 20% growth in hiring since 2019, including digital content creators (+49%), data scientists (+46%), business development and sales professionals (+45%), digital marketing professionals (+33%), artificial intelligence engineers (+32%), and user

¹⁸ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Advertising, Promotions, and Marketing Managers, retrieved from <https://www.bls.gov/ooh/management/advertising-promotions-and-marketing-managers.htm#tab-8> (May 2021) .

¹⁹ Table of Wisconsin Long Term Occupational projections (2018-2028), retrieved from https://jobcenterofwisconsin.com/wisconomy/wits_info/downloads/projections/lt_occ.xlsx.

²⁰ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, <https://www.bls.gov/ooh/business-and-financial/market-research-analysts.htm>.

²¹ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, <https://www.bls.gov/ooh/management/advertising-promotions-and-marketing-managers.htm>.

²² Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, <https://www.bls.gov/ooh/media-and-communication/public-relations-specialists.htm>.

experience professionals (+20%).²³ Much of this growth is fueled by increased demand for employees who can manage marketing analytics and digital strategies in areas such as search, content marketing, mobile, and other related areas.

Specialized master's degree programs in business are also a growing trend exhibiting promising enrollment growth. The Association to Advance Collegiate Schools of Business (AACSB) 2020 school data report indicates 22.4% of member schools offer a specialized master's in marketing graduate degree (vs. 11.2% for M.B.A. in Marketing). For programs that provided enrollment data (34), the average enrollment in the M.S. in Marketing is 64 students (median = 46 students).²⁴ AACSB's five-year trend data indicate there has been strong enrollment growth in specialized master's degree programs, with 30.3% enrollment growth in specialized master's degree programs (vs. 2.9% growth in M.B.A.). AACSB suggests the increased complexity and dynamic nature of the business world is a driving force behind the increased demand for specialized master's degree programs.²⁵ Specialized master's programs are needed that prepare students to understand how to leverage consumer insights to develop brand marketing strategies to compete in the modern digital ecosystem. Given these market trends, the online M.S. in Marketing at UW-Whitewater would offer a specialized graduate degree in a field with growing demand that is relevant for professional leaders.

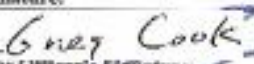
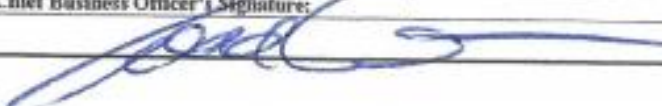
The M.S. in Marketing is a degree program that satisfies a growing need in the region. An Academic Program Demand Analysis (APDA) report was prepared by Ruffalo Noel Levitz to assess the market share of current academic offerings at UW-Whitewater against the regional demand for similar programs. The APDA report placed marketing degrees among the highest ranked undergraduate programs (1.91 market demand: 2.34 employer demand score) and master's degree programs with above average (11.56) market demand.

²³ Liu, J. (Jan 2021). Hiring for these jobs is on the rise in 2021, according to LinkedIn. Retrieved from <https://www.cnbc.com/2021/01/12/hiring-for-these-jobs-is-on-the-rise-in-2021-according-to-linkedin.html>.

²⁴ AACSB 2020 Business School Data Guide, <https://www.aacsb.edu/-/media/aacsb/publications/data-trends-booklet/2020.ashx?la=en&hash=DD37BBF79457F638BBB43C19A72F1840121796D6>.

²⁵ AACSB Business School Enrollment Trends Insights, 2018 <https://www.aacsb.edu/insights/2018/january/business-school-enrollment-trends-undergraduate-masters-doctoral-programs>.

**COST AND REVENUE PROJECTIONS
UNIVERSITY OF WISCONSIN WHITEWATER
MASTER OF SCIENCE IN MARKETING**

Items		Projections				
		Spring/Summer 2022	2022-2023	2023-2024	2024-2025	2025-2026
		Year 1	Year 2	Year 3	Year 4	Year 5
I	Enrollment (New Student) Headcount	10	20	25	33	43
	Enrollment (Continuing Student) Headcount	0	9	18	23	30
	Enrollment (New Student) FTE	8.61	16.71	21.73	28.25	36.72
	Enrollment (Continuing Student) FTE	0.00	7.75	15.04	19.56	25.42
II	Total New Credit Hours	150.8	292.5	380.3	494.3	642.6
	Existing Credit Hours	0.0	135.7	263.3	342.2	444.9
III	FTE of New Faculty/Instructional Staff			1	1	1
	FTE of Current Fac/IAS	0	0	0	0	0
	FTE of New Admin Staff	0	0	0	0	0
	FTE Current Admin Staff	0	0	0	0	0
IV	Revenues					
	<i>From Tuition</i>	\$98,289	\$279,170	\$419,562	\$545,431	\$709,060
	<i>From Fees</i>	\$0	\$0	\$0	\$0	\$0
	<i>Program Revenue (Grants)</i>	\$0	\$0	\$0	\$0	\$0
	<i>Program Revenue - Other</i>	\$0	\$0	\$0	\$0	\$0
	<i>GPR (re)allocation</i>	\$0	\$0	\$0	\$0	\$0
	Total New Revenue	\$98,289	\$279,170	\$419,562	\$545,431	\$709,060
V	Expenses					
	Salaries					
	<i>Faculty/Instructional Staff</i>			\$120,000	\$123,600	\$127,308
	<i>Other Staff</i>	\$0	\$5,000	\$5,000	\$5,000	\$5,000
	<i>Fringe</i>	\$0	\$1,950	\$48,750	\$50,154	\$51,600
	Other Expenses					
	<i>Supplies</i>	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
	<i>Marketing</i>	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
	<i>Online Administrative Costs</i>	\$29,487	\$83,751	\$125,869	\$163,629	\$212,718
	<i>Other:</i>					
	Total Expenses	\$72,487	\$133,701	\$342,619	\$385,383	\$439,626
VI	Net Revenue	\$25,802	\$145,469	\$76,943	\$160,047	\$269,434
Provost's Signature:		Date:				
		05/13/2021				
Chief Business Officer's Signature:		Date:				
		5/12/21				

COST AND REVENUE PROJECTIONS NARRATIVE UNIVERSITY OF WISCONSIN-WHITewater MASTER OF SCIENCE IN MARKETING

The M.S. in Marketing program at UW-Whitewater will be primarily offered by the Department of Marketing with interdisciplinary support from Information Technology and Supply Chain Management, the Department of Management, and the College of Business and Economics (COBE). This comprehensive degree will provide students with detailed knowledge about marketing, analytics, and select core M.B.A. classes. The program consists of 30 graduate credits, and it will take a part-time, continuously-enrolled student two years to complete. The M.S. in Marketing program builds on the strength of two existing graduate certificates and a Marketing emphasis offered within the Master of Business Administration (M.B.A.) program. Thus, the proposed program will utilize existing course offerings.

Section I – Enrollment

This new graduate program will be offered by the Department of Marketing and will include courses from Information Technology and Supply Chain Management, and depending on selected electives, the Department of Management and COBE. New student (headcount) reflects first-time, re-entering, or transfer students who will enroll in the program. In a full academic year, it is anticipated that 15 students would enroll in the initial year. However, based on the program starting in the Spring 2022 semester, Year 1 projections are adjusted to 10 students. Subsequent, 30% enrollment growth is expected in each of the next four years based on full-year projections. New student (headcount) enrollment projections are based on: (1) the demonstrated growth of M.B.A. students with an emphasis in marketing and graduate marketing curricular offerings (e.g., Artificial Intelligence in Marketing and Digital Marketing); (2) local and regional job market demand for professionals with a degree in marketing; (3) prospective students that complete undergraduate marketing offerings (e.g., B.B.A. in Marketing with or without an emphasis); and (4) other COBE M.S. programs launched over the past five years. Based on other new M.S. programs in COBE and market demand, by the end of Year 5, it is expected that 131 students will have enrolled in the program and 72 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 M.B.A. program.

Based on enrollment trends from the M.B.A. program, each projected student FTE equals 0.86 of headcount. It is expected that each student (headcount) will take 15 credits per year whereas a full-time student, on average, will take 17.5 credits per year ($15/17.5=.85714$; rounded to .86). 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.

Section II – Credit Hours

The M.S. in Marketing program requires students to take 30 credits in addition to completing a capstone project. Historically, most COBE graduate students are part-time and take approximately 15 credits per academic year. Existing credits represent the credits taken by students retained from previous years in the M.S. in Marketing program. Credit hours are multiplied by 17.5 to adjust the anticipated headcount to projected student FTE.

Section III – Faculty and Staff Appointments

Based on projected enrollment trends, it is anticipated that one additional new full-time faculty will need to be hired in the third year of the program. The current COBE graduate faculty load is three sections per semester.

Section IV – Program Revenues

Tuition revenue is calculated as the number of credit hours multiplied by the per-credit graduate tuition rate of \$652. 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.

Section V – Program Expenses

No new instructional lines will be needed in Years 1 and 2 given that all courses are part of the current graduate curriculum rotation. Thus, to launch the program, existing M.B.A. courses and related resources will be used. Beginning in Year 3, a new faculty line will be needed to meet enrollment demands. Faculty salary is determined based on an average faculty salary of \$120,000, with a 3% per year salary increase to accommodate faculty promotion and new hires. A fringe benefit rate of 39% was used. Beginning in Year 2, the program coordinator will receive \$5,000 (COBE overload—\$5,000). The responsibilities to coordinate the M.S. in Marketing program in Year 1 will be undertaken by the chair.

Other expenses include program supplies, marketing, and online administrative expenses. A projected \$40,000 is budgeted each year for marketing expenses. Supplies are approximately \$3,000 per year through Year 5, with the bulk associated with software and related technologies. Online instructional technology, administrative, and support expenses are estimated at 30% of revenue, similar to other college online programs. The five-year projected total for these online expenses is \$643,048.

Section VI – Net Revenue

Positive net revenue is projected from Year 1 and thereafter, and will be reinvested to expand course offerings, support faculty development, expand recruiting activities, and otherwise support the college and the institution.



May 14, 2021

Tommy Thompson
Interim President, UW System
1720 Van Hise Hall
1220 Linden Drive
Madison, WI 53706

Dear Interim President Thompson:

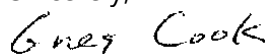
Please accept this as UW-Whitewater's Letter of Commitment for our new Master of Science (M.S.) degree in Marketing, proposed by the Department of Marketing at the University of Wisconsin-Whitewater (UW-Whitewater). The degree will provide specialized education in marketing at a graduate level through an emphasis on foundational theories, advanced tools and techniques, and strategic and practical applications. Taking a comprehensive approach, the program will provide students with knowledge about various aspects of marketing, emphasizing critical thinking and analysis of complex marketing problems, developing effective marketing strategies and tactics appropriate to the environmental context, and leveraging consumer insights and artificial intelligence for digital marketing and other data-driven marketing touchpoints in a global marketplace. The M.S. in Marketing is designed for both professionals and recent college graduates who aspire to advance their careers in marketing. In comparison to an undergraduate program, the M.S. program will offer deeper knowledge and skills in marketing, along with practical and domain-related expertise. The M.S. in Marketing is a fully online 30-credit program (23 required graduate marketing credits and seven credits of graduate electives across three departments and a College of Business and Economics interdisciplinary course) that is expected to be completed by most students within two years. We anticipate that the degree will provide students with a well-rounded education in marketing for rewarding high-impact and high-paying careers. The program builds on the strength of our two existing graduate certificates (first offered in Fall 2020) and the long-standing MBA emphasis in Marketing, utilizing existing course offerings from these programs. With this letter, I assert and make a firm commitment to the following:

1. The MS program in Marketing was 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 originates from an academic department and a college that have already demonstrated high standards of quality and that have a long history of successful online programs. 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 Business and Economics 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 Marketing, the Curriculum committee in the College of Business and Economics, the Dean of the Business and Economics, 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 will also be included in the rigorous college-level accreditation reviews conducted by the Association to Advance Collegiate Schools of Business (AACSB). The program proposal includes a fully defined list of student learning outcomes and a well-designed plan for assessment of those outcomes. 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 Marketing was developed using a very thorough and careful process. All the necessary resources are 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,



Greg Cook, Ph.D.

Interim Provost and Executive Vice Chancellor for Academic Affairs

cc: Dwight Watson, Chancellor
Joan Cook, Interim Associate Provost
John Chenoweth, Dean, College of Business and Economics

**FIRST READING OF REVISED MISSION STATEMENT,
UW-STOUT**

REQUESTED ACTION

No action at this time.

SUMMARY

The University of Wisconsin-Stout proposes a revised mission statement that represents its focus and identity as a polytechnic institution. The new mission statement defines the various student populations that the institution serves and lists the levels of academic programs offered and areas of academic programming. Additionally, the revised mission statement highlights the curriculum that combines interdisciplinary knowledge and discipline-specific technical skills with critical thinking, creative problem-solving, communication, and social and ethical reasoning skills to better the human condition. The revised mission statement underscores the institution's commitment to prepare students for careers through applied learning and research, professional experiences, and collaborative partnerships. The revised statement has been approved by shared governance bodies at the institution as well as by the provost and chancellor. After the first reading of the revised mission statement by the Board at the July 8-9, 2021 meeting, the institution will hold a public hearing on the mission statement to solicit community feedback. After that process is complete, the Board will review the proposed final version of the revised mission.

Presenter

- Dr. Katherine Frank, Chancellor, UW-Stout

BACKGROUND

Section 36.09 (1)(b), Wis. Stats., requires the UW System Board of Regents to establish a mission statement for each UW System institution. Section 36.09(1)(d), Wis. Stats., requires the Board to establish policies to guide program activities to ensure that they will be compatible with the missions of the institutions of the UW System.

Any changes to a select mission statement must be approved by the Board of Regents, following a public hearing at the institution.

Related Policies

- Regent Policy Document 1-1: Mission Statements
- UW System Administrative Policy 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting

ATTACHMENTS

- A) Revised Mission Statement
- B) Tracked Changes Copy of Mission Statement Revisions
- C) Current Mission Statement
- D) Chancellor Memo

University of Wisconsin-Stout Newly Proposed Mission Statement

Proposed New UW-Stout Mission Statement

The University of Wisconsin-Stout prepares students for careers through applied learning and research, professional experiences, and collaborative partnerships to benefit a global society.

As Wisconsin's Polytechnic University, we fulfill our mission through a curriculum that combines interdisciplinary knowledge and discipline-specific technical skills with critical thinking, creative problem-solving, communication, and social and ethical reasoning skills to better the human condition. We offer career-focused undergraduate and graduate programs for diverse students, in a variety of in-person, hybrid, and virtual modalities, organized around career clusters that include:

- science, technology, engineering and mathematics;
- art and design;
- business and management;
- education;
- social and behavioral sciences;
- information technology and communications; and
- health sciences and human services.

Approved by:

- Faculty Senate, 5/4/2021
- Senate of Academic Staff, 4/21/2021
- University Staff Senate, 5/13/2021
- Stout Student Association, 4/13/2021

Tracked Changes Version of UW-Stout Mission Statement

The University of Wisconsin-Stout ~~prepares students for careers through~~ is a career-focused,
~~comprehensive polytechnic university where diverse students, faculty and staff integrate applied~~
~~learning and research, professional experiences, and collaborative partnerships to benefit scientific~~
~~theory, humanistic understanding, creativity and research to solve real-world problems, grow the~~
~~economy and serve~~ a global society.

As Wisconsin's Polytechnic University, we fulfill our mission through a curriculum that combines
interdisciplinary knowledge and discipline-specific technical skills with critical thinking, creative
problem-solving, communication, and social and ethical reasoning skills to better the human condition.
WeThe University offers career-focused undergraduate and graduate programs for diverse students, in a
variety of in-person, hybrid, and virtual modalities, organized around career clusters that include:
leading to professional careers in industry, commerce, education and human services through the study
of applied

- science, technology, engineering and ~~mathematics and science;~~
- art and design;
- business and management; ~~social and behavioral sciences;~~
- eEducation;
- social and behavioral sciences;
- family and consumer sciences, information technology and communications; and
- select engineering programs, applied technologies, select health studies, and technical
communications ~~sciences and human services.~~

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Current UW-Stout Mission Statement:

The University of Wisconsin-Stout is a career-focused, comprehensive polytechnic university where diverse students, faculty and staff integrate applied learning, scientific theory, humanistic understanding, creativity and research to solve real-world problems, grow the economy and serve a global society.

The University offers undergraduate and graduate programs leading to professional careers in industry, commerce, education and human services through the study of applied mathematics and science, art and design, business and management, social and behavioral sciences, education, family and consumer sciences, select engineering programs, applied technologies, select health studies, and technical communication.




OFFICE OF THE CHANCELLOR

325 Administration Building

715.232.2441

TO: Academic Programs and Faculty Advancement (AFPA)

FROM: Katherine Frank 
Chancellor

DATE: May 25, 2021

RE: Request to Place UW-Stout's Mission Revision on BOR Agenda

Per the UW policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting, Section 9.2, this is a request to place UW-Stout's mission revision on an upcoming Board of Regents agenda. Per policy, the following documents are attached to this cover letter:

- A Microsoft Word copy of the current or original mission statement;
- The revisions to the current mission as a document with tracked changes or strikeouts; and
- A clean copy of the revised mission statement with the date at which it was approved by university governance.

At the beginning of each multi-year strategic planning cycle, we collect feedback from our external constituents regarding future directions for UW-Stout. We use that feedback, along with internal campus feedback, to determine whether changes are needed to our mission statement. That feedback-review process has identified the need to refine our mission statement to sharpen the focus on our polytechnic designation.

Key process steps

- In July 2020, we held a stakeholder visioning session where we brought together approximately 80 people, including more than 50 external constituents, including members of the community, business leaders, education leaders, elected officials, Baldrige experts, Regents, donors, and individuals from UW System, to help us develop a future vision and begin the process for developing the next strategic plan, FOCUS2030.
- We used feedback from the visioning session to identify key themes to help inform the development of our FOCUS2030 strategic plan. In August 2020, we shared those key themes with the campus in an organization-wide listening session, where we sought additional feedback.
- In September and October 2020, the Strategic Planning Group (UW-Stout's internal group responsible for managing our strategic planning process) reviewed this feedback and proposed a first draft of revisions to the mission statement.



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- In November 2020, the Strategic Planning Group held three open forums to obtain feedback on the draft update.
- In December 2020, the Strategic Planning Group reviewed this feedback, proposed further modifications to the FOCUS2030 plan, including the mission statement, and sent a draft to the Chancellor's Cabinet. The Chancellor's Cabinet reviewed the draft and sent feedback for further refinement to the Strategic Planning Group.
- In December 2020, we also notified the UW System Academic Programs and Faculty Advancement office of our intent to alter our mission statement.
- In April, the Strategic Planning Group completed revisions of the FOCUS2030 plan, including the mission statement, based on the feedback from the Chancellor's Cabinet, as well as additional feedback collected from the campus. The Chancellor's Cabinet reviewed the draft, made additional minor modifications and sent a charge memo to the Senates to review and provide a resolution.
- In April and May, the Faculty Senate, Senate of Academic Staff, University Staff Senate, and Stout Student Association provided resolutions in support of the revised mission statement. The Faculty Senate resolution included a request for a friendly amendment regarding the phrase "organized around," as shown below, that was not adopted given the extensive amount of feedback that went into the proposed wording:

*...As Wisconsin's Polytechnic University, we fulfill our mission through a curriculum that combines interdisciplinary knowledge and discipline-specific technical skills with critical thinking, creative problem-solving, communication, and social and ethical reasoning skills to better the human condition. We offer career-focused undergraduate and graduate programs for diverse students, in a variety of in-person, hybrid, and virtual modalities, **organized around** career clusters that include:*

- *science, technology, engineering and mathematics;*
- *art and design;*
- *business and management;*
- *education;*
- *social and behavioral sciences;*
- *information technology and communications; and*
- *health sciences and human services.*

Rationale and Analysis of Impact on the UW System

UW-Stout has a distinctive mission within the UW System as Wisconsin's Polytechnic University. The purpose of this revision is to sharpen our focus on this distinctive mission and to be responsive to feedback we received from both internal and external constituents through the process described above.

Thank you for your consideration of this request. Please let me know if you have any questions.

**REGENT POLICY DOCUMENT REVIEW:
RPD 4-12, "ACADEMIC PROGRAM PLANNING, REVIEW, AND
APPROVAL IN THE UNIVERSITY OF WISCONSIN SYSTEM"**

REQUESTED ACTION

Adoption of Resolution E., which amends RPD 4-12, "Academic Program Planning, Review, and Approval in the University of Wisconsin System," to incorporate a provision from Board Resolution 11610 related to the review of academic programs.

Resolution E. That, upon the recommendation of the President of the University of Wisconsin System, the UW System Board of Regents amends Regent Policy Document 4-12, "Academic Program Planning, Review, and Approval in the University of Wisconsin System," to incorporate provisions requiring institutions to review the credit requirements of degree programs that require more than 130 credit hours to complete and to identify approaches to reduce the number of students who accumulate excess credits, consistent with Board Resolution 11610.

SUMMARY

This proposal recommends amending Regent Policy Document (RPD) 4-12, "Academic Program Planning, Review, and Approval in the University of Wisconsin System," to incorporate provisions, consistent with Board Resolution 11610, requiring institutions to review credit requirements of degree programs that require more than 130 credit hours to complete and to reduce the number of students who accumulate excess credits. This proposal recognizes and seeks to address the institutional systems and processes that may present a barrier to students completing their degrees in a timely manner without amassing excess credits.

Presenter

- Carleen Vande Zande, Associate Vice President for Academic Programs and Faculty Advancement, UW-System

BACKGROUND

On April 9, 2021, the UW System Board of Regents adopted Resolution 11610, which rescinded RPD 4-15, “Excess Credit Policy,” eliminating the excess credit surcharge for all UW institutions except UW-Madison. To ensure students graduate in a timely manner without amassing more credits than needed, Resolution 11610 also requires institutions to continue to adopt other practices included in RPD 4-15 that have been shown to reduce time- and credits-to-degree.

Specifically, Resolution 11610 requires institutions to continue efforts to review degree programs that require more than 130 credit hours to complete. This requirement is intended to ensure that the UW System’s academic programs do not require students to complete more credits than are necessary to maintain the academic integrity of the program. This proposal incorporates the academic program review requirement into RPD 4-12, “Academic Program Planning, Review, and Approval in the University of Wisconsin System.”

The proposed policy also requires institutions to identify approaches for reducing the number of students who accumulate excess credits. Resolution 11610 specifically requires institutions to identify and counsel students who are accumulating credits in a manner that could result in amassing more than 165 credits or 30 credits more than required by their degree programs, whichever is greater. The proposal also cites improved transfer policies and efforts to ensure that institutions offer required coursework as other methods that may reduce the accumulation of excess credits.

RELATED REGENT POLICY DOCUMENTS & OTHER APPLICABLE POLICIES

- [Regent Policy Document 4-5](#): Accreditation and Assessment of Student Learning (adopted 02/07/2020).
- [Regent Policy Document 15-2](#): Distance Education Standards (adopted 06/08/2000).
- [UW System Administrative Policy 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting](#) (formerly ACIS 1.0)
- [UW System Administrative Policy 150, The Application of Job Market and Placement Information to Academic Planning](#) (formerly ACPS 2.0)

ATTACHMENT

- A) RPD 4-12, “Academic Program Planning, Review, and Approval in the University of Wisconsin System” (Proposed Policy, with tracked changes)

Regent Policy Document 4-12

Academic Program Planning, Review, and Approval in the University of Wisconsin System (Proposed)

Scope

The Board of Regents policy on Academic Program Planning, Review, and Approval applies to all UW institutions and the UW System Administration.

Purpose

The purpose of this policy is to establish clear roles for the Board of Regents, UW System Administration, and UW institutions in the planning, review, and approval process for new academic programs.

Policy Statement

As one of the largest systems of public higher education in the country, one of the most critical components of the University of Wisconsin System's mission is to offer a robust array of academic programs that will serve the state of Wisconsin by providing a quality education to all students, strengthening communities, and responding to workforce development and societal needs. In offering and managing the academic program array, the UW System must ensure the responsible use of state and other resources, the availability of programs to meet student and employer demand, and the sustainability of high-quality undergraduate, graduate, and professional educational offerings at UW institutions.

UW System Administration administrators and staff, in their roles as consultants and advocates, work with the UW institutions to ensure the development and implementation of high-quality degree offerings and opportunities for lifelong learning that effectively leverage existing academic strengths within the UW System, support the distinct missions of UW System institutions, and respond to current and emerging workforce and societal needs that require broad-based planning and educational innovation.

In the context of ever-evolving needs of UW students and institutions, the state of Wisconsin, and the nation, the roles outlined in this policy are meant to foster increased efficiency and agility in meeting existing and emerging workforce and societal needs, while also ensuring the quality of the UW System's academic program offerings.

Oversight, Roles & Responsibilities

Chapter 36, Wis. Stats., gives the Board of Regents the authority to "ensure the diversity of quality undergraduate programs." In fulfilling this statutory role, the Board has oversight over UW System Administration and UW institutions to ensure that these entities meet their respective roles and responsibilities as designated below. As a steward of the UW System's

human and financial resources, the Board is also responsible for balancing access to education with cost-effectiveness in the development and maintenance of academic programs. The Board of Regents requires UW System Administration and UW institutions to follow the specific principles, guidelines, and practices described in the UW System Academic Program Planning, Review, and Approval policy. As part of the System policy, all new academic degree programs must be approved by the Board of Regents prior to implementation. In addition, new academic program proposals must be submitted to the Board of Regents for approval at the recommendation of the President.

UW System Administration is responsible for managing the UW System's academic program array. Management of the academic program array entails: consulting with UW institutions in the planning of new academic programs; monitoring and analyzing the current program array, including degree productivity, distance education offerings, and modes of delivery; working with UW institutions in identifying gaps in the current array to address changing and emerging workforce and societal needs; and supporting the Board of Regents and UW institutions in bringing new programs to the Board for approval.

UW institutions are responsible for: developing and maintaining high-quality academic programs through efficient and effective use of available resources in support of their missions and workforce and societal needs; determining the quality of new and existing programs, including through regular assessment and review, and periodic accreditation, as appropriate. The required minimum number of credits for a degree program is 120 credits. Institutions shall periodically review the credit requirements of existing degree programs that require more than 130 credits in an effort to reduce the credits and time to degree for students. Institutions shall also continue to identify approaches to advise students in a timely way in order to reduce the number of students who accumulate excess credits. Improved transfer policies and efforts to ensure that required courses are available are examples of other types of initiatives that have a proven track record for reducing the accumulation of excess credits.

Both UW System Administration and UW institutions assist the Board of Regents in meeting its statutory requirement for ensuring the diversity of high-quality academic programs by making available institutional definitions of and standards for quality, program planning and review processes, and general information on how program evaluation and assessment of student learning are conducted, including, where applicable, through evaluation by external accreditation agencies.

UW System Administration and UW institutions should periodically review both the Regent and the UW System academic program planning, review, and approval policies and the array management role to assess their efficacy and determine whether they are meeting the needs of the UW System (the Board of Regents, System Administration, the institutions, faculty and staff, and students), as well as of the state of Wisconsin. The results of that review will be communicated to the Board.

Related RPDs and Applicable Policies

[Regent Policy Document 4-5](#): Accreditation and Assessment of Student Learning (adopted 02/07/2020).

[Regent Policy Document 15-2](#): Distance Education Standards (adopted 06/08/2000).

SEE ALSO:

[SYS 102: Policy on University of Wisconsin System Array Management: Program Planning, Delivery, Review, and Reporting](#) (formerly ACIS 1.0)

[UW System Administrative Policy 150, The Application of Job Market and Placement Information to Academic Planning](#) (formerly ACPS 2.0)

[UW System Administrative policies are included for reference and are separate from Regent Policy Documents adopted by the Board.]

History: Res. 10115, adopted 08/24/2012; replaced Res. 5971 (formerly 91-12), adopted 12/06/1991; replaced 73-11 (Res. 541, adopted 08/03/1973), 87-13 (Res. 3911, adopted 10/09/1987), and 88-1 (Res. 3968, adopted 02/05/1988). Portions of this policy regarding ACIS-1.0 (effective September 1992) were amended by Resolutions 7046 (adopted 11/08/1995), 7420 (adopted 04/11/1997), and 7440 (adopted 05/09/1997). Res. 10835, adopted 03/09/2017, authorized technical corrections.

**REPORT OF THE VICE PRESIDENT
FOR ACADEMIC AND STUDENT AFFAIRS**

REQUESTED ACTION

None.

SUMMARY

Vice President Anny Morrobel-Sosa will provide an end-of-year review on the work conducted by the Office of Academic and Student Affairs in support of the Regents and for President Thompson's key priorities for the UW System and the Renewed Wisconsin Idea for the 21st century. The Vice President will also share key highlights and milestones from the year.

Presenter

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

BACKGROUND

Shortly after his July 2020 appointment, UW System President Tommy Thompson announced 10 key initiatives to renew the Wisconsin Idea for the 21st century to ensure the University of Wisconsin System focus on access and flexibility, while connecting courses to careers (remaining relevant) and promoting lifelong engagement.

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.

Presenter

- Marissa Jablonski, Executive Director, Freshwater Collaborative of Wisconsin

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 universities;
- 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.

Previous Action or Discussion

- At its June 6, 2019 meeting, the Board of Regents requested periodic updates on the Freshwater Collaborative. This presentation is the ninth in a series of such updates.