Program Change Request

New Program Proposal

Date Submitted: 10/28/20 11:52 am

Viewing: Capstone Certificate in Applied Bioinformatics

Last edit: 12/04/20 2:52 pm
Changes proposed by: magustafson2

Name of the school or college academic planner who you consulted with on this proposal.

<table>
<thead>
<tr>
<th>Name</th>
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</thead>
<tbody>
<tr>
<td>Andrea Poehling - MED</td>
</tr>
<tr>
<td>Marty Gustafson - DCS</td>
</tr>
</tbody>
</table>

Proposal Abstract/Summary:

The Capstone Certificate in Applied Bioinformatics is proposed as a companion certificate to the established collaborative online MS in Applied Biotechnology. The certificate will have a fully online, asynchronous curriculum comprised of 12 credits in four courses. The Capstone will serve as both a stand-alone credential and be accepted toward the MS in Applied Biotechnology degree. Both degree and capstone are offered through a collaborative model overseen by UW-Extended Campus, and include UW-Green Bay, UW-Madison, UW-Oshkosh, UW-Parkside, UW-Platteville, UW-Stevens Point, and UW-Whitewater. The need for this capstone certificate was identified by market research and input from the MS Applied Biotechnology advisory board.

We are requesting time at the 12/11/20 GFEC meeting and on the 12/17/20 UAPC consent agenda. Presenters will be SMPH Associate Dean James (Jim) Keck and Master of Science in Biotechnology Program Associate Director Natalie Betz.

Basic Information

Program State: Active
Type of Program: Capstone Certificate (Special only)
Who is the audience? Special
Home Department: Cell and Regenerative Biology (CELL R BIO)
School/College: School of Medicine and Public Health

The program will be governed by the home department/academic unit as specified. Will an additional coordinating or oversight committee be established for the program? No

Is this in the Graduate School? Yes

https://next-guide.wisc.edu/courseleaf/approve/?role=GRAD SCH Dept. Approver
sis Code:
Sis Description:
Transcript Title: Capstone Certificate in Applied Bioinformatics

Roles by Responsibility: List one person for each role in the drop down list. Use the green + to create additional boxes.

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<thead>
<tr>
<th>Role Type</th>
<th>Name (Last, First)</th>
<th>Email</th>
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</thead>
<tbody>
<tr>
<td>Department Chair</td>
<td>Wellik, Deneen</td>
<td><a href="mailto:wellik@wisc.edu">wellik@wisc.edu</a></td>
</tr>
<tr>
<td>Faculty Director</td>
<td>Betz, Natalie</td>
<td><a href="mailto:nabetz@wisc.edu">nabetz@wisc.edu</a></td>
</tr>
<tr>
<td>Primary Contact</td>
<td>Husk, Bryan</td>
<td><a href="mailto:bthusk@wisc.edu">bthusk@wisc.edu</a></td>
</tr>
<tr>
<td>Primary Dean’s Office Contact</td>
<td>Poehling, Andrea</td>
<td><a href="mailto:adpoehl@wisc.edu">adpoehl@wisc.edu</a></td>
</tr>
<tr>
<td>Primary Contact</td>
<td>Smith, Michele</td>
<td><a href="mailto:msmith27@wisc.edu">msmith27@wisc.edu</a></td>
</tr>
</tbody>
</table>

List the departments that have a vested interest in this proposal.

Are all program reviews in the home academic unit up to date? Yes
Are all assessment plans in the home academic unit up to date? Yes
Are all assessment reports in the home academic unit up to date? Yes

Mode of Delivery: Distance Education (100% online)

Provide information on how any lab courses required for the degree will be handled.

The Capstone Program does not include laboratory courses. A laboratory class in general biology at the undergraduate level is an admissions requirement.

Will this program be part of a consortial or collaborative arrangement with another college or university? Yes

Upload proposal: HLC Approval MS ABT Program.pdf

Will instruction take place at a location geographically separate from UW-Madison? No

Will this program have outside accreditation? No

Will graduates of this program seek licensure or certification after graduation? No

First term of student enrollment: Fall 2021 (1222)

Year of three year check-in to GFEC (3 years after first student enrollment): 2025

Year of first program review (5 years after first student enrollment): 2027

If this proposal is approved, describe the implementation plan and timeline.

The Capstone Certificate in Applied Bioinformatics represents an enhancement of the MS in Applied Biotechnology program. Funding levels for new courses (i.e. course development, revision and instruction) will be supported by UW-Extended Campus (UW-EX) following the current Memorandum of Understanding for the MS-ABT degree program. After approval by early Spring 2021, marketing of the certificate will be added to the existing MS-ABT marketing campaign, supported primarily by UW-EX with local UW-Madison support (funded by UW-EX). Recruiting will be rolled into the UW-Extended Campus enrollment team for the MS-ABT, with standard hand-off procedures to the admissions and student services staff in the MS-Applied Biotechnology Program at UW-Madison. The first course in the capstone program is an existing course in the MS-ABT and will be offered in Fall 2021. Additional courses will be offered in Spring 2022, making it possible after full implementation to complete the certificate in one year.

Rationale and Justifications

https://next-guide.wisc.edu/courseleaf/approve/?role=GRAD SCH Dept. Approver
Why is the program being proposed? What is its purpose?

The Capstone Certificate in Applied Bioinformatics will target working early biotechnology professionals who wish to work in the area of bioinformatics or entry level professionals in the biotech or related industries but do not possess the required skillset.

The amount and speed of data are increasing across every biotechnology industry. Training in Bioinformatics ensures a strong foundation in data analysis methods so working professionals can create innovative solutions or improve the ones already in place. Learning tools for data analysis ensure they can understand how to make key decisions about health, security, and biotechnology information problems.

Completion of the certificate will provide the core competencies needed to gain entry into bioinformatics positions, or to continue on to the online MS in Applied Biotechnology.

According to the Biotechnology Innovation Organization, since 2001 U.S. bioscience companies have increased employment by 19 percent and wage growth for the industry consistently exceeds other occupations.

Do current students need or want the program? Provide evidence.

Research conducted by UW-Extended Campus found two primary audiences interested in an Applied Bioinformatics certificate program. The first is current MS-ABT students to be served by a Graduate Certificate, and the second is a Capstone certificate-only (non-degree seeking) student looking to enter into the field of bioinformatics from a peripheral career in biotechnology or health care. It is estimated that 15% of degree-seeking students will choose to complete the optional certificate program (i.e., the Graduate/Professional Certificate) and the program will attract at least 10 new certificate-only students per year in its first year (i.e., Capstone Certificate).

UW-EX anticipates strong enrollments with approximately 45 students completing the capstone program each year by the end of year five across the collaborative. (Note: UW-Madison’s enrollment will be a % of this total enrollment, estimated to be between 25-30 students.) Based on experience with similar collaborative online graduate-level programs, it is anticipated that the annual attrition rate will be moderate—less than 20 percent—for students moving through the certificate program.

What is the market, workforce, and industry need for this program? Provide evidence.

Based on a study by the University Professional and Continuing Education Association (UPCEA) Center for Research and Strategy Studies commissioned by UW-Extended Campus in 2019, occupations related to bioinformatics are predicted to show strong growth over the next 10 years. The average annual salary for related occupations within the state and region was approximately $80,000. In addition, a focus group conducted during the Capstone curriculum development process comprised of bioinformatics industry professionals confirmed the current need for more scientists with bioinformatics skills and their support for the certificate as designed.

UPCEA also found there is a significant need for biotechnology professionals to succeed in leadership and management positions within the industry. Nationally, biotechnology professionals are projected to experience an annual growth rate of 1.8% over the next 10 years. Forecasted growth rates for all biotech occupations are either equivalent to the national average or higher, ranging from 0.7% to 1.1% annually on the national scale. Additionally, biotech professionals have a low unemployment rate (3.1%), significantly lower than the national average for all occupations. Over the past five years, biotechnology professionals in Wisconsin have experienced an average annual growth rate of 0.8%. This demand is expected to continue to grow throughout 2018 and beyond.

UW-Madison, an academic partner and lead campus in this program, offers an M.S. in Clinical and Health Informatics, and is proposing a new Capstone Certificate in Clinical and Health Informatics. These programs differ in their focus on electronic health records and clinical data analysis, whereas the bioinformatics program will offer a broader range of tools for analyzing data in agricultural and biotechnology related fields.

What gap in the program array is it intended to fill?

The current MS-ABT curriculum does not include courses specific to bioinformatics, one of the
fastest growing segments of the field. Bioinformatics was identified by both the industry board and market research as a gap in existing training for biotechnology professionals.

Diversity and Inclusion

Describe how the proposed program curriculum and learning outcomes will advance inclusive excellence. Discuss specific components and requirements within the curriculum and learning activities to engage in diversity with respect to perspectives, theories, practices, and populations different from themselves. If internships or clinical, practice be required, discuss how students will have access to diverse practice settings.

The mission of UW-Extended Campus, the entity that will lead this capstone effort, is to expand educational access to adults across the state. By design, the collaborative online programs (to include the proposed Applied Bioinformatics Certificate), are developed following an inclusive and equitable process involving a number of UW institutions, diverse faculty, and external stakeholders. Faculty from participating UW campuses work with UW-EX instructional design staff to develop curriculum (learning outcomes, courses and learning resources) to satisfy the diverse needs and interests of a broad range of adult, nontraditional learners. A design feature and commitment of these programs is to incorporate significant student-to-student interaction into the learning experience to include the sharing of individual differences, prior knowledge, and life experiences. Instructional designers work with faculty in the intentional development of activities within the courses which serve to increase awareness, content knowledge and empathetic understanding of diversity and inclusivity – to include the ways diverse individuals interact with each other and within systems and institutions.

Discuss how the proposed program will actively pursue an equity in student recruitment, access, retention, and degree completion. Describe specific strategies to identify and address gender, race, and cultural differences to create a diverse student body.

UWEX engages primarily in digital marketing for all of its online programs. Digital marketing is designed to reach all who are interested in its content and utilizes national campaigns and associated trade organizations. They do not specifically reach out to specific diverse population groups, so incorporate imagery of diverse individuals, use language that does not contain jargon that may eliminate diverse populations, as well as make sure their ads reach cities/geographical regions that are diverse.

UWEX awards each of the seven UW campuses involved in these programs $7000 for regional marketing and recruitment. The experiences of UWEX with online programs suggests that 70% of students apply to a campus within 100 miles of their residence. UW - Parkside is one of the campuses involved and provides access to diverse populations in Milwaukee, Kenosha, and Racine. The other campuses involved provide access to more rural communities in Wisconsin. The reputation of UW - Madison not only regionally, but globally, also provides recognition to students across the US and abroad.

Efforts at UW - Madison (in addition to digital marketing), include attendance at the ABRCMS (Annual Biomedical Research Conference for Minority Students) in 2019, with its own trade floor table to connect with prospective students. Over 5,000 undergraduate students attend this conference each year and both the ABT and in-person MS in Biotechnology Program were represented by Mr. Bryan Husk, who also was an invited guest speaker at the conference. Attendance at this conference generated over 70 prospective leads for both degrees. The bioinformatics certificates expand the portfolio of academic offerings for this important audience. We plan on attending the ABRCMS conference in future years as well.

The UW-Madison MS in Biotechnology Program (which oversees both the in-person and online programs at UW - Madison) partner closely with PDC to coordinate targeted marketing for all our program offerings. In addition to direct digital marketing campaigns to +45,000 UW-Madison alumni, the same campaign engages relevant prospective students from the National Name Exchange and McNair Scholars lists. We also work closely with regional biotechnology companies to recruit out-of-state students to Madison for employment in the local biotechnology industry and can provide them with further educational opportunities through the MS degrees and now bioinformatics certificates. Biotechnology companies are also equally interested in recruiting employees from diverse backgrounds.

UW - Madison currently has 29% of its ABT students describe themselves as non-white.

An essential goal of this and other UW collaborative online programs is to increase both the access for diverse audiences to this certificate and the success of those students once they enter the programs. Students enrolled in this program will receive academic and student support services that support an inclusive learning environment and equity in student success.
Further, a UW Extended Campus success coach will work closely with all students to self-identify unique needs and barriers to their success. Success coaches will serve as a resource to either directly help students overcome those barriers or will point them to other resources available at their home campus or elsewhere. UW Extended Campus will maintain online student environments that will allow individuals from diverse ethnic backgrounds to connect with other students around academic programmatic interests and cultural similarities to help build points of commonality and understanding. Social media opportunities for student connection will be made available through Facebook, Twitter, and LinkedIn, to name a few. As part of its access mission, UW Extended Campus has several initiatives currently underway to attract more students from underrepresented groups into the UW System. For example, UW Extended Campus works with UW HELP to develop and disseminate brochures and materials specific to diverse communities around the state. Our diverse and targeted marketing efforts and diverse program array attract an increasingly diverse group of prospects. Successful retention begins with matching the student to the right program (i.e. program fit) and providing continuous and effective supports to students from admission to program completion.

Although our enrollment advisors apply the same general recruitment practice and protocols for all prospective students, they provide significant high touch supports and assistance for all prospects to include multiple communication options, information delivery formats, and expanded contact hours. Once admitted, UWEX’s unique and nationally recognized Success Coaching model and service provide regular proactive and reactive advising to students throughout their learning experience. Retention rates in our programs exceed 80% - almost twice the national average for online programs. The UW Extended Campus program manager for the M.S. in Applied Biotechnology program will engage in outreach, working with

Consider how the proposed program will ensure equity in recruiting and hiring of faculty, instructional staff, and staff who will oversee the program curriculum, professor research/scholarship where relevant.

As shared above, each UW-EX supported online program invites participation from all UW campuses. As part of the collaborative online program model, participating campus partners satisfy all academic supports for the program to include, but not limited to, course instruction, academic advising, academic program assessment, curriculum review and revision, and academic support office functions. As the hiring authority for faculty and staff, each of our UW partners, including UW-Madison, follow their established institutional hiring practices and established diversity goals/plans. While the proposed certificate does not project a significant number of new faculty and staff, the MS-ABT partner institutions will continue to be committed to recruiting a culturally diverse campus community. Each institution has policies in place to support attainment of equity in the recruitment and hiring of faculty and instructional staff, when openings exist in their respective departments, schools, and colleges.

Note any plans or strategic initiatives at the university that are closely linked with the development of the proposed program. Note how efforts will align with the appropriate initiatives that address diversity where relevant. To the extent that the response to questions related to diversity, equity, and inclusion are connected to plans at the department, institutional or college level.

Development of online stackable and stand-alone credentials for non-tradition students follows the Chancellor’s campus strategic framework and plan to (1) expand access to a UW–Madison education, leveraging new modes of delivery, and (2) expand educational programming in areas of high student demand. Online, non-traditional programs by definition must expand our reach to new students that traditionally would not attend UW-Madison. In its first year of the MS-ABT program which will share recruitment with this capstone, the program enrollments met our diversity goals with approximately 26% students identifying as non-white.

### Faculty and Staff Resources

List the core program faculty and staff with title and departmental affiliation(s) who are primarily involved and will participate in the delivery and oversight.

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<thead>
<tr>
<th>Name (Last, First)</th>
<th>Department</th>
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<tbody>
<tr>
<td>Betz, Natalie</td>
<td>Cell and Regenerative Biology (CELL R BIO)</td>
<td>Academic Program Director</td>
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<tr>
<td>Zimmerman, Kurt</td>
<td>Cell and Regenerative Biology (CELL R BIO)</td>
<td>Director</td>
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<tr>
<td>Husk, Bryan</td>
<td>Cell and Regenerative Biology (CELL R BIO)</td>
<td>Assistant Director</td>
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<tr>
<td>Smith, Michele</td>
<td>Cell and Regenerative Biology (CELL R BIO)</td>
<td>Program Manager</td>
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What resources are available to support faculty, staff, labs, equipment, etc.? The Capstone Certificate in Applied Bioinformatics is a collaborative program that benefits from
the shared academic and administrative resources of all partnering institutions. Faculty and staff from seven academic partners (UW-Green Bay, UW-Madison, UW-Oshkosh, UW-Parkside, UW-Platteville, UW-Stevens Point, and UW-Whitewater) collectively developed and approved the program curriculum, program competencies, student learning outcomes, and admission requirements. These partner institutions will be responsible for identifying qualified faculty and instructional staff to deliver coursework and assess student learning and conduct program review. Each partner institution has an academic program director who will be funded at 0.25 FTE to work with their respective academic units to implement the program. Collaboratively, these directors along with a designated campus continuing education representative or designate and the UW Extended Campus program manager will comprise the program workgroup. This team will meet quarterly and will oversee the ongoing growth, development and performance of the capstone and associated MS-Applied Biotechnology degree program.

In addition to initial funding and ongoing program management, UW Extended Campus provides state and national marketing, recruitment, all instructional design for course development and maintenance, web development and management, student success coaching, fiscal management and other administrative supports required for program success.

UW-Madison has entered into a Memorandum of Understanding with UW System that formalizes their resource commitments, timelines and responsibilities. Once the program becomes fully self-supporting (i.e. program revenues exceeding program expenses for partner campuses and UW Extended Campus), the residual revenues will be shared equally among all campus partners and UW Extended Campus.

Program advisor(s) with title and departmental affiliation(s).

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<td>Program Manager</td>
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</table>

Describe how student services and advising will be supported.

Students will choose a home institution that will confer the certificate. During the selection process, students will work together with the enrollment coaches at UW-EX who are responsible for nurturing leads to application. Once a student applies to a home campus, the students services team at the campus will be responsible for admissions, advising and student success until graduation. In addition to the UW-Madison program team, there are additional contacts at UW-EX who can provide technical support for UW-EX hosted courses.

Confirm that the program advisor(s) or coordinator(s) have been consulted and reviewed this proposal.

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**Resources, Budget, and Finance**

Is this a revenue program? Yes

Upload the 131 spreadsheet.

- Certificate in Applied Bioinformatics
- Combined
- Budget.pdf
- Capstone Tuition
- Request Applied Bioinformatics.docx

What is the tuition structure for this program?

Online/Distance per-credit tuition

Select a tuition increment:

$850/credit

What is the rationale for selecting this tuition increment? Consistent with the MS in Applied Biotechnology program, tuition for the Capstone Certificate in Applied Bioinformatics will be set at $850/credit for 2021-2022 and will be identical at all seven partner institutions.
The tuition rate is based on market demand estimates as well as comparisons with other master’s level online programs offered by the University of Wisconsin (UW) System and nationally, and will be charged outside the credit plateau. The pricing structure will follow the UW System pricing guidelines for distance education programs provided in UW System Administrative Policy (SYS) 130. Segregated fees for students enrolled in this program would be waived by all of the partner institutions. Students will not be required to pay any additional fees as part of the program, except for the cost of their books. There is no tuition differential for out-of-state students.

Will segregated fees be charged?

No

Upload Online/Distance tuition proposal

Provide a summary business plan.

This capstone is a part of the collaborative program model used by UW-Extended Campus to provide funding to start and coordinate online programs in the UW-System. It does not follow the UW-Madison 131 Budget model and therefore the UW-System budget model spreadsheet is attached to this proposal.

The UW-EX collaborative budget model provides all start-up fees covered by UW-EX funding, with designated payments to campuses each year for an academic director and program coordinator; admissions support, data transfer, local marketing, course development and course instructors. After the program becomes profitable, all net revenue is shared equally between campuses and UW-EX. The model was evaluated by the UW-System Audit team in 2020 and found to be sound and equitable. It predicts that revenue will be shared back to the participating schools into a 131 fund by the third year of enrollments.

Please note that the UW-EX collaborative budget model includes the total overall enrollment across all participating UW campuses. The tuition from all schools is transferred to UW-EX for the administration of the program, and payments are sent to individual campuses for support and instruction per the MOU. UW-Madison estimates that over 50% of the total enrollments will occur at UW-Madison. These estimates are included in the enrollment table in the proposal.

Provide an overview of plans for funding the program including but not limited to program administration, instructional/curricular delivery, technology needs and program N/A: included in the UW-EX Collaborative Model. Funding per the MOU is provided as described above to cover all costs associated with the model in return for revenue share after sustainability is met. Future curriculum updates and upgrades will be paid for by UW-EX with program revenue.

What is the marketing plan?

Marketing efforts will be led by UW-EX and will extend beyond the traditional regions of participating UWs. Given that the reach of the Capstone will be broad, the UW-EX Marketing Unit will engage in state, regional and national digital marketing on behalf of the partners utilizing a multi-channel, integrated messaging approach to build awareness of the program and generate leads.

Specific digital marketing tactics employed include paid search (Google & Bing PPC) and paid social (ads on Facebook, or LinkedIn). The website will be optimized for Search Engine Optimization (SEO) by creating content rich with keywords, blog posts and dedicated landing pages. The marketing unit will also engage in email marketing by reaching out to targeted industries and affiliate organizations. Annual funding is also provided to each of the participating academic partners from the program to support their local marketing efforts.

In the pre-launch phase of the program, the marketing team will identify key messages, and target audiences, develop web content, and build a marketing campaign with supporting creative materials. The marketing strategy will be shared with campus partners prior to full launch. In the post-launch phase of the program we will implement the marketing plan, monitor performance and look for ways to improve efforts to drive traffic to become a program lead.

Does the program or change require substantial new resources other than those just described? Describe the needs. Confirm that the dean is committed to providing the

No additional resources are needed outside of the UW Collaborative model.

Are new Library resources needed to support this program?

Yes

Capstone program students are eligible for federal financial aid (usually loans) if the participant in Gainful Employment (GE) requirements, that is, the prepare students for employment in a recognized occupation. For information about gainful employment requirements see: https://studentaid.ed.gov/about/data-center/school/ge

Will you be seeking federal financial aid eligibility for this Capstone program?

No
Identify the SOC codes most closely associated with the occupational preparation the Capstone provides.

15-2051 Data Scientist
29-9021 Health Information Technologist or Medical Registrar

What program-specific financial aid, if any, is available for this program?
None at this time, though UW-EX is looking into the potential for a scholarship program to be funded by biotechnology companies in Wisconsin.

What is time period that this program is designed to be completed in by the typical student?
Students can complete the Capstone Certificate in Applied Bioinformatics in one year or two, depending on course load. At least two courses will be available during each semester (Fall, Spring, and Summer). By taking two courses a term, a student may complete the program in two terms. Students electing to take one course a semester may take up to four terms to complete the program.

Gainful Employment requirements come with the need to track employment of graduates and provide additional reports – does the program have the capacity to complete these requirements?
Yes

Curriculum and Requirements

Guide Admissions/How to Get In tab

This Capstone Certificate in Applied Bioinformatics program is intended for University Special [non-degree seeking] students who hold a bachelor’s degree or equivalent an educational experience or to offer a focused professionally oriented educational experience.

Admission requirements for the Capstone Certificate in Applied Bioinformatics are:

A Bachelor’s degree
A 3.0 undergraduate GPA
Completion of one General Biology course with laboratory at the undergraduate level

The Capstone Certificate in Applied Bioinformatics accepts applications year-round.

Applications are accepted for Fall through July 15
Applications are accepted for Spring through December 15
Applications are accepted for Summer through April 15

Application requirements include:

Statement of purpose
Resume/CV
Transcripts from all post-secondary institutions. Unofficial transcripts may be submitted with the application; official transcripts will be required upon admission to the program
Two letters of recommendation
Submit evidence of English language proficiency, if applicable. The required proficiency scores are: TOEFL iBT 92, PBT 580; or IELTS 7.0

Please refer to the program website for the application.

Adult Career and Special Student Services (ACSSS) is the admitting office for all University Special students, including capstone certificate students. However, the department makes the final admission decision upon review of all applicant materials.

Describe plans for recruiting students to this program.

Recruiting efforts will be shared by UW-EX and UW-Madison. UW-EX will use its student enrollment coaching model to follow up on leads generated by marketing efforts until the point they apply to UW-Madison. This effort is supported through UW-EX salesforce and a professional team of student success coaches. After application start, the DCS enrollment coaching team will work together with the MS-ABT program through Salesforce to support students through application submission and enrollment. In addition, the ABT program will continue to recruit through alumni and professional contacts and societies and their needs.

Projected annual enrollment below represents the % of students across the collaborative predicted to enroll at UW-Madison.

Projected Annual Enrollment:

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected Enrollment</th>
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<tbody>
<tr>
<td>Year 1</td>
<td>5</td>
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<tr>
<td>Year 2</td>
<td>10</td>
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<tr>
<td>Year 3</td>
<td>15</td>
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<tr>
<td>Year 4</td>
<td>20</td>
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</table>
Describe plans for supporting enrollments that are much higher or much lower than the anticipated enrollment. The asynchronous online format, along with course availability during all three semesters, assures that there is more than adequate capacity for the number of students. The UW-EX collaborative model includes a plan for enrollments above anticipated by increasing faculty compensation with enrollments above 24 in a section, and opening new sections after enrollment reaches 34 students (split into 17). Additional funds are provided for a second faculty member to teach the new sections. If numbers of enrollees are less than projected, courses may be staggered and still allows the capstone to be completed in one year’s time. UW-EX also conducts yearly review of program enrollments, and will continue to monitor and make changes to the program curricula if enrollments do not meet goals.

Are international students permitted to enroll in this program?

Those who are not familiar with using the html editor fields may upload a document with information about the curriculum for use by those who will format and edit the content that will appear in the Guide.

Guide Requirements tab

Minimum Residence Credits: 12
All of the capstone certificate credits must be earned “in residence” (which includes distance-delivered courses) at UW-Madison. Students must earn a C (minimum GPA of 2.000) or above on all capstone certificate coursework.
Courses in which a student elects the pass/fail option will not count toward completion of requirements.

Required Coursework: 12 credits
Completion of twelve credits is required for the certificate. A description of the requirements is provided below:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>ABT 720</td>
<td>Experimental Design and Analysis in Biotechnology</td>
</tr>
<tr>
<td>ABT 730</td>
<td>Python for Bioinformatics</td>
</tr>
<tr>
<td>ABT 780</td>
<td>Bioinformatic Inquiry</td>
</tr>
<tr>
<td>ABT 785</td>
<td>Application of Bioinformatics</td>
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</tbody>
</table>

Total credits required: 12
Semesters to completion: 2

Guide Graduate Policies tab

The Graduate Program Handbook is the repository for all of the certificate program’s policies and requirements.

Describe part-time format (<8 credits fall and spring semesters < 4 credits summer term) here.
At least two courses will be offered during each term (fall, spring, summer). Students choosing to take less than 2 courses a semester may take up to four terms to complete the Capstone Certificate in Applied Bioinformatics program.

Describe full-time, time-compressed, intensive format here.
Students are able to complete the Capstone Certificate in Applied Bioinformatics program within two semesters by taking two courses during each term.

Describe other format here.

Program Learning Outcomes and Assessment

List the program learning outcomes.

<table>
<thead>
<tr>
<th>Outcomes – enter one learning outcome per box. Use the green + to create additional boxes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrate professional and scientific communication appropriate for biotechnology settings</td>
</tr>
</tbody>
</table>
When learning outcomes are changed, a new assessment plan must be uploaded.

Summarize the assessment plan.

The MS in Applied Biotechnology program assessment team, comprised of academic program directors from each partner institution as well as the UW Extended Campus program manager, will manage the assessment of student learning outcomes for the Capstone Certificate in Applied Bioinformatics. This assessment team will identify and define measures and establish a rubric to evaluate how well students are demonstrating attainment of program learning outcomes. The team will also identify and collect data needed to complete the assessment. As a part of the course development and review process, the assessment team will determine which examples of student work will be most appropriate to demonstrate competency.

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

Department Approved
Assessment Plan:

MS-ABT Sample Program Assessment Plan.docx

Commitments

All required courses are approved through the school/college level.

Yes

Courses are offered on a regular basis to allow timely completion.

Yes

Courses have enrollment capacity.

Yes

Courses in the curriculum are numbered 300 or higher.

Yes

Courses in which a student elects the pass/fail option will not count toward completion of requirements.

Yes

Special topics courses are only used if all topics count for the certificate.

Yes

All requirements must be met; exceptions that amount to waiving requirements are not permitted.

Yes

Course substitutions to the curriculum should be kept to a minimum; if substitutions are being made on a regular basis, the curriculum should be re-examined. When course substitutions are formally added to the curriculum through governance for inclusion in the curriculum the following academic year.

Yes

Substitutions are not permitted for any course unless the substitution would be provided for every student with the same substitution request.

Yes

All of the Capstone certificate credits must be earned “in residence” (which includes on campus and distance-delivered courses) at UW-Madison while enrolled in the Capstone Certificate is comprised of just a few courses, it is not appropriate for students who already have completed the same or similar coursework at UW-Madison or a

Yes

Students must earn a minimum grade of C on all attempted Capstone certificate coursework.

Yes

The program faculty/staff will ensure the program is encoded into DARS and will work with the Registrar’s Office DARS liaison to keep approved revisions to the curriculum

Yes
All students will be reviewed into the appropriate path cycle at the end of the admission process or evaluation. If the student does not meet the path cycle criteria, they will not be considered to be in the program.

Yes

The program faculty/staff will ensure the program website, Advance Your Career materials if applicable, and other presentations are consistent with the Guide information.

Yes

Credential will not be awarded retroactively to students who completed all of the requirements before the credential was approved.

Yes

Degree-seeking students may not be concurrently enrolled in a Capstone certificate program.

Yes

Students enrolled in Capstone certificate programs are NOT eligible for teaching assistant (TA), research assistant (RA), project assistant (PA) nor graduate fellowship support policy to Capstone certificate students in the recommendation of admission letter, program website, program handbook, and program orientation.

Yes

To be eligible for admission to a Capstone program, a student must hold an earned bachelor’s degree or equivalent credential from an accredited college or university.

Yes

Supporting Information

List name and department of those who are in support of this proposal.

If those supporting the proposal provided a letter or email of support upload here. A letter is NOT required. Upload any other explanatory information about support from other UW-Madison units.

Additional Information:

Approvals

Department Approval - This proposal has been approved by the faculty at the department/academic unit level. The program faculty confirm that the unit has the capacity and resources (financial, physical) and responsibilities associated with offering the program, including offering the necessary courses, advising students, maintaining accurate information about the program in the Guide and elsewhere, can review, and otherwise attend to all responsibilities related to offering this program.

Enter any notes about approval here:

Entered by: Andrea Poehling for the program Date entered: 10/28/20

School/College Approval - This proposal has been approved at the school/college level and it is submitted with the Dean’s support. The Dean and program faculty confirm that the unit has the capacity and administrative to meet the responsibilities associated with offering the program, including offering the necessary courses, advising students, maintaining accurate information about the program learning assessment and program review, and otherwise attend to all responsibilities related to offering this program.

Enter any notes about approval here:

Entered by and date: Andrea Poehling Date entered: 11/18/20

GFEC Approval - This proposal has been approved by the Graduate Faculty Executive Committee and the Dean of the Graduate School.

Enter any notes about the approval here:

Entered by: Date entered:

UIAPC Approval - This proposal has been approved by the University Academic Planning Council and the Provost.

Enter any notes about approval here:

Entered by: Date entered:

For Administrative Use

Comments:

Regina Lowery (lowery3) (11/09/20 1:07 pm): Assessment reporting: Home department, Biotechnology, MS - up to date.

Regina Lowery (lowery3) (11/09/20 1:08 pm): Assessment plan: Please attach assessment plan to this proposal.
August 2, 2019

Dr. Rebecca Blank
Chancellor
University of Wisconsin-Madison
500 Lincoln Drive
Madison, WI 53706

Dear Chancellor Blank:

This letter serves as formal notification and official record of action taken concerning University of Wisconsin-Madison by the Institutional Actions Council of the Higher Learning Commission at its meeting on July 29, 2019. The date of this action constitutes the effective date of the institution’s new status with HLC.

Action. IAC concurred with the evaluation findings and approved the institution’s request for a consortial arrangement with the University of Wisconsin-Madison; University of Wisconsin-Green Bay; University of Wisconsin-Oshkosh; University of Wisconsin-Parkside; University of Wisconsin-Platteville; University of Wisconsin-Stevens Point; and University of Wisconsin-Whitewater to offer the Master of Science in Applied Biotechnology.

In two weeks, this action will be added to the Institutional Status and Requirements (ISR) Report, a resource for Accreditation Liaison Officers to review and manage information regarding the institution’s accreditation relationship. Accreditation Liaison Officers may request the ISR Report on HLC’s website at https://www.hlcommission.org/isr-request.

Within the next 30 days, HLC will also publish information about this action on its website at https://www.hlcommission.org/Student-Resources/recent-actions.html.

If you have any questions about these documents after viewing them, please contact the institution’s staff liaison Jeffrey Rosen. Your cooperation in this matter is appreciated.

Sincerely,

Barbara Gellman-Danley
President

CC: ALO