APPLIED BIOINFORMATICS CERTIFICATE

Department website (https://www.uwp.edu/learn/programs/appliedbioinformatics.cfm)

The Applied Bioinformatics Graduate Certificate is offered online collaboratively with UW-Green Bay, UW-Oshkosh, UW-Parkside, UW-Platteville, UW-Stevens Point, and UW-Whitewater with administrative and financial support from Universities of Wisconsin Office of Online & Professional Learning Resources. It represents a fully online, asynchronous curriculum. The program will serve as both an in-program learning opportunity for MS Applied Biotechnology degree-seeking students as well as a freestanding certificate program for non-degree (certificate-only) seeking students who may or may not elect to continue to the MS degree program. Students will select and enroll at a home campus from which they will receive academic supports and the certificate is conferred. This Certificate will provide students with relevant training to be successful in professional bioinformatics positions. The curriculum consists of four three-credit, 100% online courses as part of the MS Applied Biotechnology degree program that are designed for students to process biological data from scientific research, such as large-scale genomics and other molecular and biological datasets, using computation and analysis tools. Students will gain proficiency in applied statistics, machine learning, data visualization, programming, and other techniques that aid in scientific discovery. This certificate can be standalone or stackable within the MS Applied Biotechnology degree program.

Program Learning Outcomes

1. Upon completion of this certificate, students will be able to demonstrate proficiency in the following program learning outcomes aligned with the M.S. in Applied Biotechnology program.
2. Competency A: Demonstrate professional and scientific communication appropriate for biotechnology settings\\n\\nProgram Outcome 1: Select the most appropriate modalities, methodologies, tools, and practices to communicate complex ideas effectively across diverse audiences.\\nProgram Outcome 3: Construct and deliver effective, professional presentations.\\n
3. Competency B: Demonstrate comprehensive understanding of organizational processes and product development pipelines.\\n\ \nProgram Outcome 4: Evaluate and describe systems of product research, development, and production.\\n
4. Competency C: Distinguish among diverse methods and technologies and their applications in biotechnology.\\n\\nProgram Outcome 8: Compare and contrast emerging with existing technologies. \\nProgram Outcome 9: Exhibit strong technical knowledge to evaluate and choose appropriate technologies.\\nProgram Outcome 10: Demonstrate the ability to read, interpret and apply scientific literature.\\nProgram Outcome 11: Demonstrate competency in data analyses and statistics used in biotechnology.\\n
5. Students will also demonstrate proficiency in this certificate-specific program outcomes:\\n\\nDemonstrate competency in use of python programming strategies to solve problems in bioinformatics\ \nDemonstrate the ability to integrate python programming strategies with complementary resources, especially UNIX, GitHub, and libraries. \\n

Program-Specific Policies

Students who are enrolled in, or have completed courses in the Applied Bioinformatics Graduate Certificate, have the right to apply credits from the certificate to the Master of Science in Applied Biotechnology (MS-ABT) program. Students interested in this option need to complete the UW system graduate application to apply for the master's program.

Requirements for the Graduate Certificate in Applied Bioinformatics

- Bachelor's degree from a regionally or nationally accredited university (in any discipline) with a 3.00/4.00 GPA.
- Prerequisite coursework of one semester of college level biology or chemistry with laboratory.
- Employment résumé.
- A personal statement of up to 1,000 words describing the reasons behind your decision to pursue this degree.
- No letters of recommendation are required.

Students may be considered for a provisional admission, if they do not meet the minimum admission requirements. The Academic Director has the discretion to waive a prerequisite that will allow a student to take an ABT course.

If you do not meet the minimum admission requirements—such as having a GPA below 3.0 or missing prerequisite coursework—you will need to submit additionally two letters of recommendation. These can be:

- Professional letters of recommendation (a workplace colleague or supervisor)
- Academic letters of recommendation (former professor or academic advisor)

Code	Title	Credits
Required Courses		
ABT 720	Experimental Design and Analysis in Biotechnology	3
ABT 730	Python for Bioinformatics	3
ABT 780	Bioinformatics Inquiry	3
ABT 785	Applications of Bioinformatics	3
Total Credits		**12**

University Requirements for Graduate Certificates

Graduate certificates are designed for students at one of the following levels:

- Students who have completed a baccalaureate or higher degree from a regionally accredited institution and are enrolled for graduate credit
- Students who are enrolled simultaneously in a graduate degree program

Students must meet the admission requirements of a degree seeking or non-degree seeking graduate student to be eligible to earn a graduate certificate. At least 75% of the credits must be earned after completion of a baccalaureate or higher degree and students must attain a GPA of 3.00 within the certificate courses.

Certificate programs are designed to develop a particular expertise or set of skills. Graduate certificate programs will require a minimum of 8 graduate-level credits. For graduate certificates, at least 50% of the credits must be at the 700 level. At least 60% of the credits for the graduate certificates must be earned at UW-Parkside for program residency. Individual departments and programs may require more than 60% of the credits to be taken at UW Parkside.

Certificate programs should not be confused with certification or licensure programs which lead to certification by an outside agency.