

# MASTER OF SCIENCE IN APPLIED BIOTECHNOLOGY

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**Master of Science in Applied Biotechnology**  
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## STATEMENT OF PURPOSE

The program provides an understanding of the principles and techniques of biotechnology, including ethical, safety, and privacy concerns; funding; intellectual property and patents; professional and technical communication; experimental design and analysis; and organizational leadership—all within the scope of the global biotechnology industry.

## STUDENT LEARNING OUTCOMES

Graduates will:

- Demonstrate professional and scientific communication appropriate for biotechnology settings
- Demonstrate comprehensive understanding of organizational processes and product development pipelines
- Distinguish among diverse methods and technologies and their applications in biotechnology
- Demonstrate strategic leadership and decision-making skills necessary in biotechnology.
- Appraise the current regulatory, quality control, and legal frameworks that impact biotechnology
- Demonstrate professional and ethical behaviors that foster positive and productive interactions in diverse biotechnology settings

## INTRODUCTION

The program represents a comprehensive, multidisciplinary curriculum that prepares students to advance their careers and pursue their academic ambitions through leadership and management positions within the biotechnology field. Defined core courses provide students with a solid foundation in biotechnology, leadership, ethics, research, communications, product development, quality control, and regulatory and compliance practices. In addition, the program offers three unique tracks to assist students in tailoring their coursework to meet their career goals: quality assurance and compliance; business management; and research and development. The M.S. in Applied Biotechnology represents a fully online, asynchronous curriculum comprised of 31 credits to include a culminating, project-based Capstone experience. Graduates of the program will gain the core competencies required to manage functions across a wide range of biotechnology industries.

## ADMISSION REQUIREMENTS FOR MASTER OF SCIENCE IN APPLIED BIOTECHNOLOGY

Admission to the Master of Science in Applied Biotechnology requires:

- Prerequisite coursework in General Biology and General Chemistry
- A bachelor's degree from an accredited university
- Employment résumé
- Two letters of recommendation
- A personal statement of not more than 1000 words
- Admission exams, such as the GRE or the GMAT, are not required.

To be eligible for admission in full standing, a student must have an overall undergraduate grade point average of 3.0. Students who do not qualify for admission in full standing may be admitted in full standing on probation if justified by the admitting department and approved by the College Dean.

Program entrance requirements and degree completion requirements are consistent with those of the other collaborative degree-granting institutions offering this program. Applicants should follow the instructions found in the Admission Policies and Procedures section of this catalog.

## SPECIAL STUDENTS

Students who have earned a bachelor's degree from a nationally or regionally accredited institution recognized by the Council for Higher Education Accreditation (CHEA) or U.S. Department of Education (USDE) may register as a Special Student. Students will receive academic credit for courses taken while on this status. Students can be considered for admission into a degree program if they maintain a 3.00 grade point average in all graduate-level work and all other admission requirements are met. With the program area advisor's approval, students may transfer up to 12 credits earned at UW-Platteville into a degree program. All graduate-level work will be included in computing a student's GPA.

## CURRICULUM

The Master of Science in Applied Biotechnology is earned upon the successful completion of 31 credit hours (18 core credits, 9 emphasis credits, 1 pre-capstone credit, and 3 capstone credits). All courses are three credits unless otherwise noted. Graduate credits in which a grade lower than a "C" has been earned will not be counted toward a degree in Applied Biotechnology; however, these lower grades will be reflected in the student's grade point average.

Course	Title	Credits
<b>Core Courses</b>		<b>18</b>
ABT 7000	Principles of Biotechnology	
ABT 7050	Ethics, Safety and Regulatory Environment in Biotechnology	
ABT 7100	Professional and Technical Communication in Biotechnology	
ABT 7150	Techniques in Biotechnology	
ABT 7200	Experimental Design and Analysis in Biotechnology	
ABT 7250	Leadership in Organizations	
<b>Emphasis - Choose one emphasis listed below</b>		<b>9</b>
<b>Capstone Courses</b>		<b>4</b>
ABT 7890	Pre-capstone	
ABT 7900	Capstone	
<b>Total Credits</b>		<b>31</b>

## AREAS OF EMPHASIS

### QUALITY ASSURANCE AND COMPLIANCE EMPHASIS

Course	Title	Credits
<b>Required Courses</b>		
ABT 7350	Quality Control and Validation	3
ABT 7400	Regulatory Practice and Compliance	3
ABT 7450	Industrial Applications in Regulatory Affairs	3
<b>Total Credits</b>		<b>9</b>

### BUSINESS AND MANAGEMENT EMPHASIS

Course	Title	Credits
<b>Required Courses</b>		
ABT 7500	Biotechnology Marketing and Entrepreneurship	3
ABT 7550	Global Operations and Supply Chain Management	3
ABT 7600	Quality and Project Management	3
<b>Total Credits</b>		<b>9</b>

### RESEARCH AND ASSESSMENT EMPHASIS

Course	Title	Credits
<b>Required Courses</b>		
ABT 7650	Assessing Innovation in Biotechnology	3
ABT 7700	Product Development	3
ABT 7750	Tools for Data Analysis	3
<b>Total Credits</b>		<b>9</b>

## CERTIFICATE IN APPLIED BIOINFORMATICS

The Certificate in Applied Bioinformatics is being offered through the established collaborative online Master of Science in Applied Biotechnology (MS-ABT). The certificate is a fully online, asynchronous curriculum. The program will serve as both an in-program learning opportunity and additional credential for MS-ABT 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.

For admission as a non-degree seeking student, students must meet the MS-ABT program admission requirements. Admission requirements include a Bachelor's degree and a 3.0 undergraduate GPA. Program prerequisite coursework requirements include General Biology with lab.

UW-Platteville offers several graduate certificates. These certificates are distinct from the Master's degree, but credit earned for them might be applied toward the completion of the degree. To earn a certificate, students must complete all the required courses through the University of Wisconsin-Platteville, under the direction of the University of Wisconsin-Platteville faculty. Transferred courses or course substitutions are not allowed.

To obtain a graduate certificate, students must:

- Complete the certificate with a minimum GPA of 3.00
- Achieve a minimum grade of "C" in each course from the certificate program
- Request a certificate through their advisor within one year from completion of the final course of the certificate

To earn the certificate, students must complete the following requirements:

Course	Title	Credits
ABT 7200	Experimental Design and Analysis in Biotechnology	3
ABT 7300	Python for Bioinformatics	3
ABT 7800	Bioinformatic Inquiry	3
ABT 7850	Applications of Bioinformatics	3
<b>Total Credits</b>		<b>12</b>