BIOTECHNOLOGY, M.S.

The Master of Science (M.S.) in Biotechnology is designed for working professionals and provides students with an overarching view of modern biotechnology operations, addressing fundamental scientific and legal matters, innovative technologies and complex business issues. Students thrive in a face-to-face environment rich in academic and industrial collaboration, leaving the program prepared to assume leadership roles in the biotechnology industry. Practical and results oriented, this two-year program provides the foundation necessary for succeeding and advancing in one of the fastest growing and most complex industries in the world. Top-rated UW–Madison faculty and talented business partners in Wisconsin combine their expertise to provide hands-on, problem-solving experiences while offering flexible schedules for students, including convenient weekend and evening courses.

The M.S. in Biotechnology Program is a face-to-face graduate degree where students meet every other week over seven sessions each semester. The meeting times are every other Thursday night, all day Friday, and Saturday mornings.

If you are seeking the fully online program, please see the M.S. in Applied Biotechnology (https://guide.wisc.edu/graduate/cell-regenerative-biology/applied-biotechnology-ms/) Program at UW–Madison.

APPLY TO THE GRADUATE SCHOOL

Applications are submitted online only; paper copy applications are not available. Apply to the Graduate School online and select the "Biotechnology MS" program option:

THE GRADUATE SCHOOL’S ONLINE APPLICATION (HTTPS://APPLY.GRAD.WISC.EDU/)

The online application and application fee must be submitted electronically to the Graduate School before your application can be considered for admission.

The following materials must be uploaded to your Graduate School online application:

- Your professional resume
- Unofficial transcript(s) for your undergraduate degree institution(s) and unofficial transcripts from any post-undergraduate degrees (if applicable)
- Three Letters of Recommendation (initiated and processed online via the Graduate School online application)
- A one- or two-page Statement of Purpose (uploaded via the Graduate School online application) that provides the following: A brief summary of your professional and academic background, a clear explanation of your short- and long-term professional goals, and a clear explanation of how the M.S. in Biotechnology degree will help you meet your career goals. (Please be specific to the M.S. in Biotechnology degree and its curriculum.)

Additional Graduate School resources:

- Graduate School Admission Frequently Asked Questions (https://grad.wisc.edu/apply/#FAQ)
- Graduate School Admission Requirements (https://grad.wisc.edu/apply/requirements/)

If you have any questions about applying to the M.S. in Biotechnology Program (https://www.ms-biotech.wisc.edu) or about the status of your application, you should contact Bryan Husk (https://www.wisc.edu/directories/person/?q=Bryan%20Husk&email=bthusk@wisc.edu&savedQuery=Bryan%20Husk&returnPath=/directories/).

APPLICATION DEADLINE

Applications for Fall semester are accepted until a full cohort of up to 28 students has committed to attend. Spaces are sometimes available for strong applicants until as late as June or July for domestic applicants, however, the cutoff date for international applicants is May 1st each year. There is no admission for Spring or Summer terms.

FUNDING

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (https://grad.wisc.edu/funding/) is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.
PROGRAM RESOURCES
The M.S. in Biotechnology Program does not offer any scholarships or financial aid. Graduate students are not permitted to accept any research, project, or teaching assistantship positions that would waive tuition or provide tuition remission. However, students may contact the Office of Student Financial Aid (https://financialaid.wisc.edu/) to discuss federal loan programs and other lending opportunities.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS
Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/policiesandrequirementstext), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

<table>
<thead>
<tr>
<th>Mode of Instruction Definitions</th>
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<tbody>
<tr>
<td><strong>Accelerated:</strong> Accelerated programs are offered at a fast pace that condenses the time to completion. Students are able to complete a program with minimal disruptions to careers and other commitments.</td>
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<tr>
<td><strong>Evening/Weekend:</strong> Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.</td>
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<tr>
<td><strong>Face-to-Face:</strong> Courses typically meet during weekdays on the UW-Madison Campus.</td>
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<tr>
<td><strong>Hybrid:</strong> These programs combine face-to-face and online learning formats. Contact the program for more specific information.</td>
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<tr>
<td><strong>Online:</strong> These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.</td>
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CURRICULAR REQUIREMENTS

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<tr>
<th>Requirements Detail</th>
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<tbody>
<tr>
<td>Minimum Credit Requirement</td>
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<tr>
<td>Minimum Residency Credit Requirement</td>
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<td>Minimum Graduate Coursework Requirement</td>
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<td>Overall Graduate GPA Requirement</td>
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Other Grade Requirement
The Graduate School requires an average grade of B or better in all coursework (300 or above, not including research credits) taken as a graduate student unless conditions for probationary status require higher grades. Grades of Incomplete are considered to be unsatisfactory if they are not removed during the next enrolled semester.

Assessments and Examinations
None.

Language Requirements
None.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CRB 802</td>
<td>Business of Biotechnology: Fundamentals of Product Development</td>
<td>2</td>
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<tr>
<td>CRB 800</td>
<td>Intellectual Property, Patents and Licensing</td>
<td>2</td>
</tr>
<tr>
<td>CRB 804</td>
<td>Biotechnology Regulation and Ethics</td>
<td>2</td>
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<tr>
<td>CRB 803</td>
<td>Molecular Technologies I</td>
<td>2</td>
</tr>
<tr>
<td>CRB 824</td>
<td>Molecular Technologies II</td>
<td>3</td>
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<tr>
<td>CRB 820</td>
<td>Biotechnology Operations</td>
<td>5</td>
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<tr>
<td>CRB 843</td>
<td>Project Management and Leadership</td>
<td>2</td>
</tr>
<tr>
<td>CRB 841</td>
<td>Business of Biotechnology: Contemporary Challenges and Applications</td>
<td>2</td>
</tr>
<tr>
<td>CRB 830</td>
<td>Early Drug Discovery</td>
<td>4</td>
</tr>
<tr>
<td>CRB 834</td>
<td>Molecular Technologies III</td>
<td>2</td>
</tr>
<tr>
<td>CRB 842</td>
<td>Business of Biotechnology: Sustaining Growth</td>
<td>2</td>
</tr>
<tr>
<td>CRB 844</td>
<td>Advanced Biotechnology: Global Perspectives</td>
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<tr>
<td>Total Credits</td>
<td>32</td>
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POLICIES

GRADUATE SCHOOL POLICIES
The Graduate School’s Academic Policies and Procedures (https://grad.wisc.edu/acadpolicy/) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.
MAJOR-SPECIFIC POLICIES

PRIOR COURSEWORK

Graduate Work from Other Institutions
No prior coursework from other institutions may be applied toward program requirements.

UW-Madison Undergraduate
No prior coursework from UW-Madison undergraduate career may be applied toward program requirements.

UW-Madison University Special
No prior coursework taken as a UW-Madison University Special student may be applied toward program requirements.

PROBATION

The Graduate School regularly reviews the record of any student who earned grades of BC, C, D, F, or Incomplete in a graduate course (300 or above), or grade of U in research credits. This review could result in academic probation with a hold on future enrollment or in being suspended from the Graduate School.

ADVISOR / COMMITTEE

Every graduate student is required to have an advisor. To ensure that students are making satisfactory progress toward a degree, the Graduate School expects them to meet with their advisor on a regular basis.

An advisor generally serves as the thesis advisor. In many cases, an advisor is assigned to incoming students. Students can be suspended from the Graduate School if they do not have an advisor. An advisor is a faculty member, or sometimes a committee, from the major department responsible for providing advice regarding graduate studies.

CREDITS PER TERM ALLOWED

15 credits

TIME CONSTRAINTS

Master's degree students who have been absent for five or more consecutive years lose all credits that they have earned before their absence. Individual programs may count the coursework students completed prior to their absence for meeting program requirements; that coursework may not count toward Graduate School credit requirements.

GRIEVANCES AND APPEALS

These resources may be helpful in addressing your concerns:

- Bias or Hate Reporting (https://doso.students.wisc.edu/bias-or-hate-reporting/)
- Graduate Assistantship Policies and Procedures (https://hr.wisc.edu/policies/gapp/#grievance-procedure)
- Hostile and Intimidating Behavior Policies and Procedures (https://hr.wisc.edu/hib/)
  - Office of the Provost for Faculty and Staff Affairs (https://facstaff provost.wisc.edu/)
  - Dean of Students Office (https://doso.students.wisc.edu/) (for all students to seek grievance assistance and support)
  - Employee Assistance (http://www.eao.wisc.edu/) (for personal counseling and workplace consultation around communication and conflict involving graduate assistants and other employees, post-doctoral students, faculty and staff)
- Employee Disability Resource Office (https://employeedisabilities.wisc.edu/) (for qualified employees or applicants with disabilities to have equal employment opportunities)
- Graduate School (https://grad.wisc.edu/) (for informal advice at any level of review and for official appeals of program/departmental or school/college grievance decisions)
- Office of Compliance (https://compliance.wisc.edu/) (for class harassment and discrimination, including sexual harassment and sexual violence)
- Office of Student Conduct and Community Standards (https://conduct.students.wisc.edu/) (for conflicts involving students)
- Ombuds Office for Faculty and Staff (http://www.ombuds.wisc.edu/) (for employed graduate students and post-docs, as well as faculty and staff)
- Title IX (https://compliance.wisc.edu/titleix/) (for concerns about discrimination)

Students should contact the program director with questions about grievances.

OTHER

The M.S. in Biotechnology Program does not offer any financial aid, and graduate students are not permitted to accept any research, project, or teaching assistantship positions that would waive tuition. Students with two or more years work experience after receiving their bachelor’s degree are preferred for admission.

PROFESSIONAL DEVELOPMENT

GRADUATE SCHOOL RESOURCES

Take advantage of the Graduate School’s professional development resources (https://grad.wisc.edu/pd/) to build skills, thrive academically, and launch your career.

LEARNING OUTCOMES

1. Apply core scientific and business principles to distinguish the difference between scientific and commercial success, and gain insight in to the challenge of balancing product usefulness with positive return on investment.
2. Understand how regulation is developed and how it interacts with business and finance to influence the formation and growth of technology companies.
3. Understand and apply modern biotechnology methods and practice, as well as effective written and oral scientific communication, through hands-on participation in the laboratory.
4. Apply knowledge of seven functional specialties (regulatory affairs, quality assurance, biomanufacturing, quality control, non-clinical development, clinical development and project management) to the coordinated process of product development.
5. Understand the processes, technologies, scientific principles and major challenges of the early drug discovery process as it continues to evolve.
6. Evaluate the potential of a product or technology based on the organizational resources required for full commercialization.
7. Understand firm-level strategic development, and apply strategic business principles in day-to-day operations.
8. Demonstrate an ability to identify a global problem, and how biotechnology may offer a novel solution(s).

9. Integrate the technical, sociological and leadership skills that are necessary to design, use and defend a global project management plan.

10. Integrate topics in science, policy, law and business in order to lead the development and commercialization of new and promising technologies.

11. Recognize and apply principles of ethical and professional conduct and develop long-term networks and relationships with industry partners.

12. Understand the ethical and safety issues that help shape public policies on biotechnology and its applications.

PEOPLE

The program's instructional faculty are a blend of world-renowned scholars from across UW–Madison and dynamic leaders from the region's private biotechnology industries. All the program's faculty and staff are committed to your education and career success.

Faculty and Staff Directory (https://www.ms-biotech.wisc.edu/directory.cfm)