BIOTECHNOLOGY, M.S.

The Master of Science (M.S.) in Biotechnology 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 an 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.

ADMISSIONS

Please consult the table below for key information about this degree program’s admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program’s website. Graduate admissions is a two-step process between academic programs and the Graduate School. Applicants must meet the minimum requirements of the Graduate School as well as the program(s). Once you have researched the graduate program(s) you are interested in, apply online.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Deadline</td>
<td>May 1</td>
</tr>
<tr>
<td>Spring Deadline</td>
<td>The program does not admit in the spring.</td>
</tr>
<tr>
<td>Summer Deadline</td>
<td>The program does not admit in the summer.</td>
</tr>
<tr>
<td>GRE (Graduate Record Examinations)</td>
<td>Not required.</td>
</tr>
<tr>
<td>English Proficiency Test</td>
<td>Every applicant whose native language is not English or whose undergraduate instruction was not in English must provide an English proficiency test score and meet the Graduate School minimum requirements (<a href="https://grad.wisc.edu/apply/requirements/#english-proficiency">https://grad.wisc.edu/apply/requirements/#english-proficiency</a>).</td>
</tr>
<tr>
<td>Other Test(s) (e.g., GMAT, MCAT)</td>
<td>n/a</td>
</tr>
<tr>
<td>Letters of Recommendation</td>
<td>Required</td>
</tr>
</tbody>
</table>

STEP 1: APPLY TO THE GRADUATE SCHOOL

Applications are only submitted online; paper copy applications are not available. Apply to the Graduate School online at the UW–Madison Graduate School website:

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

The online application and $75 application fee must be submitted electronically to the Graduate School before you can be considered for admission.

- Three letters of recommendation (can be 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 goals. (Please be specific to the M.S. in biotechnology degree.)
- Professional resume

Important: Select Biotechnology (Program Code G040) as your Intended Major Field of Study.

Additional Graduate School resources:

- Graduate School Admission Frequently Asked Questions (https://grad.wisc.edu/admissions/faq)
- Graduate School Admission Requirements (https://grad.wisc.edu/admissions/requirements)
- Information to Send to the Graduate School (https://grad.wisc.edu/apply/requirements)

STEP 2: SEND MATERIALS TO OUR PROGRAM OFFICE

Materials to send directly to the M.S. in Biotechnology Program:

- Your official transcripts or academic records from each institution attended must be sent to the M.S. in Biotechnology Program from the issuing university. Applications will not be considered complete until all required official transcripts have been received.

Send the above materials to the following address:

Master's Degree in Biotechnology
505 Rosa Road, Suite 118
Madison, WI
53719-1262

If you have any questions about how to apply or about the status of your application, you should contact Bryan Husk (https://www.ms-biotech.wisc.edu/admissions.cfm#bryan).

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 semester.
FUNDING

GRADUATE SCHOOL RESOURCES
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 processes related to funding.

PROGRAM RESOURCES
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. 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</th>
<th>Face to Face</th>
<th>Evening/Weekend</th>
<th>Online</th>
<th>Hybrid</th>
<th>Accelerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Mode of Instruction Definitions

Evening/Weekend: These programs are offered in an evening and/or weekend format to accommodate working schedules. Enjoy the advantages of on-campus courses and personal connections, while keeping your day job. For more information about the meeting schedule of a specific program, contact the program.

Online: These programs are offered primarily online. Many available online programs can be completed almost entirely online with all online programs offering at least 50 percent or more of the program work online. Some online programs have an on-campus component that is often designed to accommodate working schedules. Take advantage of the convenience of online learning while participating in a rich, interactive learning environment. For more information about the online nature of a specific program, contact the program.

Hybrid: These programs have innovative curricula that combine on-campus and online formats. Most hybrid programs are completed on-campus with a partial or completely online semester. For more information about the hybrid schedule of a specific program, contact the program.

Accelerated: These on-campus programs are offered in an accelerated format that allows you to complete your program in a condensed time-frame. Enjoy the advantages of on-campus courses with minimal disruption to your career. For more information about the accelerated nature of a specific program, contact the program.

CURRICULAR REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Detail</th>
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<tbody>
<tr>
<td>Minimum Credit Requirement</td>
<td>30 credits</td>
</tr>
<tr>
<td>Minimum Residence Credit Requirement</td>
<td>30 credits</td>
</tr>
<tr>
<td>Minimum Graduate Coursework Requirement</td>
<td>At least 50% of credits applied toward the graduate degree credit requirement must be completed in graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university’s Course Guide (<a href="https://registrar.wisc.edu/course-guide/">https://registrar.wisc.edu/course-guide/</a>).</td>
</tr>
<tr>
<td>Overall Graduate GPA Requirement</td>
<td>3.00 GPA required.</td>
</tr>
<tr>
<td>Other Grade Requirements</td>
<td>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.</td>
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</table>

Assessments and Examinations
Contact the program for information on required assessments and examinations.

Language
Contact the program for information on any language requirements.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRB 802</td>
<td>Business of Biotechnology: Fundamentals of Product Development</td>
<td>2</td>
</tr>
<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>
</tr>
<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>
</tr>
<tr>
<td>CRB 820</td>
<td>Biotechnology Operations</td>
<td>5</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 843</td>
<td>Project Management and Leadership</td>
<td>2</td>
</tr>
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</table>
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

GRADUATE PROGRAM HANDBOOK

The Graduate Program Handbook (https://www.ms-biotech.wisc.edu/pdf/GraduateHandbook_MSBiotech_final.pdf) is the repository for all of the program's policies and requirements.

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.

A committee often accomplishes advising for the students in the early stages of their 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.

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 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)