Earn a World-Class Degree from a Global Leader in Biotechnology
Biotechnology continues to expand with new discoveries and lifesaving products at an astounding pace. The unlimited potential of this industry demands a new type of professional — one fusing the capabilities of scientist, business strategist and advocate for public policy. Cross-functional professionals — skilled beyond a narrow specialty — represent the future of global biotechnology.

The Master of Science in Biotechnology at the University of Wisconsin-Madison is an ideal solution for professionals in the biotechnology industry seeking to move into positions of greater responsibility, leadership or security. Drawing on the resources of a world-class university — a global leader in the field of biotechnology — the M.S. in Biotechnology is intended for practicing scientists, technical professionals, attorneys and business/operations strategists who seek a cross-functional understanding of biotechnology without having to interrupt their careers to pursue studies full time.

Practical and results-oriented, the two-year curriculum provides the scientific, business and legal foundation designed to facilitate success and advancement in one of the fastest-growing and most complex industries in the world. Graduates of this unique program praise its relevance and immediate application. Employers recognize the value of the degree’s cross-disciplinary approach and the broad worldview students acquire during their time in the program.

Convenient evening and weekend courses accommodate professionals who have challenging career and personal schedules.

Committed instruction, personalized assistance with career planning and advising, and program-based technical support round out the measures designed to ensure success.
Students thrive in a learning environment rich in academic and industrial collaboration. Leading-edge curriculum content is drawn from the UW’s highly ranked schools of Law, Medicine, Business, Pharmacy, Engineering, and Agricultural & Life Sciences. Affiliations with University Research Park, the Wisconsin Alumni Research Foundation — the University’s patenting and licensing agency — and the Biopharmaceutical Technology Center Institute offer students a rare view of emerging technologies and start-up companies.

I now notice more about my company and how every aspect works together in a way that may not have happened without this degree. Additionally, the degree has helped me achieve a career goal … I have transitioned from a bench scientist in R&D to a project manager.

Ryan Liermann, M.S. in Biotechnology Class of 2005
Project Manager, Pierce Biotechnology Incorporated

Practical Learning for Working Professionals

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Instructors and case studies are drawn from the regional biotechnology corridor — among the fastest-growing in the United States — to provide an enriching industry perspective.

The resulting coursework is highly application-oriented, fostering in students critical proficiencies in teamwork, effective communication and problem-solving. As students learn about the modern challenges faced by the biotechnology industry, they acquire knowledge and skills that are easily and immediately applied to current positions, while laying the groundwork for career advancement.
**Curriculum and Program Format**

The curriculum of the M.S. in Biotechnology is unique in the world for its fully integrated approach to studying the science, the business and the law/ethics of biotechnology. All courses have been specially designed to deliver those three pillars within this degree program, targeted to experienced, actively practicing professionals working within or around the field of biotechnology.

All courses are team-taught by world-class instructors drawn from both the UW and the surrounding biotechnology industry. This balance integrates the distinct perspectives of cutting-edge basic research emerging from university laboratories and accelerated applications in development within the industry.

The program begins each fall with a class of 24 working professionals moving together through the program in a supportive learning community. The M.S. in Biotechnology purposefully seeks students from broad professional backgrounds, ensuring enriching and varied perspectives of topics discussed in classes. Experienced professionals enrolled in the program share their expertise and learn from one another as well as from faculty.

The M.S. in Biotechnology requires 24 graduate credits earned by completing the courses listed below. The program is fast-paced and designed for completion within two years.

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<thead>
<tr>
<th>Year 1: Fall</th>
<th>Year 1: Spring</th>
<th>Year 2: Fall</th>
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<tbody>
<tr>
<td>Principles and Practices of Biotechnology</td>
<td>Biotechnology Operations</td>
<td>Technology Applications in Early Drug Discovery</td>
<td>Biotechnology Law and Society</td>
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<tr>
<td>Business of Biotechnology I: Fundamentals</td>
<td>Molecular Technologies II</td>
<td>Molecular Technologies III</td>
<td>Business of Biotechnology III: Frontiers and Strategies</td>
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<tr>
<td>Molecular Technologies I</td>
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<td>Business of Biotechnology II: Contemporary Challenges and Applications</td>
<td>International Research Experience</td>
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Full course descriptions are available at [www.ms-biotech.wisc.edu](http://www.ms-biotech.wisc.edu).

**Tuition and Fees**

Tuition for the M.S. in Biotechnology Program is $25,000 for the full two-year program. This total does not include books or software, most of which are available in educational versions at substantial discounts. Students are encouraged to purchase personal laptops for use in courses and on team-based assignments.
Students in the M.S. in Biotechnology program expand their understanding of global applications in biotechnology through an internationally focused independent research project completed during their final semester in the program. In its first year, the International Research Experience was a trip to Uganda. Pursuing a range of topics from food-security challenges to the economics and policies of HIV-AIDS drug distribution, the students visited agricultural research stations, AIDS clinics, a children’s hospital, natural products laboratories and members of Uganda’s Parliament. Positioned between two weeks of intensive on-site research were cultural experiences such as a safari and a trip to the headwaters of the Nile.

Although organized opportunities for global travel are part of the International Research Experience, students are not required to travel abroad to complete the final project. The purpose of the International Research Experience is to provide students with a dramatic new perspective of the needs and priorities for biotechnology in other countries and cultures.

“I came to recognize that the industry of biotechnology provides not only a way of bringing new technology from research to marketplace — whether in industry or in health care — but also provides a mechanism for economic growth. The opportunity to study in Uganda, where the national government has committed to investing in biotechnology, made me aware of how biotechnology can serve as a driving force in local economic development. While the business of biotechnology can serve local economic growth, the science of biotechnology can serve worldwide audiences. Though the nascent biotechnology industry in Uganda faces significant material needs, the similarities between both private companies and public research in Uganda and in Wisconsin far outweigh the differences.”

Mark Harms, M.S. in Biotechnology Class of 2004
Production Scientist, Promega Corporation
World-Class Faculty

The University of Wisconsin-Madison is recognized internationally for faculty expertise and partnerships with industry. The M.S. in Biotechnology builds on this collaborative tradition with a faculty composed of leading academic researchers and corporate leaders in the biotechnology industry.

Richard L. Moss, Ph.D.
Executive Director,
M.S. in Biotechnology
Professor and Chair
UW-Madison
Physiology Department

Gail Robertson, Ph.D.
Director, M.S. in Biotechnology
Associate Professor
UW-Madison
Physiology Department

Natalie Betz, Ph.D.
Senior Applications Scientist
Promega Corporation

Karin Borgh, Ph.D.
Executive Director
Biopharmaceutical Technology
Center Institute

Thomas J. Burke, Ph.D.
Independent Biotechnology
Consultant
Co-Founder, PanVera Corporation

Mason Carpenter, Ph.D.
Associate Professor of
Strategic Management
UW-Madison School of Business

Alta Charo, J.D.
Elizabeth S. Wilson - Bascom
Professor of Law and Bioethics
Associate Dean for Research and
Faculty Development
UW-Madison Law School

Anthony J. Clemento, Jr. M.S.
Adjunct Professor
UW-Madison Medical School

Hansi J. Dean, Ph.D.
Independent Biotechnology
Consultant
Adjunct Instructor
UW-Madison Medical School

Courses specially designed by prominent researchers from UW-Madison and entrepreneurial leaders from the biotechnology industry provide a highly applicable and one-of-a-kind experience for students.
The development of enhanced communication and presentation skills is a recurring theme in all courses in the M.S. in Biotechnology program. Craig Christianson, Class of 2004, presents his team’s final practicum project in the Biotechnology Operations course.
To Employers

What are the benefits of supporting a student in the M.S. in Biotechnology? The curriculum of the M.S. in Biotechnology is based on world-class faculty expertise, significant market research and frequent engagement with the biotechnology industry. Employers can expect immediate returns on their investments. Students bring increased confidence, heightened critical thinking abilities and refined communication skills back to the workplace. Their elevated understanding of business strategies, sensitivity to bioethical issues and awareness of global matters allows them greater influence on the development, launch and delivery of new and groundbreaking products. Students also benefit from a closely knit network spanning multiple professions and facets of the biotechnology industry.

Companies Represented by Student Enrollments (Classes of 2004, 2005, 2006)

- Abbott Laboratories Incorporated
- American Consulting Incorporated
- Agility Corporation
- August LLC
- Beacon Technologies
- Biotechnology Center University of Wisconsin-Madison
- Bone Care International Incorporated
- CIBC World Markets
- Covance Incorporated
- Department of Biochemistry University of Wisconsin-Madison
- Department of Horticulture University of Wisconsin-Madison
- Department of Psychiatry University of Wisconsin-Madison
- Dow Chemical Corporation
- EarthTech
- G.E. Healthcare
- General Casualty
- Gala Design, Incorporated
- Genetics Department University of Wisconsin-Madison
- Genome Center of Wisconsin University of Wisconsin-Madison
- Genome International Corporation
- Greenbrier & Russel
- Invitrogen, Incorporated
- Laboratory for Molecular and Computational Genomics
- LaFollette, Godfrey & Kahn LLC
- Lucigen
- McArdle Laboratory for Cancer Research, University of Wisconsin-Madison
- MiniTube of America
- Monsanto Corporation, Agracetus Campus
- Monsanto Corporation, Protein Technologies
- National Primate Research Center University of Wisconsin-Madison
- Novagen, EMD Biosciences
- PPD Development
- Pierce Biotechnology, Incorporated
- Promega Corporation
- PowderJect Vaccines, Incorporated
- Spectrum Research Incorporated
- Stratagem
- ThirdWave Technologies Incorporated
- Virtual Care Provider, Incorporated
- WiCell Research Institute
- Wisconsin Alumni Research Foundation (WARF)
- Wyeth Pharmaceuticals
My experiences in the M.S. in Biotechnology program have had a dramatic influence on my career. I utilize the knowledge and skill set that I gained from the program on a daily basis. Co-workers and supervisors have commented on how the experience has transformed me and given me experiences and confidence that would have taken years in the field to gain.

Jennifer Fronczak, M.S. in Biotechnology Class of 2004
Manufacturing Scientist, Invitrogen Corporation
Classes are held during alternate weeks on Thursday evenings, all day Friday and on Saturday mornings. All courses are held in the state-of-the-art MG&E Innovation Center of University Research Park and the Biopharmaceutical Technology Center Institute in Madison, Wisconsin. Students in the program must be able to attend a minimum of 14 class sessions per academic year at these locations.

The M.S. in Biotechnology is uniquely designed to meet the needs of working professionals, delivering courses that integrate classroom material with day-to-day work challenges. Convenient evening and weekend scheduling makes it possible to achieve a world-class degree from UW-Madison while fulfilling daily responsibilities to employers.

The diversity of the student cohort has enhanced my education significantly by providing actual experiences from which to relate and learn. In addition, the networking that has resulted is invaluable, and because of the scope of the program’s curriculum, new opportunities are available for me with my current employer.

Linda Miller, M.S. in Biotechnology Class of 2005
Production Group Leader - Pathway Analysis
Novagen Brand
Targeted services are designed to assist students in balancing the demands of their education with their work and personal lives. Program-based IT support ensures electronic availability of all materials and immediate response to technical support needs. Personalized career advising is also provided at the program level, aiding students in developing and meeting their strategic career goals.

**Admission**

The M.S. in Biotechnology is currently seeking applicants to begin the program in fall 2005. Admission to the M.S. in Biotechnology requires:

- A four-year bachelor's degree or equivalent academic credentials, with a minimum of two semesters of biology or other related life science courses
- Relevant industry experience and/or project work
- Three letters of recommendation
- A personal or phone interview with the Admissions Committee

Interviews with the Admissions Committee are based on assessments of completed application files. All forms and information necessary to submit a completed application may be found at [www.ms-biotech.wisc.edu](http://www.ms-biotech.wisc.edu).

The deadline for fall 2005 is March 31, 2005; however, if spaces remain, applications received after March 31 will be considered. Applications are encouraged as early as possible. Completed files are reviewed upon receipt of all application materials. Early application increases the probability of admission, as the number of participants is limited to 24 per year.
CONTACT THE
M.S. IN BIOTECHNOLOGY PROGRAM

For more information about the M.S. in Biotechnology, to receive an application packet or to arrange for an on-site corporate visit, please contact:

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