



BIOMARIN



Biological Sciences

MASTER OF SCIENCE

www.dominican.edu



Find Your Inspiration

Dominican University of California, in partnership with the Buck Institute for Age Research and BioMarin offer a unique one-of-a-kind graduate program.

Students accepted into this intensive research-oriented Master of Science in Biological Sciences program will investigate some of the most pressing and timely scientific issues of the day.

The program, taught by faculty members from Dominican, the Buck Institute and BioMarin afford students the opportunity to work directly with scientists and to conduct research at the Buck Institute and BioMarin laboratories in Marin County.

Imagine Career Possibilities

This interdisciplinary research program combines genomics, proteomics, genetics, biochemistry and physiology in various model systems. It is geared for those who wish to pursue careers centered around the aging process and detecting, preventing and treating age-related conditions, including Alzheimer's and Parkinson's diseases, stroke and arthritis.

Students study genetics, biochemistry, molecular biology and age-associated diseases. They also delve deeply into the career disciplines of biotechnology, including genomics, proteomics, protein interaction networks and bio-informatics.

Envision the Process

Successful candidates in the two-year, full-time Master of Science in Biological Sciences program will have completed 36 units to be awarded their graduate degree. Academic units are divided between coursework, seminars and research. Another 3 units go toward a student's graduate thesis, which focuses on original research. Students will defend their research in writing and in an oral presentation. They will also be encouraged to present their findings at major conferences and in peer-reviewed publications.

Features of the program include:

- Participation in one of the most innovative graduate science programs in the country.
- An opportunity to study with nationally and internationally acclaimed scientists, researchers and professors.
- Opportunities to present findings at national and international conferences and to publish in peer-reviewed journals.
- An intellectually vibrant setting that promotes rigorous study yet encourages collaboration among colleagues.

Achieve Success

Graduates of the Master of Science in Biological Sciences will have acquired:

- An in-depth understanding of biological topics pertaining specifically to their research.
- The skills to conduct original scientific research.
- An ability to communicate their findings at conferences and in peer-reviewed publications.
- The academic credentials to continue graduate studies, whether their objective is to obtain a doctorate or a medical degree.
- The professional credentials to pursue a rewarding career in scientific research.

Easy Access

Dominican University of California is conveniently located near the 101 freeway in central San Rafael and is easily reached by car or public transportation. Our beautiful campus is 12 miles north of San Francisco and just a short drive from Napa or the East Bay. Public transportation is readily accessible — the Larkspur Ferry Terminal is within three miles and the Golden Gate Bus Terminal is a mile from campus.

When driving on Highway 101, take the Central San Rafael exit, turn east on Mission Avenue, then left on Grand Avenue to Acacia Avenue (about one mile). Free parking is available at the University parking area at the corner of Grand and Acacia.



Program Description

The Master of Science in Biological Sciences is a research intensive program designed to address one of the most important topics of our times. The program goal is to train students for scientific careers focused on biomedicine, including understanding the aging process, as well as detecting, preventing, and treating age-related conditions such as Alzheimer's and Parkinson's disease, cancer, stroke, and arthritis. Students in this program will be trained as scientists in interdisciplinary research encompassing genetics, biochemistry, molecular biology, age-associated diseases and disciplines of biotechnology including genomics, proteomics, protein interaction networks and bio-informatics.

Envision the Process

The Master's Degree program requires a successful completion of 36 graduate units. The proposed categories are listed below.

- 12 units course work
- 4 units graduate seminar
- 17 units graduate research
- 3 units graduate thesis

The program is taught by renowned faculty in the areas of biomedicine. Transfer credits of 3-6 units may be accepted for students who have completed graduate level courses at another accredited institution.

Student Learning Outcomes

At the completion of the Master of Science Degree in the Department of Natural Sciences and Mathematics, each graduate will have acquired:

- An understanding of selected topics in biology pertaining to their research interests.
- The skills to conduct original scientific research and the ability to disseminate their findings through public forum(s).

Learning Outcomes:

1. Demonstrate knowledge in areas of biology relevant to their research interests.
2. Identify research questions on a current issue in biology, critically analyze the relevant literature, and prepare a comprehensive written review.
3. Develop specific hypotheses pertaining to a research problem.
4. Devise and conduct experiments to test hypotheses.
5. Statistically analyze and interpret research data.
6. Discuss, both orally and in writing, the relevance of their research data to the original hypotheses and to the general field of interest.

Explore the challenges and rewards of this degree program.

For more information, or to arrange for a visit, contact the Office of Admissions.

Toll Free: 888-323-6763 or 415-485-3204

Email: graduateprograms@dominican.edu

Online: www.dominican.edu

Curriculum

BIO 5001/5002/5003/5004 Graduate Seminar (1 unit each)

Total: 36 units

1. Completion of 36 units of the program, with a minimum grade of a 'B' or Pass.
2. Completion of an original research thesis approved by the two members of the student's graduate committee including thesis (research) supervisor and an additional faculty member selected in consultation with the advisor and the department chair.
3. Successful completion of both a written and oral presentation of their research.
4. Presentation of research findings at a national/international conference and/or publication in a peer-reviewed journal is strongly encouraged.

The program will be taught by faculty in the Department of Natural Sciences and Mathematics or adjunct faculty from the Buck Institute for Age Research and BioMarin. Transfer credits of 3-6 units may be accepted for students who have completed graduate level courses at another accredited institution.

First Semester	Second Semester: Spring	Third Semester	Fourth Semester
Course Work 3 units BIO 5100 Ethics and Accountability in Biological Research	Course Work 3 units BIO 5200 Advanced Molecular Biotechnology	Course Work 3 units BIO 5300 Advanced Biochemistry	Course Work 2 units BIO 5400 Graduate Special Topics
Graduate Seminars 1 unit BIO 5001	Graduate Seminars 1 unit BIO 5002	Graduate Seminars 1 unit BIO 5003	Graduate Seminars 1 unit BIO 5004
Graduate Research 5 units BIO 5701	Graduate Research 5 units BIO 5702	Graduate Research 5 units BIO 5703	Graduate Research 2 units BIO 5704 Thesis Bio 5901 3 Units
Total units: 9	Total units: 9	Total units: 9	Total units: 9

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