



Twin Cities Campus

Molecular, Cellular, Developmental Biology and Genetics Minor

Genetics, Cell Biology, and Development TCBS, Genetics, Cell Biology, and Development TMED

Graduate School

Link to a [list of faculty](#) for this program.

Contact Information:

MCDB&G Graduate Program, 6-160 Jackson Hall, 321 Church Street SE, University of Minnesota, Minneapolis, MN 55455 (612-624-7470, fax: 612-626-6140).

Email: mcdbg@umn.edu

Website: <http://mcdbg.umn.edu>

- Program Type: Graduate minor related to major
- Requirements for this program are current for Fall 2019
- Length of program in credits (Masters): 12
- Length of program in credits (Doctorate): 12
- This program does not require summer semesters for timely completion.

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

This program provides scientific training in the basic life sciences, with emphasis on the molecular basis of genetics, development, and cell biology. Areas of specialization include membranes, receptors, membrane transport, cell interactions, macromolecular structure, extracellular matrix, cytoskeleton, cell motility, regulation of gene expression, neuroscience, developmental mechanisms, human genetics, plant cell and molecular biology, genetic mechanisms, and genomics.

The program is interdisciplinary and involves faculty from several departments in the College of Biological Sciences, the Medical School, and the College of Food, Agricultural and Natural Resource Sciences. Institutes for human genetics, plant molecular genetics, biological process technology, Genome Engineering, Stem Cell research and a center for developmental biology provide opportunities for graduate study.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

For an online application or for more information about graduate education admissions, see the [General Information](#) section of the catalog website.

Program Requirements

Use of 4xxx courses towards program requirements is not permitted.

Courses taken for the minor must be graded A-F. A minimum GPA of 3.0 for these courses is required.

Required Coursework (9 credits)

Take the following courses for 9 credits. With approval of the director of the MCDB&G director of graduate studies, other courses may be substituted.

[GCD 8151](#) - Cellular Biochemistry and Cell Biology (2.0 - 4.0 cr)

[GCD 8131](#) - Advanced Molecular Genetics and Genomics (3.0 cr)

[GCD 8161](#) - Advanced Cell Biology and Development (2.0 cr)

Electives (3 credits)

Choose at least one of the following courses. GCD 8920 Special Topics: Computational Genomics must be taken for 3 credits.

[GCD 8920](#) - Special Topics (1.0 - 4.0 cr)

or [GCD 5005](#) - Computer Programming for Biology (3.0 cr)



Program Sub-plans

Students are required to complete one of the following sub-plans.
Students may not complete the program with more than one sub-plan.

Masters

Doctoral