MASTER OF SCIENCE IN BIOLOGY: CONCENTRATION IN CELL AND MOLECULAR BIOLOGY

A student interested in pursuing an advanced degree in any of these programs must meet the general requirements as outlined as well as any additional requirements specified by the major field of study.

For current advising information, including research and funding opportunities, consult the SF State Biology Department home page at biology.sfsu.edu.

General Admission Requirements
An applicant must have a baccalaureate degree from an accredited institution and the equivalent major coursework for the program area to which application is made. To evaluate an applicant, the biology department requires the following:

1. transcripts of all undergraduate work;
2. Graduate Record Examination scores for the general test;
3. a statement of purpose;
4. two or more letters of recommendation, preferably from science faculty.

When the department receives this information, the completed file is forwarded to the faculty coordinator of the program area chosen by the applicant. The faculty in the program area evaluate the applicant's file and recommend admission or denial based on the following criteria:

- Grade point average in the undergraduate major—minimum required GPA in science courses is 3.0
- Statement of purpose
- GRE scores
- Letters of recommendation

Denial of admission may be based on inadequacy in any of the above criteria, if an applicant's interests are not represented by current faculty, or if faculty in the applicant's area of interest are unable to support additional students.

Written English Proficiency Requirement
The University has a requirement for written English proficiency that is to be assessed at two levels.

Level One
The student must pass a proctored essay test administered by the department at the beginning of the first semester.

Level Two
Prior to filing the Advancement to Candidacy (ATC), the student must prepare a thesis prospectus for approval by the student's thesis committee.

Course Requirements
The general requirements of all students are as follows:

- All courses listed on the Advancement to Candidacy (ATC) (or to satisfy conditional requirements) must be completed with a letter grade. The culminating experience courses, BIOL 895 and BIOL 898 are the exception and will be graded on a CR/NC basis.
- A minimum of 30 units of upper division and/or graduate credit (may include up to six units of experimental courses in biology).
- A minimum of 21 units of which six units may be from a graduate level paired course.
- A minimum of two department seminars requiring student presentations.
- After initiating a research program, a graduate student must enroll each semester in BIOL 897 – until the research is completed.
- Four units of BIOL 898 or three units of BIOL 895.
- An oral defense of the thesis or research project.

On-line course descriptions (bulletin.sfsu.edu/courses) are available. Most upper division courses in biology are acceptable for the master's in biology upon approval of the master's in biology department. Students are reminded to check the individual concentrations for additional requirements.

Concentration in Cell and Molecular Biology
This concentration is designed for students preparing for future graduate work as well as for those wishing to increase their competency in the fields of cell and molecular biology. It emphasizes the study of cells, cell organelles, macromolecules, and the regulation of their production and interaction. As such, it represents an expanding frontier of research that integrates biochemistry, biophysics, genetics, developmental biology, and cell ultrastructure. Each faculty member serves as advisor and major professor for students working on research programs in the faculty member's area of specialization.

The specific course requirements shall be determined by the student's committee and are based upon consideration such as goals, interests, and undergraduate preparation. A strong background in chemistry is highly recommended.