

University of Connecticut College of Liberal Arts and Sciences  
**Department of Molecular and Cell Biology--Bioinformatics Minor Plan of Study**

Last revised: March 27, 2015

**Instructions to students:** Courses may be listed under more than one category; these courses **cannot** be used to fulfill both categories simultaneously. Credits used to satisfy minimum requirements in the student's major may not also be used towards the 15 credits for the Bioinformatics minor, although such courses may be used to satisfy one of the group requirements where appropriate. Contact a member of the Bioinformatics Oversight Committee\* to obtain department approval that you have satisfied requirements for the Bioinformatics minor. NOTE: Completion of a minor requires that a student earn a C (2.0) or better in each of the required courses for that minor. Substitutions are not possible for required courses in a minor.

**A. Bio-Computing/Computer Science.** Check at least **one** of these courses.

- MCB 3421. Introduction to Molecular Evolution and Bioinformatics (3 credits)
- MCB 5472. Comp. Methods in Mol. Evolution (3 credits)
- EEB 5348. Population Genetics (3 credits)
- EEB 5462. Evolutionary Pattern & Process: Experimental Approaches (4 credits)
- CSE 2102. Introduction to Software Engineering (3 credits)
- CSE 2300W. Digital Logic Design (4 credits)
- CSE 3500. Algorithms and Complexity (3 credits)
- CSE 3502. Theory of Computation (3 credits)
- CSE 3800. Bioinformatics (3 credits)
- CSE 4102. Programming Languages (3 credits)
- CSE 4701. Principles of Data Bases (3 credits)

**B. Data Banks/Statistics.** Check at least **one** of these courses.

- STAT 2215Q. Introduction to Statistics II (3 credits)
- STAT 3025Q. Statistical Methods (Calculus level I) (3 credits)
- STAT 3375Q and 3445. Introduction to Mathematical Statistics (3 credits each)
- CSE 4701. Principles of Data Bases (3 credits)

**C. Protein Structure/Biochemistry.** Check at least **one** of these courses.

- MCB 2000. Introduction to Biochemistry (4 credits)
- MCB 3010. Biochemistry (5 credits)
- MCB 3421. Introduction to Molecular Evolution and Bioinformatics (3 credits)
- MCB 4009. Structure and Function of Biological Macromolecules (3 credits)
- MCB 5011. Enzyme Structure and Function (3 credits)

**D. Genetics.** Check at least **one** of these courses.

- MCB 2410. Genetics (3 credits)
- MCB 3413 (2413). Concepts of Genetic Analysis (4 credits)
- MCB 3201. Gene Expression (3 credits)
- MCB 3412. Genetic Engineering (3 credits)
- MCB 3617. Molecular Biology and Genetics of Prokaryotes (4 credits)
- EEB 5348. Population Genetics (3 credits)

E. The following courses can count towards the 15 credits requirement if approved by a member of the oversight committee:

- MCB 3899. Independent Study in Molecular and Cell Biology
- MCB 3989. Introduction to Research in Molecular and Cell Biology
- MCB 4989. Introduction to Honors Research in Molecular and Cell Biology
- CSE 4095. Special Topics in Computer Science and Engineering
- CSE 4099. Independent Study in Computer Science and Engineering

F. **Total Credits.** List and sum credits for all courses taken that are 2000s level or higher.

\_\_\_\_\_ credits for \_\_\_\_\_ [Example: "3 credits for *MCB 2410*"]

\_\_\_\_\_ credits for \_\_\_\_\_

\_\_\_\_\_ credits for \_\_\_\_\_

\_\_\_\_\_ credits for \_\_\_\_\_

\_\_\_\_\_ credits for \_\_\_\_\_

\_\_\_\_\_ credits for \_\_\_\_\_

\_\_\_\_\_ **Total credits** (must be **15** or more) with a grade of C or better.

\*Bioinformatics Oversight Committee:

MCB: J. Peter Gogarten, 486-4061

CSE: Ion Mandoiu, 486-3784

Student Name (print) \_\_\_\_\_ PeopleSoft #: \_\_\_\_\_

Expected graduation month/year \_\_\_\_\_ Cell/Local Phone: \_\_\_\_\_

e-mail: \_\_\_\_\_

I approve the above program for the Minor in Bioinformatics. Advisor (print) \_\_\_\_\_

Advisor's signature \_\_\_\_\_ Dept. \_\_\_\_\_ Date \_\_\_\_\_