

INFORMATICS COGNATE: BIOINFORMATICS

BS in Informatics

The informatics major with a bioinformatics cognate requires 55 s.h. of work for the major, including 27 s.h. in cognate courses. The bioinformatics cognate is intended for students interested in applications of computing to the biological sciences. It may lead to careers in laboratory research, data management, and other related areas. It also is preparation for graduate programs in bioinformatics or genetics. The cognate offers a choice of several areas: genome bioinformatics, phylogenics and evolution, proteomics, and systems biology. Cognate courses are drawn primarily from biology and chemistry.

All students in the bioinformatics cognate must complete the following two sequences:

002:010-002:011 Principles of Biology I-II	8 s.h.
004:011-004:012 Principles of Chemistry I-II	8 s.h.
	16 s.h.

Students also must complete one of the following four areas.

Genome Bioinformatics

Both of these:

002:128 Fundamental Genetics	3-4 s.h.
002:131 Evolution	4 s.h.

Two of these:

002:170 Bioinformatics	3 s.h.
002:174 Computational Genomics	3 s.h.
002:176 Microarray Data Analysis	3 s.h.

Phylogenetics and Evolution

Both of these:

002:128 Fundamental Genetics	3-4 s.h.
002:131 Evolution	4 s.h.

Two of these:

002:134 Ecology	4 s.h.
002:160 Molecular Phylogenetics	3 s.h.
002:162 Population Genetics and Molecular Evolution	3 s.h.

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Proteomics

All of these:

002:133 Cell Biology Laboratory	3 s.h.
004:121 Organic Chemistry I	3 s.h.
099:120 Biochemistry and Molecular Biology I	3 s.h.
099:241 Biophysical Chemistry I	3 s.h.

Systems Biology

Both of these:

004:121 Organic Chemistry I	3 s.h.
061:157 General Microbiology	5 s.h.

One of these:

002:124 Animal Physiology	3 s.h.
061:147 Survey of Immunology	4 s.h.
061:160 Microbial Physiology	3 s.h.
061:170 Microbial Genetics	3 s.h.
