BIOINFORMATICS

About Us

The Bioinformatics Program includes Loyola faculty from the Departments of Biology, Chemistry, Computer Science, and Mathematics and Statistics. While these faculty have a vast area of research interests, all require interdisciplinary approaches.

The Bioinformatics Program at Loyola is part of the College of Arts and Sciences. The program provides students with unique preparation for professional careers by offering both integrated and project-based learning with courses that feature the latest developments in the field.

Undergraduate Programs

- Bioinformatics (BS) (https://catalog.luc.edu/undergraduate/arts-sciences/bioinformatics/bioinformatics-bs/)
- Bioinformatics (BS/MS) (https://catalog.luc.edu/undergraduate/accelerated-bachelors-masters-program/bioinformatics-bsms/)
- Bioinformatics Minor (https://catalog.luc.edu/undergraduate/arts-sciences/bioinformatics/bioinformatics-minor/)
- Biology/Bioinformatics (BS/MS) (https://catalog.luc.edu/undergraduate/accelerated-bachelors-masters-program/biology-bioinformatics-bs-ms/)
- Honors in Bioinformatics (https://catalog.luc.edu/undergraduate/arts-sciences/bioinformatics/honors-bioinformatics/)

Undergraduate Policies and Procedures

Please see Undergraduate Policies and Procedures (https://catalog.luc.edu/undergraduate-academic-standards-regulations/) for academic policies that supersede those of academic units within the University.

Bioinformatics (BIOI)

BIOI 300 Directed Readings (1-3 Credit Hours)
Readings from the scientific literature in any focused area of bioinformatics agreed upon by the student and the supervising faculty member.
Outcomes:
Students will gain knowledge, journal reading expertise, and scientific writing skills

BIOI 365 Exploring Proteins (3 Credit Hours)
Pre-requisites: Bioinformatics Majors only and CHEM 361
Computational tools are essential for the prediction of protein structures, protein interactions, and structure based drug design. This class will introduce fundamental concepts in the field of computational protein biology.
Outcomes:
Students will obtain a general understanding of the principles of proteomics in addition to theoretical and practical experience with protein-based databases and bioinformatics tools to explore protein structure and function

BIOI 395 Special Topics: Bioinformatics (1-3 Credit Hours)
Special areas of bioinformatics outside the usual curriculum that vary each time the course is offered.
Outcomes:
Students will gain knowledge in and master a unique topic in bioinformatics

BIOI 397 Bioinformatics Survey (1-4 Credit Hours)
Pre-requisites: BIOL 101 and Instructor consent
This course trains students in conducting collaborative bioinformatics research as well reading and presenting scientific research.
This course satisfies the Engaged Learning requirement.
Outcomes:
Provides an alternative to individual research; reflects trends in the field for collaborative, group research

BIOI 398 Bioinformatics Internship (1-4 Credit Hours)
An independent research experience involving laboratory experiments, computer program development, or statistical analysis or any combination of these performed off-campus under the mentorship of a Bioinformatics scientist not affiliated with Loyola.
Interdisciplinary Option: Bioinformatics
This course satisfies the Engaged Learning requirement.
Outcomes:
All students will acquire skills to perform and report on independent research and to be intellectually responsible for evaluating their own and related work; Other outcomes will include at least one of the following: Experimental expertise, statistical evaluation of data sets, design and use of computational tools

BIOI 399 Bioinformatics Research (1-4 Credit Hours)
An independent research experience involving laboratory experiments, computer program development, or statistical analysis or any combination of these performed under the mentorship of one or more Bioinformatics faculty members.
Interdisciplinary Option: Bioinformatics
This course satisfies the Engaged Learning requirement.
Outcomes:
All students will acquire skills to perform and report on independent research and to be intellectually responsible for evaluating their own and related work; Other outcomes will include at least one of the following: Experimental expertise, statistical evaluation of data sets, design and use of computational tools