Ph.D. in Bioinformatics Degree Requirements

Note: This is for students beginning in Fall 2012 or Fall 2013.

Core Courses (Core A: 18 cr.)
- INFO B519 Introduction to Bioinformatics (3 cr.)
- INFO B573 Programming for Chem/Life Science (3 cr.)
- INFO B556 Biological Database Management (3 cr.)
- INFO I590 Computational Methods for Analyzing High-Throughput Data in Biomedicine (3 cr.)
- CSCI 590 Algorithms in Bioinformatics (3 cr.)
- INFO I600 Professionalism and Pedagogy in Informatics (3 cr.)

Advanced Courses (Core B: 12 cr.)
Select four:
- INFO B529 Machine Learning in Bioinformatics (3 cr.)
- INFO B619 Structural Bioinformatics (3 cr.)
- INFO B646 Computational System Biology (3 cr.)
- INFO B656 Translational Bioinformatics Applications (3 cr.)
- GRAD 652/R607 Biostatistics II / Advanced Statistics (3 cr.)
- INFO I590 Next Generation Sequencing (3 cr.)

Seminar Courses (6 cr.)
- INFO B627 Advanced Seminar I – Bioinformatics (3 cr.)
- INFO B637 Advanced Seminar II – Bioinformatics (3 cr.)

Independent Study/Rotation (6 cr.)
Students are required to take 6 credit hours of rotation as part of the thesis research credits. It is recommended to take these credit hours early in the Ph.D. program by enrolling in INFO B790.
May be taken twice

- **INFO I790 Independent Study/Rotation** (3 cr.)

**Electives**

*No minimum or maximum credits*

Students may take other electives (subject to approval) at the graduate level as needed for their specific research.

**Minor (minimum 12 cr.)**

All students will be required to have an appropriate minor outside or partially inside the School of Informatics and Computing for a minimum 12.0 credit hours. Minors will be selected with the advisor’s recommendation. Some appropriate minors would include: biology, chemistry, cognitive psychology, computer science, information science, or statistics. In all cases the number of hours to be included in the minor will be consistent with the requirements of the unit granting the minor. Some of the courses included in the minor may also count toward the student’s methodology or other requirements.

**Qualifying Examination – Written**

All students will take a written qualifying examination that covers the core courses (CORE A and B). The examination will be set by a group of faculty who are familiar with the content of the core courses. Examinations will be offered in August. Examinations must be completed by the beginning of the student’s fourth year in the program but can be completed before that time when the core courses are completed. Students who do not successfully complete the examination can retake the examination a second time.

**Qualifying Examination – Oral**

1. The oral examination will take place after the student successfully passes the written exam. Students must pass both the written and oral exam before passing on to candidacy. Only two attempts to pass the oral examination will be allowed.
2. The oral exam will be based on the student’s response to the written exam and any material from the core courses.

Dissertation Proposal

This is an oral review that covers in-depth knowledge of the student’s primary research area and dissertation proposal. The research proposal for dissertation must be approved by the student’s research committee. That committee may have the same membership as the program committee or the students may choose different members. The advisor for the dissertation will be a faculty member in the School of Informatics and Computing and a member of the Graduate Faculty. At least one the three members of the committee will be based outside of the school. The student will defend the thesis proposal at a public colloquium in the school. The review should be completed within one-year after passing the Qualifying Examinations.

Dissertation (30 cr. minimum)

- [INFO I890 Thesis/Project in Bioinformatics](#) (1-6 cr.)