ILLINOIS INFORMATICS INSTITUTE

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Prospective students may contact:
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Major: Bioinformatics
Degrees Offered: M.S.
Graduate Concentrations: Animal Sciences, Bioengineering, Crop Sciences, Library and Information Science, Chemical and Biomolecular Engineering, Computer Science

Major: Informatics
Degrees Offered: Ph.D.

Graduate Degree Programs
The Illinois Informatics Institute (I3) at the University of Illinois offers two graduate degrees: a Ph.D. in Informatics, and Masters of Science in Bioinformatics. Both are interdisciplinary programs with many participating departments. Students can earn the Master of Science in Bioinformatics with a concentration in one of the following departments: Animal Sciences, Bioengineering, Crop Sciences, Library and Information Science, Chemical and Biomolecular Engineering, Computer Science. The program is overseen by I3, but students are also members of the department of their concentration. Students can earn the Ph.D. in Informatics with specializations in Bioinformatics; Health and Medical Informatics; Spatial Informatics; Art and Cultural Informatics; Design, Technology, and Society; Data Analytics and Information Visualization; Cognitive Science and Language Processing.

Facilities
University research centers in this area include the Center for Biophysics and Computational Biology (http://www.life.uiuc.edu/biophysics) and an NIH Resource for Macromolecular Modeling and Bioinformatics (http://www.gs.uiuc.edu). The campus also offers state-of-the-art experimental bioinformatics facilities, including those in the Keck Center for Comparative and Functional Genomics (http://www.biotech.uiuc.edu) and the Institute for Genomic Biology (http://www.igb.illinois.edu). The National Center for Supercomputing Applications (http://www.ncsa.uiuc.edu) (NCSA), located at the University, offers opportunities for accessing, developing, and experimenting with state-of-the-art computational facilities for bioinformatics.

Master of Science in Bioinformatics
The M.S. degree can be taken in a thesis or non-thesis format, depending on the department. For either format, the research adviser must be affiliated with the Bioinformatics program. Departments may have requirements in addition to those below. See the departmental entries in this Program of Study for more information.

Thesis Option
One biology course from approved list (http://www.informatics.illinois.edu/academics/bioinformatics-ms/bioinformatics-ms-core-courses) 4

| CS 411 | Database Systems | 3 or 4 |
| or CS 473 | Fundamental Algorithms |

One bioinformatics course from approved list (http://www.informatics.illinois.edu/academics/bioinformatics-ms/bioinformatics-ms-core-courses) 4

Thesis Hours Required (min/max applied toward degree): 4-8

Total Hours 32 or 36

Other Requirements
Minimum Hours Required Within the Unit: 8
Minimum 500-level Hours Required Overall: 12
A concentration is required.

Non-Thesis Option
One biology course from approved list (http://www.informatics.illinois.edu/academics/bioinformatics-ms/bioinformatics-ms-core-courses) 4

| CS 411 | Database Systems | 3 or 4 |
| or CS 473 | Fundamental Algorithms |

One bioinformatics course from approved list (http://www.informatics.illinois.edu/academics/bioinformatics-ms/bioinformatics-ms-core-courses) 4

Total Hours 35-36

Other Requirements
Other requirements may overlap
A concentration is required.
Minimum Hours Required Within the Unit: 8
Minimum 500-level Hours Required Overall: 12
Non-thesis programs must require students to participate in a research experience supervised by a faculty member.

Admission
Applicants must hold a bachelor’s degree equivalent to that granted by the University of Illinois at Urbana-Champaign. The recommended background for graduate students entering the Bioinformatics degree program is a bachelor’s or master’s degree in life sciences, computer and mathematical sciences, or engineering, with a minimum of five hours of molecular and cell biology, six hours of general chemistry.

Information listed in this catalog is current as of 04/2016
Financial Aid

Fellowships, research assistantships, and teaching assistantships (all of which include tuition and partial fee waivers) are awarded on a competitive basis by the admitting department. All applicants, regardless of U.S. citizenship, whose native language is not English and who wish to be considered for teaching assistantships (the most common form of financial aid for new graduate students in the department) must submit a score of at least 50 on the Test of Spoken English (TSE) (http://www.english.illinois.edu/admissions/taengprof.htm).

Doctor of Philosophy in Informatics

The Chair of the Governing Committee of the Informatics Ph.D. Program will appoint the supervising committee to approve each student's program of study, which will be called the Advisory Committee (first half of studies) and then the Dissertation Committee (second half of studies). The membership of these committees should remain constant for each half of the student's studies, except in unusual circumstances, but may change when it is constituted for the dissertation. In any case, changes to the supervising committees must be approved by the Chair of the Governing Committee. The supervising committee must contain faculty with expertise in both the Applications area and the Foundations area chosen by the student, including at least four faculty members affiliated with the Informatics Program. The supervising committee will provide each student with a review of his or her progress at the end of each academic year.

Entering with approved B.S. degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 500</td>
<td>Orientation Seminar (taken twice: once for 0 hours, once for 1 hour)</td>
<td>1</td>
</tr>
<tr>
<td>INFO 510</td>
<td>Research Practicum (taken twice 4 hrs each)</td>
<td>8</td>
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<tr>
<td>Applications Courses (2 courses at the 500 level from approved list)</td>
<td>8</td>
<td></td>
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<tr>
<td>Foundations Courses (2 courses at the 500 level from approved list)</td>
<td>8</td>
<td></td>
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<tr>
<td>Electives</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>INFO 599</td>
<td>Thesis Research (32 min applied toward degree)</td>
<td>32</td>
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<tr>
<td>Masters Degree - Students entering without a Masters degree approved by their Advisory Committee with be required to take 32 additional credit hours in 400 and 500 level courses approved by their committee.</td>
<td>32</td>
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<tr>
<td>Total Hours</td>
<td>96</td>
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Other Requirements

- Qualifying Exam Required: Yes
- Preliminary Exam Required: Yes
- Final Exam/Dissertation Defense Required: Yes
- Dissertation Deposit Required: Yes
- Minimum GPA: 2.75

Admission

The admissions process will consist of a formal application, specifying experiences, courses, interests, and letters of recommendation. The Informatics PhD Program will admit graduate students who are approved by the Governing Committee in conjunction with representatives of the Areas. With the approval of the appropriate committees, students may be admitted to the program with only a Bachelor's degree. They will work with their Advisory Committee to define appropriate courses to fulfill the 32 hours of Masters-level work. If they wish to receive a Masters degree, they will need to apply to a relevant department and meet the department's existing Masters degree requirements. If they already hold a Masters degree approved by the IPP Governing Committee, they will receive graduate credit for 32 hours. All applicants whose native language is not English must submit a minimum TOEFL score.
of 100 (IBT), 250 (CBT), or 600 (PBT); or minimum International English Language Testing System (IELTS) academic exam scores of 6.5 overall and 6.0 in all subsections. For those taking the TOEFL or IELTS, full admission status is granted for scores greater than 102 (TOEFL iBT), 253 (TOEFL CBT), 610 (TOEFL PBT), or 6.5 (IELTS). Limited status is granted for lesser scores and requires enrollment in English as a Second Language (ESL) courses based on an ESL Placement Test (EPT) taken upon arrival to campus.

Financial Aid

Fellowships, research assistantships, and teaching assistantships (all of which include tuition and partial fee waivers) are awarded on a competitive basis. All applicants, regardless of U.S. citizenship, whose native language is not English and who wish to be considered for teaching assistantships must demonstrate spoken English language proficiency by achieving a minimum score of 50 on the Test of Spoken English (TSE), 24 on the speaking subsection of the TOEFL iBT, or 8 on the speaking subsection of the IELTS. For students who are unable to take the TSE, iBT, or IELTS, a minimum score of 50 is required on the SPEAK test, offered on campus. All new teaching assistants are required to participate in the Graduate Academy for College Teaching conducted prior to the start of the semester.