

# INFORMATICS, PHD

## for the degree of Doctor of Philosophy in Informatics

**informatics website:** <https://informatics.ischool.illinois.edu/>

**informatics faculty affiliates:** <https://informatics.ischool.illinois.edu/faculty-affiliates/>

**overview of school admissions & requirements:** <https://informatics.ischool.illinois.edu/phd-admission/>

**overview of grad college admissions & requirements:** <https://grad.illinois.edu/admissions/apply> (<https://grad.illinois.edu/admissions/apply/>)

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## Programs in Informatics

### Undergraduate Minor

Informatics Minor (<http://catalog.illinois.edu/undergraduate/illinois-informatics-institute/minors/informatics/>)

### Graduate Majors

Bioinformatics, MS (<http://catalog.illinois.edu/graduate/provost/bioinformatics-ms/>)

Animal Sciences Concentration (<http://catalog.illinois.edu/graduate/aces/concentration/animal-sciences/bioinformatics/>)

Bioengineering Concentration (<http://catalog.illinois.edu/graduate/engineering/concentration/bioengineering/bioinformatics/>)

Chemical & Biomolecular Engineering Concentration (<http://catalog.illinois.edu/graduate/las/concentration/chemical-biomolecular-engineering/bioinformatics/>)

Computer Science Concentration (<http://catalog.illinois.edu/graduate/engineering/concentration/computer-science/bioinformatics/>)

Crop Science Concentration (<http://catalog.illinois.edu/graduate/aces/concentration/crop-sciences/bioinformatics/>)

Information Sciences Concentration (<http://catalog.illinois.edu/graduate/is/concentration/information-sciences/bioinformatics/>)

Informatics, PhD ([http://catalog.illinois.edu/graduate/provost/phd\\_informatics/](http://catalog.illinois.edu/graduate/provost/phd_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 in the spring of each academic year.

## 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 provide evidence of English proficiency as required by the Graduate College for admission (<https://grad.illinois.edu/admissions/instructions/04c/>).

## 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 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 iBT or IELTS, a minimum score of 4CP (conditional pass) must be earned on the English Proficiency Interview 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.

## for the degree of Doctor of Philosophy in Informatics

For additional details and requirements refer to the degree requirements (<https://www.informatics.illinois.edu/informatics-phd/>), the appropriate department's graduate handbook, and the Graduate College Handbook (<http://www.grad.illinois.edu/gradhandbook/>).

Code	Title	Hours
INFO 500	Orientation Seminar (taken twice: once for 0 hours, once for 1 hour)	1
Research Practicum		8
INFO 510	Research Practicum (taken twice 4 hrs each)	
Applications Courses	2 courses at the 500 level from approved list on Course List tab	8
Foundations Courses	2 courses at the 500 level from approved list on Course List tab	8
Electives		7
INFO 599	Thesis Research (32 min applied toward degree)	32
<b>Total Hours</b>	<b>Entering with Master's Degree</b>	<b>64</b>
Students entering without a Master's degree approved by their Advisory Committee will be required to take 32 additional credit hours in 400 and 500 level courses approved by their committee.		
<b>Total Hours</b>	<b>Entering with approved B.S. degree</b>	<b>96</b>

**Other Requirements**

Requirement	Description
Other requirements may overlap	
Qualifying Exam Required	Yes
Preliminary Exam Required	Yes
Final Exam/Dissertation Defense Required	Yes
Dissertation Deposit Required	Yes
Minimum GPA:	2.75

**for the degree of Doctor of Philosophy in Informatics****Applications Courses (Select 2 courses at the 500 level from list below)**

Code	Title	Hours
ANSC 542	Applied Bioinformatics	4
ANSC 545	Statistical Genomics	3 or 4
ARCH 423	Soc/Beh Factors for Design	3
ARTD 501	Industrial Design I	6
ARTS 443	Time Arts II	3 or 4
ARTS 444	Interaction II	3 or 4
CHBE 571	Bioinformatics	4
CHLH 527	Statistics in Epidemiology	4
CPSC 565	Perl & UNIX for Bioinformatics	2
CPSC 567	Bioinformatics & Systems Biol	4
CS 548	Models of Cognitive Processes	4
DANC 532	Digital Media for Dancers	2
DANC 550	Advanced Research in Dance	1 to 4
ECE 537	Speech Processing Fundamentals	4
EPSY 587	Hierarchical Linear Models	4
EPSY 589	Categorical Data Analysis in Educational Psychology	4
IE 510	Applied Nonlinear Programming	4
IE 511	Integer Programming	4
IE 512	Network Analysis of Systems	4
INFO 555	Advanced Educational Technologies for Engagement and Interactive Learning	4
LING 501	Syntax I	4
LING 502	Phonology I	4
LING 507	Formal Semantics I	4
LING 520	Acoustic Phonetics	4
IS 506	Human-Centered Information Systems	4
IS 524	Data Governance	2 or 4
IS 525	Data Warehousing and Business Intelligence	4
IS 526	Building Advanced Interactive Systems	4
IS 556	Internet of Things	4
IS 557	Applied Machine Learning: Team Projects	4
IS 586	Usability Engineering	4
MUS 407	Elect Music Techniques I	3
MUS 409	Elec Music Techniques II	2
MUS 448	Computer Music	3
MUS 506	Graduate Level Composition	2 to 6

MUS 507	Sem in Music Comp and Theory	2 or 4
NUTR 511	Regulation of Metabolism	4
PATH 516	Epidemiology Infectious Dis	3
PATH 517	Principle/Method Epidemiology	4
PATH 560	Spatial Epidemiology	4
PS 530	Quant Pol Analysis I	4
PS 531	Quant Pol Analysis II	4
PSYC 509	Psych Scaling Multidimen Meth	4
THEA 419	Theatrical CAD Drafting	2
THEA 430	Technical Direction I	3
THEA 437	Software for Lighting Design	2
THEA 453	Introduction to Theatre Sound	3
THEA 454	Sound Design I	3
THEA 455	Sound Design II	3
THEA 550	Colloquium Design & Theat Tech	4 or 8
UP 519	Advanced Applications of GIS	4

**Foundations Courses (Select 2 courses at the 500 level from list below)**

Code	Title	Hours
CPSC 540	Applied Statistical Methods II	4
CPSC 541	Regression Analysis	4
CS 414	Multimedia Systems	3 or 4
CS 418	Interactive Computer Graphics	3 or 4
CS 419	Production Computer Graphics	3 or 4
CS 427	Software Engineering I	3 or 4
CS 438	Communication Networks	3 or 4
CS 440	Artificial Intelligence	3 or 4
CS 446	Machine Learning	3 or 4
CS 465	User Interface Design	4
CS 511	Advanced Data Management	4
CS 512	Data Mining Principles	4
CS 519	Scientific Visualization	4
CS 546	Advanced Topics in Natural Language Processing	4
CS 558	Topics in Numerical Analysis	4
CS 565	Human-Computer Interaction	4
CS 573	Algorithms	4
ECE 417	Multimedia Signal Processing	4
ECE 418	Image & Video Processing	4
ECE 420	Embedded DSP Laboratory	2
ECE 437	Sensors and Instrumentation	3
ECE 439	Wireless Networks	3 or 4
ECE 453	Wireless Communication Systems	4
ECE 470	Introduction to Robotics	4
ECE 473	Fund of Engrg Acoustics	3 or 4
ECE 511	Computer Architecture	4
ECE 512	Computer Microarchitecture	4
ECE 513	Vector Space Signal Processing	4
ECE 517	Nonlinear & Adaptive Control	4
ECE 537	Speech Processing Fundamentals	4
ECE 544	Topics in Signal Processing	4
ECE 547	Topics in Image Processing	4

ECE 549	Computer Vision	4
ECE 550	Advanced Robotic Planning	4
ECE 551	Digital Signal Processing II	4
ECE 558	Digital Imaging	4
ECE 580	Optimiz by Vector Space Methds	4
ECE 594	Math Models of Language	3 or 4
EPSY 580	Statistical Inference in Education	4
EPSY 581	Applied Regression Analysis	4
EPSY 582	Advanced Statistical Methods	4
EPSY 587	Hierarchical Linear Models	4
EPSY 588	Covar Struct and Factor Models	4
IS 504	Sociotechnical Information Systems	4
IS 507	Data, Statistical Models and Information	4
IS 515	Information Modeling	4
IS 517	Methods of Data Science	4
IS 519	Research Design in Information Science	4
IS 527	Network Analysis	4
IS 537	Theory & Practice of Data Cleaning	4
IS 547	Foundations of Data Curation	4
IS 545	Advanced Data Visualization	4
IS 575	Metadata in Theory & Practice	4
IS 577	Data Mining	2 or 4
IS 596	Advanced Topics in Human-Centered Design & Systems (Section D: Implement Info Stor& Retr)	2 to 4
MATH 580	Combinatorial Mathematics	4
PSYC 509	Psych Scaling Multidimen Meth	4
PSYC 514	Seminar in Cognitive Science	2 or 4
PSYC 588	Covar Struct and Factor Models	4
PSYC 594	Multivar Anlys in Psych and Ed	4
STAT 510	Mathematical Statistics	4
STAT 525	Computational Statistics	4
STAT 542	Statistical Learning	4
STAT 571	Multivariate Analysis	4
STAT 587	Hierarchical Linear Models	4

<sup>1</sup> See list of General Education courses in course catalog.

This suggested sequence is intended for first-semester freshmen students, fall start, with no placement credit prior to the start of their first term. Other disclaimer text would need to go here.

#### First Year

Fall Semester	Hours
ADV 150 Introduction to Advertising	3
STAT 100 Statistics	3
RHET 105 Writing and Research	4
General Education course <sup>1</sup>	3-4
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Semester Hours	13-14
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Total Hours:	13-14

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<sup>2</sup> Testing for footnote placement with cursor at bottom of page