

INFORMATICS, PHD

for the degree of 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 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.

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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
Total Hours	Entering with Master's Degree	64
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.		
Total Hours	Entering with approved B.S. degree	96

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

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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: From Inquiry to Ideation	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		4
INFO 555	Advanced Educational Technologies for Engagement and Interactive Learning	4

LING 501	Syntax I	4	CS 573	Algorithms	4
LING 502	Phonology I	4	ECE 417	Multimedia Signal Processing	4
LING 507	Formal Semantics I	4	ECE 418	Image & Video Processing	4
LING 520	Acoustic Phonetics	4	ECE 420	Embedded DSP Laboratory	2
IS 506	Human-Centered Information Systems	4	ECE 437	Sensors and Instrumentation	3
IS 524	Data Governance	2 or 4	ECE 439	Wireless Networks	3 or 4
IS 525	Data Warehousing and Business Intelligence	4	ECE 453	Wireless Communication Systems	4
IS 526	Building Advanced Interactive Systems	4	ECE 470	Introduction to Robotics	4
IS 556	Internet of Things	4	ECE 473	Fund of Engrg Acoustics	3 or 4
IS 557	Applied Machine Learning: Team Projects	4	ECE 511	Computer Architecture	4
IS 586	Usability Engineering	4	ECE 512	Computer Microarchitecture	4
MUS 407	Elect Music Techniques I	3	ECE 513	Vector Space Signal Processing	4
MUS 409	Elec Music Techniques II	2	ECE 517	Nonlinear & Adaptive Control	4
MUS 448		3	ECE 537	Speech Processing Fundamentals	4
MUS 506	Graduate Level Composition	2 to 6	ECE 544	Topics in Signal Processing	4
MUS 507	Sem in Music Comp and Theory	2 or 4	ECE 547	Topics in Image Processing	4
NUTR 511	Regulation of Metabolism	4	ECE 549	Computer Vision	4
PATH 516	Epidemiology Infectious Dis	3	ECE 550	Advanced Robotic Planning	4
PATH 517	Principle/Method Epidemiology	4	ECE 551	Digital Signal Processing II	4
PATH 560	Spatial Epidemiology	4	ECE 558	Digital Imaging	4
PS 530	Quant Pol Analysis I	4	ECE 580	Optimiz by Vector Space Methds	4
PS 531	Quant Pol Analysis II	4	ECE 594	Math Models of Language	3 or 4
PSYC 509	Psych Scaling Multidimen Meth	4	EPSY 580	Statistical Inference in Education	4
THEA 419	Theatrical CAD Drafting	2	EPSY 581	Applied Regression Analysis	4
THEA 430	Technical Direction I	3	EPSY 582	Advanced Statistical Methods	4
THEA 437	Software for Lighting Design	2	EPSY 587	Hierarchical Linear Models	4
THEA 453	Introduction to Theatre Sound	3	EPSY 588	Covar Struct and Factor Models	4
THEA 454	Sound Design I	3	IS 504	Sociotechnical Information Systems	4
THEA 455	Sound Design II	3	IS 507	Data, Statistical Models and Information	4
THEA 550	Colloquium Design & Theat Tech	4 or 8	IS 515	Information Modeling	4
UP 519	Advanced Applications of GIS	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

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	0 to 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			
			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

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1. Students will acquire broad and deep knowledge of informatics including both foundation and application areas. Students are expected to become experts in their specialties, but also be knowledgeable about basic principles across the informatics domain.
 2. Students will demonstrate the ability to conduct informatics research in their area of specialty through developing an original piece of scholarship.
 3. Students will demonstrate skills in oral and written communication sufficient to publish and present work in their field and to prepare grant proposals.
 4. Students will interact with people from diverse backgrounds as both leaders and team members with integrity and professionalism.
 5. Students will be aware of ethical issues regarding research including the use of human subjects (if appropriate), research misconduct, and publication practice.

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 (p. 1)

*for the degree of Doctor of Philosophy in Informatics***Informatics Program**

Informatics website (<https://informatics.ischool.illinois.edu/>)
 Informatics faculty affiliates (<https://informatics.ischool.illinois.edu/faculty-affiliates/>)
 On-Campus Contact: Karin Readle (kereadel@illinois.edu), Senior Education Coordinator, Informatics
 (217)-244-1220

Admissions

Overview of ischool Admissions & Requirements (<https://informatics.ischool.illinois.edu/phd-admission/>)
 Graduate College Admissions & Requirements (<https://grad.illinois.edu/admissions/apply/>)