

Informatics, Ph.D.

A new app assisting kids with autism spectrum disorder. New insights on creativity and how it develops in tech startups in the U.S. and abroad. New techniques for balancing privacy versus personalization in web apps. New lessons about the impact of multitasking on our health. A new tool that helps people design sustainable gardens.

These are just some examples of the wide variety of projects being worked on by current Ph.D. students in the Informatics Ph.D. program at UC Irvine.

With information technology redefining our personal and work lives everywhere, it is critical that it be designed to fit human needs and capabilities. Whether in medicine, entertainment, science, education, environmental sustainability, family life or crisis management, much work needs to be done to improve our understanding of the role information technology can play, how it should be designed, and what its true impact really can be.

The Informatics Ph.D. program offers students the opportunity to study all aspects of living, working and building in a digital world, including: developing an understanding of human needs by going into the field; designing new technology; putting technology to use in laboratory experiments and trial deployment; or devising theories about information technology and its role in society. With one of the largest and most diverse faculty in the world dedicated to the topic of informatics, the program offers opportunities for everyone, whether you prefer to work directly with people, are more technically inclined, or both.

A strong core of classes introduces students to classic material and recent innovations. At the same time, we focus on research from the beginning. New students are encouraged to work with multiple faculty members in their first two years to gain a broad exposure to the many aspects of informatics. It is crucial for early-career scholars to become familiar with the varied nature of research, write papers, attend conferences and begin to be a part of the broader community. The focus on research continues throughout, with an emphasis on publishing novel results in the appropriate venues in order to help students position themselves well for the competitive job market.

For additional information about this degree program, please see: <https://www.informatics.uci.edu/grad/phd-informatics/>

Program of Study

Pre-Candidacy Course Requirements

1. Required Core Courses

IN4MATX 209S	Seminar in Informatics (twice, usually in the first year)
IN4MATX 232	Research in Human-Centered Computing
IN4MATX 261	Social Analysis of Computing

2. Research Methods Core

IN4MATX 201	Research Methodology for Informatics
IN4MATX 203	Qualitative Research Methods in Information Systems
IN4MATX 205	Quantitative Research Methods in Information Systems
IN4MATX 207S	Doctoral Seminar on Research and Writing (once, usually after first year)

3. Research Experience

IN4MATX 299	Individual Study (four quarters required pre-advancement, recommended at least two quarters per year in each of the first two years)
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4. Electives in Informatics (6 Ph.D. level classes, all four units)

A set of six elective courses. The selection of courses should form a coherent educational plan to be approved by the student's faculty advisor and by the Informatics Ph.D. program director. A written record of this plan and its approval must be filed with the Ph.D. program director prior to advancement. Although the courses may be chosen from any Ph.D. level courses on campus, it is recommended that at least three be chosen from within the School of ICS.

Teaching Requirements

To enhance their education and experience in teaching, all students will be required to work as readers or TAs for at least two quarters. Additionally, before or during the first quarter in which they are working in this capacity, all students will enroll in I&C SCI 398A, a two-unit seminar. Those students wishing to gain more instruction around their teaching may also enroll in I&C SCI 398B, the advanced teaching seminar, which is also a two-unit seminar.

Field Examinations

There will be no formal field evaluations. However, each year, students will be evaluated individually and given written feedback about their progress (for first year students, this evaluation will take place before the end of Spring quarter; for continuing students, it will take place before the end of Fall quarter.) In preparation, students will write a statement about their progress and meet with their advisors who give some feedback and complete a form reporting their assessment of the student's progress. The program faculty as a whole will then meet to discuss all the students, with a letter written to the student summarizing the assessment and, if necessary, deadlines for specific activities to be finished or goals to be achieved. This evaluation letter

will state either that the student is making good progress or has been given cautionary status. The students who have certain activities to finish will be reviewed again six months after this evaluation. A second cautionary review constitutes formal failure to make adequate progress within the program.

Qualifying Exam

At the end of the student's second year: The student develops an appropriate reading list to fit his/her areas of interest within Informatics, co-developed with the advisor. The student then writes a paper synthesizing this literature and noting the areas that are currently interesting and under-researched. The paper serves as the basis for an oral examination, generally in the Spring quarter of the second year.

At the end of the third year: The student will be evaluated by an assessment of a research portfolio. A portfolio should comprise three papers of publishable quality, as judged by the faculty. These papers might well be expansions or developments from term papers developed in class; the goal is to determine the student's capacity to produce research writing of publishable quality. Student may work on papers collaboratively, but the portfolio as a whole must demonstrate writing ability through single-authored or lead-authored work. (Collaboratively written papers will be accompanied by a statement of contributions signed by all authors.)

The students are encouraged to report on projects conducted with at least two different faculty members. Advancement to candidacy is on the basis of an oral defense of the research portfolio, normally in the Spring of the third year. The advancement committee is formed in accordance with UCI campus regulations.

Doctoral Dissertation

Students are required to complete a doctoral dissertation in accordance with Academic Senate regulations. In addition, they must pass an oral dissertation defense that consists of a public presentation of the student's research followed by an oral examination by the student's doctoral committee. The dissertation must be approved unanimously by the committee.

Final Examination

The dissertation defense committee is formed in accordance to UCI Senate regulations. This committee must approve the following for the student to pass the final examination:

Dissertation topic: The student must present a substantial written document representing the student's dissertation plan. This document must include the proposed dissertation abstract, a dissertation outline, a comprehensive survey of related work, and a detailed plan for completing the work. The student must present this dissertation plan to the dissertation committee, who must unanimously approve the student's proposal.

Dissertation document: The student must prepare the written dissertation in accordance with Academic Senate regulations and present this document to the committee with enough advance notice for appropriate review and critique prior to an oral defense. Following an oral defense of this document, any changes required must be approved by the entire committee.

Oral defense: The student must pass an oral dissertation defense that consists of a public presentation of the student's research followed by an oral examination by the student's doctoral committee. To ensure the public has an opportunity to participate in this examination, the student must announce the defense title, date, and time at least two weeks prior to the event to all faculty and doctoral students in the department.

Normative Time from Matriculation to Degree

Students making normal progress are expected to complete their coursework and produce 2-3 research papers of publishable quality in three years. The dissertation proposal is expected midway through the fourth year, with completion in the sixth.