Rules and Procedures Governing the PhD Program in the CIS Department at IUPUI

This proposal is approved by the graduate committee.

Admission

• BS degree in CS or in a related field.
• Background knowledge requirements (core CS topics, Data Structures, Math, etc). If you have deficiencies, we recommend taking Data Structures, Computer Architecture, Operating Systems as needed.
• GRE
• GPA (>= 3.0)
• We encourage outstanding candidates from other disciplines to apply.

Research Orientation Requirement

Students in their first year must take a 1 credit Pass/Fail seminar course (CSCI C59100) and as part of this course they must also complete the “Physical Science Responsible Conduct of Research” course online (http://researchcompliance.iu.edu/oe/oe_citi.html) and provide the certificate of completion.

Core course requirement

Students must satisfy this requirement by the end of their fourth semester by passing one theory core course and one systems core course and one course in an area of specialization with grades of at least A- (A minus) in each of these courses. A core course that does not meet the grade and GPA requirements can be taken at most a second time. Taking another course (in the same core area or in the same specialization area, or taking a course in another specialization area) would count as the second attempt. Students must declare the area of specialization ahead of time with the approval of their advisor.

The core courses and areas of specialization are defined as follows:

• Theory core courses: CSCI 580 (Algorithms) and CSCI 565 (Programming Languages)
• Systems core courses: CSCI 503 (OS), CSCI 504 (Computer Architecture)
• Area Specialization courses:
  o Visualization, Image Processing and Machine Vision: CSCI 550, CSCI 552, CSCI 557, 590 (Multimedia)
  o Data Communication and Networking: CSCI 536, 590 (Wireless networks)
  o Distributed Computing: CSCI 537 (Distr. Systems), 590 (Cloud Computing)
  o AI, Machine learning and Data Analysis: CSCI 549, CSCI 573, 590 (ML)
  o Databases: CSCI 541
  o Software Engineering: CSCI 506, CSCI 507, 590 (Software Testing)
  o Security: CSCI 555, 590 (Trustworthy Computing)

Students who are admitted into the program with deficiencies in CS background (because their degrees are in another discipline) must prove that the deficiencies are eliminated by the end of their qualifying process. The areas (as described in the admissions requirement) are Data Structures, Computer Architecture, and Operating Systems.
Plan of Study

- Advisory committee: Advisor + 2 or more other faculty. The students must form their advisory committee by the end of their first year.
- Overall course requirement: at least nine graduate level courses (including the two core and one specialization course) with GPA >= 3.5. Other courses need to be 500 or 600 level courses.
  - A student receiving a grade lower than B- in a course on the plan of study will have to repeat or replace the course. If a course is repeated, only the last grade, even if lower, is used to compute all GPAs involving that course.
- Policy for transferring courses from MS degree:
  - The MS courses taken in the department as part of the MS degree within the department count towards PH.D course requirement
  - Otherwise, the students can transfer up to 4 MS degree courses into the doctoral program. The courses on the plan of study cannot have been used to satisfy requirements for an undergraduate degree nor can they cause the student’s doctoral plan of study to include courses from more than one master’s program. Students who want to transfer courses from an MS degree, should petition the graduate committee and the transfer decision will be made on a case by case basis.

Preliminary exam

- Students must pass a preliminary examination that tests competence in the student’s research area and readiness for research on a specific problem. The content of the examination is at the discretion of the examining committee. The examination may include a presentation by the student of papers relevant to a chosen research topic, an oral examination over advanced material on the student’s research topic, a presentation by the student of the student’s preliminary research results, or a proposal of thesis research.
- The examining committee consists of the student's advisory committee, and of an additional member, who is not on the advisory committee, who is approved by the Graduate Committee.
- The examination must be taken at least two semesters before the final examination of the thesis.

Thesis and Final exam/Defense

- The thesis must present new results worthy of publication.
- The student must defend the thesis publicly and to the satisfaction of the Examining Committee.
- The Examining Committee consists of the Advisory Committee and one additional faculty member representing an area outside that of the thesis assigned by the Graduate Committee chair.
- The student can only defend their thesis after at least two semesters following the completion of the preliminary exam. The thesis defense should be completed by the end of the fourth semester following the one in which the student passes the preliminary examination. The Graduate Committee may grant extensions.

Annual Reviews

Each doctoral student’s academic and research progress is evaluated annually by their advisory committee. Students receive written feedback and guidance to support their progress.