

Milestones for a PhD in Information Systems (IS)

Coursework: At least 30 hours of graduate-level coursework during the first two years. IS doctoral students must maintain a minimum cumulative 3.0 GPA. Beyond the core courses, coursework varies to some degree depending on the student's research specialization. Registration for coursework must be done in consultation with the IS doctoral program director.

Core Course #1: IS Seminar

IS doctoral program requires the following core course:

- OPIM 7805 Survey of IS Research

Core Course #2: Statistics

Students in IS doctoral program are suggested to take courses in Statistics. Course options include but are not limited to:

- PSYC 5741 General Statistics 1
- PSYC 5751 General Statistics 2
- STAT 5600 Methods in Statistical Learning
- STAT 5530 Mathematical Statistics

Besides the core courses in IS research and statistics, students are recommended to specialize in one of the tracks below by taking additional courses from related disciplines. Students are required to work closely with the IS doctoral program director and/or faculty advisor to determine the most appropriate courses to take.

Track #1: Behavioral IS

Students in the track of behavioral IS typically specialize in psychology and behavioral research methods such as survey and experiment. Course options include but are not limited to:

- ORMG 7830 Research Design and Methods in Management
- PSYC 5685 Research Methods Proseminar
- PSYC 5145 Advanced Cognitive Psychology
- EDUC 8710 Measurement in Survey Research

Track #2: Economics of IS

Students in the track of economics of IS typically specialize in economics and related research methods such as econometrics and economic modeling. Course options include but are not limited to:

- ECON 7828 Econometrics

- ECON 8848 Applied Microeconometrics
- MKTG 7840 Quantitative Marketing Seminar 1
- ECON 7818 Introduction to Probability and Asymptotic Theory

Track #3: Design Science in IS

Students in the track of design science in IS typically specialize in computer science and technical research methods such as machine learning and natural language processing. Course options include but are not limited to:

- CSCI 5454 Design and Analysis of Algorithms
- CSCI 5622 Machine Learning
- CSCI 5832 Natural Language Processing
- CSCI 5922 Neural Networks and Deep Learning

Research Requirement: The primary focus of a PhD is to complete and publish research that adds to the body of knowledge in the field. Research papers are required throughout the program and must be presented at workshops and seminars. Students are encouraged to take advantage of the Hart Fellowship program to work with a faculty member over the summers to conduct publishable research.

Comprehensive Examination: A comprehensive examination is taken after satisfactory completion of necessary coursework. This exam is an original academic research paper in a format that could be submitted to a top academic journal. This paper will be presented to the comprehensive exam committee at the end of the second year or the beginning of the third year. Students must contact the IS doctoral program director in advance to know the requirements and the specific deadline. The comprehensive examination may be retaken once but must be passed prior to advancement.

Dissertation Proposal: Students are required to propose their dissertation in the fourth year. A dissertation proposal generally includes an overview of the final dissertation, discusses the key research problems and literature gaps, and presents some completed studies and some in-progress studies in the dissertation. Students should submit and defend their dissertation proposal before the end of the fourth year prior to job market. The dissertation committee should be formed at the beginning of the fourth year.

Final Dissertation: Students are required to submit and defend the final dissertation before the end of the fifth year. The dissertation typically consists of three essays (papers), which should target top IS journals such as MISQ, ISR, or Management Science. The final format of the dissertation may vary case by case and should be decided by discussing with advisor (dissertation committee chair).