INFORMATION SYSTEMS, PH.D.

The Ph.D. in Information Systems requires 71 credit hours and is an innovative research degree program designed to prepare professionals and research scholars of the highest quality for careers in academic information systems units and other organizations. The program enhances the traditional Ph.D. program with four distinctive elements: commitment to practical relevance, emphasis on producing quality teachers, research apprenticeship, and interdisciplinary research.

The program is primarily for full-time students and is available to students with master’s degrees in appropriate areas such as business, computer science, public administration, engineering, or the social sciences.

For information regarding deadlines and requirements for admission, please see https://grs.uncg.edu/programs/.

In addition to the application materials required by the Graduate School, applicants must submit a one-page personal statement and a resume. Applicants should consult the Ph.D. Program Director for specific admission requirements.

Students without a master’s degree in business will need to take additional courses to establish an understanding of business processes.

Degree Program Requirements

Required: 71 credit hours

Leveling Courses/Prerequisites

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ISM 647</td>
<td>Artificial Intelligence and Machine Learning</td>
<td></td>
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<td></td>
<td>Applications for Business</td>
<td></td>
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<tr>
<td>ISM 671</td>
<td>Organizing Data for Analytics</td>
<td></td>
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<tr>
<td>ISM 672</td>
<td>App Design and Programming</td>
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<tr>
<td>ISM 673</td>
<td>Designing Secure Computer and IoT Networks for</td>
<td></td>
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<tr>
<td></td>
<td>Business</td>
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<tr>
<td>ISM 677</td>
<td>Information Systems Management</td>
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</tbody>
</table>

Students with no business background must take at least three of these four courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MBA 702</td>
<td>Financial and Managerial Accounting</td>
<td></td>
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<tr>
<td>MBA 706</td>
<td>Marketing Management</td>
<td></td>
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<tr>
<td>MBA 708</td>
<td>Operations for Competitive Advantage</td>
<td></td>
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<tr>
<td>MBA 709</td>
<td>(COURSE INACTIVE)</td>
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* In consultation with the Ph.D. Program Director.

ISM 786 Principles of Scientific Inquiry in Information Systems Research 3
ISM 788 Seminar in IS Research Methods 3
Select three courses (9 credits) from the following:
ISM 753 Information Systems Research Seminar I
ISM 754 Information Systems Research Seminar II
ISM 755 Information Systems Research Seminar III
ISM 756 Information Systems Research Seminar IV

IS Teaching Education (4-7 credits)
Select 4-7 credits

IS Research Seminars (7-8 credits)
Select a minimum of 7 credits

Knowledge Area (9 credits)
Select 9 credits, possible courses include:
ISM 701 Predictive Analytics in Information Systems Research
ISM 702 Data Visualization for Information Systems Research
ISM 703 Cognitive Computing and Artificial Intelligence in Information Systems Research
ISM 704 Cyber Security Principles in Information Systems Research
ISM 705 Blockchains and Cryptography in Information Systems Research
ISM 706 Global Cyber Threats and Risk Management
ISM 707 Information Technology Driven Disruptive Innovations
ISM 708 Generative AI for Business and Information Systems Research
ISM 709 Deep Learning Applications for Business and Information Systems Research
ISM 710 Cloud Computing and Security Analytics and Information Systems Research

Research Methodology (12 credits)
Select 12 credits, possible courses include:
ELC 664 Introduction to Qualitative Inquiry: A Social Justice Approach
ERM 682 Multivariate Analysis
ERM 731 Structural Equation Modeling in Education
STA 661 Advanced Statistics in the Behavioral and Biological Sciences I
STA 662 Advanced Statistics in the Behavioral and Biological Sciences II
STA 671 Multivariate Analysis

Dissertation (18-24 credits)
ISM 799 Dissertation 18-24

Total Credit Hours 71

* Chosen in consultation with the Ph.D. Program Director. Courses in other departments may be taken with the approval of the advisor.

** Taken throughout the program.
Organizational Research Internship
Required of students lacking relevant work experience, as determined by the Ph.D. Program Director.

Research Apprenticeship
Two papers must be submitted for publication in conference proceedings or journals prior to taking written comprehensive examinations.

Comprehensive Written Examination
Upon completion of the required course work and research apprenticeship, the student will be eligible to sit for written comprehensive examinations. The major examination will have two parts:

- The first part will be composed of IS content from various courses and existing literature.
- The second part will be designed to evaluate the research readiness of the student.

Typically, the major examination is given in the Fall semester. If the student fails at the first attempt, a second attempt may be allowed by the Ph.D. Program Director.

Oral Examination
Following the successful completion of the written comprehensive examination, the student will be given an oral examination by the doctoral Advisory/Dissertation Committee. Upon successful completion of the oral examination, the student may apply for doctoral candidacy.

Proposal Defense
Following the oral examination, the student will prepare a dissertation proposal that will be defended before the doctoral Advisory/Dissertation Committee. The defense may be attended by others outside the committee.

Dissertation
A minimum of 18 credits will be devoted to research that culminates in the preparation of the required doctoral dissertation.