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/](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>
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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>
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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>

**To be taken as needed to remedy deficiencies:**

- ISM 647
- ISM 671
- ISM 672
- ISM 673
- ISM 677

*In consultation with the Ph.D. Program Director.*

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

- MBA 702 Financial and Managerial Accounting
- MBA 706 Marketing Management
- MBA 708 Operations for Competitive Advantage
- MBA 709 (COURSE INACTIVE)

**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.