Table of Contents

The College of Information Science and Technology Graduate Programs

About the College.................................................................................................................. 2

Graduate Programs

Master of Science (Library and Information Science).................................................. 4
About the program, Requirements, Online option, School Library/Media Specialist program
Master of Science in Information Systems................................................................. 8
About the program, Requirements, Online option
Master of Science in Software Engineering............................................................... 12
About the program, Requirements
Dual Degree M.S./M.S.I.S.......................................................................................... 18
Doctor of Philosophy.................................................................................................. 19
About the program, Requirements

Professional Development Programs

Post-Master’s Certificate of Advanced Study.............................................................. 21
Post-Master’s Study .................................................................................................... 21
Special Associate Study.............................................................................................. 21
The College of Information Science and Technology

Founded in 1892, the College offers programs leading to a Master of Science (Library and Information Science), a Master of Science in Information Systems (M.S.I.S.), and a Ph.D.

Both master’s degree programs are offered online or on campus. The College also administers the information science and technology track of the University’s multidisciplinary Master of Science in Software Engineering (M.S.S.E.) degree. Opportunities for professional development are available at the post-master’s level or a post-master's certificate of advanced study (C.A.S.).

The College of Information Science and Technology is also known as "The iSchool at Drexel." This identity highlights the College’s participation in The I-Schools Caucus, and its status as a founding member of the organization. The I-Schools Caucus is a national alliance of library, information science and information system schools, the purpose of which is to raise awareness and understanding of the information sciences as a cutting-edge and progressive field of study.

For more information about the College, visit the College of Information Science and Technology web site.
About the Goals of the College

Education

- To provide the student with a foundation for understanding, developing, and operating information systems, services, and products — including information creation, organization, communication, processing, and storage, as well as the technical, social, and human context in which information professionals operate
- To relate fundamental concepts to practical applications, and to provide the student with the necessary skills to function as a responsive professional in a variety of specialized roles
- To ground the student in state-of-the-art information technologies

Research

- To encourage a spirit of inquiry and criticism, and to advance the theory and practice of the information professions through research and publication

Service

- To contribute to the growth and development of the information professions

The general learning objectives of the College are to prepare graduates of the degree programs to:

- Take positions of professional leadership
- Balance and integrate human and technical aspects of information systems, services, and products
- Exhibit a strong client orientation in delivering information systems, services, and products, including an understanding of the implications of a culturally diverse society
- Use a variety of information technologies and readily adopt appropriate new technologies
- Analyze people’s information requirements and match them with available technologies
- Analyze the flow, structure, and use of information among people and within organizations
- Develop and defend positions on relevant social, political, and ethical issues
- Communicate effectively with others
• Develop critical thinking skills
Master of Science (Library and Information Science)

Learning Objectives of the M.S. Degree

Graduates of the M.S. program (Library and Information Science) are prepared to assume leadership positions in designing, executing, and evaluating information services and products, and managing organizations that facilitate access to recorded knowledge. Their preparation encompasses the knowledge and abilities required to:

- Describe in standard terms the major attributes of information resources
- Demonstrate knowledge of the structure and bibliographic control of literatures
- Augment access to information resources through processes such as thesaurus creation, classification, indexing, abstracting, systematic listing, and reviewing
- Select information resources appropriate for given audiences and develop appropriate information-seeking strategies
- Retrieve textual, numeric, bibliographic, image, and other information from all appropriate information sources
- Analyze or synthesize data and information for the client, in the form of digests, reviews of the literature, or technical reports
- Teach people to use information resources effectively
- Manage information organizations and the production of information services and products through planning, controlling, staffing, organizing, and leading

Accreditation

The College of Information Science and Technology is a member of the Association for Library and Information Science Education, and its M.S. program (Library and Information Science) is accredited by the American Library Association.
Master of Science (Library and Information Science)

Curriculum
The library and information science program assures students of a solid introduction to the field, a logical progression of coursework, and a wide variety of electives. The electives may also include up to 9 credit hours chosen from INFO 780 (Special Topics), INFO 799 (Independent Study), and related graduate courses taken in other departments of Drexel or another area university.

In exceptional cases a student with broad professional experience in library and information science, or previous coursework in library or information science, and well-defined educational goals may petition for exemption from one or more required courses. This petition should be made at the time of application to the College and should include both a detailed statement of the reasons for seeking exemption and a description of the program the applicant proposes to follow at Drexel. No exemptions are possible for INFO 503 or INFO 520.

Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 503 Introduction to Information Systems Analysis</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 510 Information Resources and Services I</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 511 Information Resources and Services II</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 515 Action Research</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 520 Professional and Social Aspects of Information Services</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 640 Managing Information Organizations</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Electives

| Free electives | 27.0 |

Total Credits 45.0
Online M.S. (Library and Information Science)

The online Master of Science (M.S.) degree with specializations in Management of Digital Information (MDI), Information/Library Services (I/LS) and Youth Services, is IST's second full master's degree program provided via the Internet. The online program has a strong technological focus and offers an innovative M.S. curriculum to a wider professional audience.

Students may choose to follow a specialization track or design a personalized curriculum in consultation with their advisor. The specialization in Management of Digital Information provides a unique opportunity for careers in the new information technology applications. The specialization in Information/Library Services provides a strong combination of technical and public services courses that can lead to an entry-level position in public, academic, or special libraries. These specializations are applicable to people who are interested in competitive intelligence, web development, library automation, systems librarianship, knowledge management, and academic and special libraries and a variety of library settings. The Youth Services specialization focuses on the information needs of children and young adults, particularly in school and public libraries.

For more information about this program online, visit the M.S. (Library and Information Science) Drexel eLearning web page.
Special Options

School Library/Media Specialist (SLMS) Program
The master's and post-master's programs accommodate candidates for Pennsylvania Department of Education (PDE) Library Science K-12 certification. M. S. students follow the SLMS prescribed program to complete the M.S. ALA-accredited degree and the PDE certification requisites. Post-master’s students are required to hold an ALA-accredited degree to enroll and follow appropriate courses from the prescribed program to fulfill the PDE requirements.

Temple Archives Option
Students interested in archiving, archives management, and/or historical documents have the option of earning graduate credits by taking courses in Temple University's history department. The archiving sequence consists of Introduction to Archives and Manuscripts, Research in Archives and Manuscripts, and Internship in Archives. This sequence satisfies the educational requirement for individuals desiring to qualify for the Certified Archivists (CA) examination.

Medical Information Specialist
The Medical Library Association offers certification as a medical information specialist. The College provides some coursework needed by students who wish to prepare for such certification.

Professional Affiliation for M.S. Students
Student groups include student chapters of the American Library Association, the American Society for Information Science and Technology, and the Special Libraries Association.

View the College of Information Science and Technology's web site for more information about these special options available to students pursuing a master's degree in library and information science.
Master of Science in Information Systems

Learning Objectives of the M.S.I.S. Degree
Graduates of the M.S.I.S. program are prepared to assume leadership and management positions designing, developing, and delivering innovative technological solutions to information problems in a variety of contexts. Their preparation encompasses the knowledge and abilities required to:

- Apply a systems approach to developing and delivering information systems and services:
  - Identifying clients' information requirements
  - Analyzing the flow and structure of information in user tasks and organizational processes with the appropriate formal tools and methods
  - Matching requirements to technological opportunities and performing benefit/cost tradeoff analyses among design options
  - Designing, implementing, and integrating specified system solutions
  - Evaluating development products, including interim deliverables and
  - Developing and implementing plans for maintenance and support of operational systems

- Lead and manage teams of information professionals in the development of quality systems and services:
  - Understanding the business aspects of information systems development and application in organizations and
  - Planning, controlling, staffing, and organizing to manage the processes for system development, services delivery, or system support
  - Prepare general managers with technical information systems competencies
Master of Science in Information Systems

Curriculum
Like the M.S. program, the M.S.I.S. program requires 45 credits. Many of the M.S.I.S. courses may be taken by M.S. students who wish to emphasize information systems within the library and information science curriculum.

Foundation Courses
Courses required to satisfy deficiencies do not count toward the credit requirements for the MSIS.

- INFO 503 Introduction to Information Systems Analysis or INFO 530 Information Systems Analysis
- INFO 601 Computer Programming or INFO 532 Software Development
- INFO 605 Database Management I
- INFO 614 Distributed Computing and Networking or INFO 534 Networking Applications
- BUSN 501 Measuring and Maximizing Financial Performance

The distribution of credits for the M.S.I.S. degree is as follows:

<table>
<thead>
<tr>
<th>Required courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 540 Introduction to Information Systems Analysis</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 608 Human-Computer Interaction</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 620 Information Systems Analysis and Design</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 630 Evaluation of Information Systems</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 631 Information Technology Integration</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 638 Software Project Management</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 646 Information Systems Management</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 782 Issues in Informatics</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Concentration requirements
Completion of at least one of the following concentrations is required for the degree.

Database Systems

<table>
<thead>
<tr>
<th>Required courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12.0</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>INFO 606</td>
<td>Database Management II</td>
</tr>
<tr>
<td>INFO 607</td>
<td>Applied Information and Database Technology</td>
</tr>
<tr>
<td>INFO 613</td>
<td>Extensible Markup Language (XML) and Databases</td>
</tr>
<tr>
<td>INFO 634</td>
<td>Data Mining</td>
</tr>
</tbody>
</table>

### Information Architecture
Students select four of the following courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 622</td>
<td>Content Representation</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 623</td>
<td>Information Visualization</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 624</td>
<td>Information Retrieval Systems</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 625</td>
<td>Cognition and Information Retrieval</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 658</td>
<td>Information Architecture</td>
<td>3.0</td>
</tr>
</tbody>
</table>

### Software Process

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 627</td>
<td>Requirements Engineering and Management</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 628</td>
<td>Information Systems Implementation</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 636</td>
<td>Software Engineering Process I</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 637</td>
<td>Software Engineering Process II</td>
<td>3.0</td>
</tr>
</tbody>
</table>

### Human-Computer Interaction

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 610</td>
<td>Analysis of Interactive Systems</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 611</td>
<td>Design of Interactive Systems</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 616</td>
<td>Computer-Supported Cooperative Work</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 626</td>
<td>Language Processing</td>
<td>3.0</td>
</tr>
</tbody>
</table>

### Web Systems and Services (offered on campus only)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 613</td>
<td>Extensible Markup Language (XML) and Databases</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Web Systems and Services I</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Web Systems and Services II</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Web Systems and Services III</td>
<td>3.0</td>
</tr>
</tbody>
</table>

### Information Security and Assurance (offered on campus only)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 710</td>
<td>Information Forensics</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 712</td>
<td>Information Assurance</td>
<td>3.0</td>
</tr>
<tr>
<td>INFO 714</td>
<td>Information Systems Auditing</td>
<td>3.0</td>
</tr>
</tbody>
</table>

### Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Free electives*</td>
<td>9.0</td>
</tr>
</tbody>
</table>
*Students may take any master's-level IST course with the exception of INFO 503, 530, 601, 532, 614, 534, 605, 652, 510, 511 and BUSN 501. If selecting a course outside Drexel University students should seek approval of Advisor. See the Department's pre-approved electives list for additional details.
Online M.S.I.S.

For students whose professional or personal commitments prevent them from attending regular class meetings, the M.S.I.S. is available online. Classes are conducted completely online, providing an intensive learning experience with the same content and quality as the degree available through the University’s traditional campus-based master’s program.

For more information about this program online, visit the M.S.I.S. Drexel eLearning web page.
Executive M.S. in Information Technology Leadership

About the Program
The program consists of 12 quarter courses spanning 4 key focus areas that build upon the required IS and Business foundations:

- Information Services
- Information Technology Leadership & Planning
- Information Resources
- Technology

To meet the expectations of executive students, the curriculum is organized around problem centered learning and case based analysis. The program is conducted over 18 months (6 consecutive terms). Classes meet Friday and Saturdays every other week. The program utilizes a “cohort” model where students take all required course together throughout the program.

Learning Objectives
Students will learn how to apply information systems strategically within an organization.

- Students will be able to lead and manage teams of information professionals in fulfilling the information service delivery needs of an organization.
- Students will be able to plan for the information resource management needs of the organization.

Students will learn to manage the technology needs of an organization.

- Students will develop the IS, business and strategic leadership skills that elevate technology from an integral support function to a positive corporate tool, one that has significant bottom line impact and adds value to the corporation.
- Students will be able to introduce new technologies into an organization and align the technology and business needs.

About the Executive Format
The following features of the program are characteristic of the executive format:

- All books are included in the cost of tuition
- All meals are provided and included in tuition
- Program follows a "cohort model," where students complete the program with the same group of students they started the program with—forming long term professional relationships.
- Just as the business community fosters teamwork, teams are formed at the beginning of the program and remain intact until program completion.
- 12 quarter classes over 18 months (6 consecutive terms), with classes meeting Friday and Saturday every other week from 8:30 A.M. until 5:30 P.M..

For more information about the program, visit the [College of Information Science and Technology](http://www.cisat.edu) web site.
Executive M.S. in Information Technology Leadership

45.0 credits.

Curriculum

<table>
<thead>
<tr>
<th>Required courses</th>
<th>36.0 Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ITL 601</strong> Emerging Trends in IT</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>ITL 622</strong> Planning and Program Management Office</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>ITL 602</strong> IT Infrastructures</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>ITL 640</strong> Organizational Aspects of IT Management</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>ITL 603</strong> Service Oriented Architecture</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>ITL 642</strong> Information Technology Leadership</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>ITL 620</strong> Enterprise Architectures and Systems</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>ITL 624</strong> Information Security and Business</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>ITL 644</strong> Management of IT Innovation</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>ITL 662</strong> Business Intelligence and Customer Care</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>ITL 660</strong> Information Management, Policy and Strategy</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>ITL 664</strong> Computer Intelligence and Knowledge Management</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Prior Experience/Coursework

Executive students will receive a 9 non-billable course credit for prior course work and/or work experience.
Dual M.S./M.S.I.S. Degree Option

The College of Information Science and Technology offers a dual masters degree program, leading to the Master of Science in Library and Information Science (M.S.) and the Master of Science in Information Systems (M.S.I.S.). The dual degree combines the focus of the MS program a concern with selecting, organizing, managing and accessing information resources to meet user's information needs with the MSIS graduates skills in creating and managing the databases, interfaces, and information systems that connect users with the information they are seeking. Students who pursue this path greatly increase their ability to compete in today's cutting-edge information marketplace, where the importance of digitized information resources and the needs of organizations and companies to provide networked access to these resources via intranet gateways and knowledge management systems is steadily increasing.

Graduate students already enrolled in a masters degree program at Drexel have the opportunity, through the dual masters program to work simultaneously on two masters degrees and to receive both upon graduation. To be eligible, graduate students must be currently working on their first degree when requesting admission to the second.

For more information, see the [MS/MSIS degree](#) web page on the College's web site.
Doctor of Philosophy (Ph.D.)

*Purpose and Scope*

The Ph.D. degree is not based on the accumulation of credits but represents a high level of scholarly achievement in both supervised and independent study and research. There are few fixed program requirements, and the master’s degree is not a prerequisite for the Ph.D. The doctoral program has two major goals: to allow students to acquire in-depth knowledge of a specialized area within the field of information science and technology and to prepare students for a career in which research is a basic element, whether that career is in administration, research, or teaching.

For additional information about the program visit the College of Information Science and Technology's Ph.D. Program web pages.
Doctor of Philosophy (Ph.D.)

Coursework
The degree requires a minimum of 60 credits beyond the bachelor’s degree for the Ph.D. degree or 45 credits beyond an applicable M.S. degree. At least three consecutive terms of full-time resident doctoral study are required. Students may be admitted to the program for part-time study, but they must be formally accepted as doctoral students and must meet the residency requirement.

Courses are taken, under an approved plan of study, to ensure the development of competence in:

- Information science and technology broadly construed
- One or more domains of study
- Research methodology
- Other courses as required by the plan of study
- Additional credits as needed

Advancement to Candidacy
To measure proficiencies in research and to assess students’ mastery of their chosen area of study, students maintain a portfolio that is reviewed on a regular basis. Candidacy is awarded based on satisfactory reviews and the presentation of an acceptable dissertation proposal.

Dissertation
The dissertation must be an original scholarly contribution to the field of information science and technology that will demonstrate the student’s capacity to conduct research. The final defense of the dissertation completes the program.

For a sample plan of study, visit the College of Information Science and Technology’s Ph.D. Program web pages.
The College of Information Science and Technology offers opportunities for librarians and information specialists in related fields to update their education or develop new specialties.

**Post-Master's Certificate of Advanced Study**
This nondegree program provides specialized training beyond the M.S. so that practitioners can update and extend their skills and knowledge. It is not research-oriented and is not intended to provide coursework that can be applied to the IST master's or doctoral degrees. The program leads to a Post-Master's Certificate of Advanced Study awarded through the College of Information Science and Technology.

**Admission Requirements**
Applicants must meet all the general requirements for admission to graduate studies and the College of Information Science and Technology, except that they need not submit scores from the Graduate Record Examination. Admissions requirements include: completed graduate application form, photocopies of transcripts from all colleges and/or universities attended, essay, and resume. In addition, they must have completed a master's degree in library science, computer or information science, information systems, instructional technology, or software engineering from an accredited program that has prepared them for advanced study in the area chosen for specialization.

**Program Requirements**
Students design a program of study in consultation with a faculty adviser, and must complete 8 courses within three calendar years. Such individualized plans often require coursework found in other Drexel departments or other universities, but at least 4 courses must be chosen from Information Science and Technology courses. Students also complete an independent study project, which integrates studies, field experiences, individual reading, and work experience. Successful completion of the certification program requires a cumulative grade point average of 3.0.

**Post-Master's Study**
Applicants who hold the M.S. degree from the College may request readmission by contacting the College of Information Science and Technology. Others must submit completed applications to the College, indicating specific courses desired; pay the application fee; and provide photocopies of transcripts of all coursework, undergraduate and graduate. Applicants for nondegree post-master's study need
not take the Graduate Record Examination. An essay is required.

Special Associate Study
Students who are currently enrolled in a Library Science or Information Systems graduate program at another university may take a graduate class from the College by applying for Special Associate status. Applications for Special Associate students are accepted every quarter. Admissions requirements include: completed graduate application form and a letter from your graduate advisor or department head indicating which classes you have permission to take and that you are in good academic standing.

For additional information, visit the College's Special Programs page.