Information Science & Technology, B.A.

Learn more about the Bachelor of Arts in Information Science and Technology.

Students in the Information Science and Technology (IS&T) curriculum develop the skills and the knowledge necessary to analyze information problems and to apply current technology to their solution. The emphasis is to develop problem-solving and communication skills.

The technologies and methods include databases, web and mobile application development, client-server computing, network security, project management, software engineering principles, and quality assurance methodologies. A two-semester capstone project course is required. This course is designed to help students integrate what they have learned in other courses and apply this knowledge in the design and implementation of a software application.

The program is targeted for students who have a strong interest in applying computing technologies to solving problems in business, education, science, and government agencies. Our IS&T graduates are also involved in innovative product developments. They hold jobs as consultants, network engineers, business and systems analysts, database administrators, and web and application developers.

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Bachelor of Arts

Summary of Requirements for the Degree

1. University Requirements (123 total s.h.)
   - MATH 0701 (4 s.h.) and/or ENG 0701 (4 s.h.), if required by placement testing.
   - All Temple students must take a minimum of two writing intensive courses at Temple as part of their major. Following is a list of courses that can be used to satisfy the writing-intensive requirement: CIS 4296 and CIS 4396.
   - Students must complete the General Education (GenEd) requirements.
     - See the General Education section of the Undergraduate Bulletin for the GenEd curriculum.
   - Students who complete CST majors typically receive a waiver for 2 Science & Technology (GS) and 1 Quantitative Literacy (GQ) GenEd courses.
   - Students must satisfy general Temple University residency requirements.

2. College Requirements
   - 90 credits within the College of Science & Technology (CST) or the College of Liberal Arts (CLA).
   - 45 Upper Level (2000+) credits within the College of Science & Technology (CST) or the College of Liberal Arts (CLA).
   - Second (2nd) Level of a Foreign Language (1002).
   - First Year Seminar Requirement: All students in the College of Science & Technology (CST) are required to take a 1 credit first year seminar course, SCTC 1001 CST First Year Seminar. Other courses that fulfill this requirement may be found on the CST College Requirements page. Only one course in this category may count towards graduation.

3. Major Requirements for Bachelor of Arts (64 s.h.)
   At least 7 courses required for the major must be completed at Temple. At least 6 CIS courses must be completed at Temple.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CIS 1001</td>
<td>Introduction to Academics in Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>CIS 1051</td>
<td>Introduction to Problem Solving and Programming in Python</td>
<td>4</td>
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<tr>
<td>or CIS 1057</td>
<td>Computer Programming in C</td>
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CIS 1068  Program Design and Abstraction  4
or CIS 1968  Honors Program Design and Abstraction  
CIS 1166  Mathematical Concepts in Computing I  4
or CIS 1966  Honors Mathematical Concepts in Computing I  
CIS 2109  Database Management Systems  4
CIS 2168  Data Structures  4
CIS 2229  Architecture, Operating Systems and Networking  4
CIS 3309  Component-Based Software Design  4
CIS 3329  Network Architectures  4
CIS 3342  Server-Side Web Application Development  4
CIS 3344  Client-Side Scripting for the Web  4
CIS 4296  Information Systems Analysis and Design  4
CIS 4396  Information Systems Implementation  4

Mathematics
MATH 2031  Probability and Statistics  3
Select one of the following:  4
  MATH 1031  Differential and Integral Calculus
  MATH 1041  Calculus I
  MATH 1941  Honors Calculus I

Laboratory Science courses
Two (2) laboratory science courses  8

Total Credit Hours  64

1  IS&T majors are required to have completed MATH 1022. They can then choose either MATH 1031, MATH 1041 or MATH 1941.
2  Must select within a Sequence for Laboratory Science A and Laboratory Science B. See the Sequenced Laboratory Science list below for the science options.

Sequenced Information Science and Technology Laboratory Science Requirements

<table>
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<tr>
<th>Code</th>
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| Biology Sequence
| Select one Biology Lab Science A:              |              |
| BIOL 1011  | General Biology I                             |              |
| BIOL 1111  | Introduction to Organismal Biology            |              |
| BIOL 1911  | Honors Introduction to Organismal Biology (S) |              |
| Select one Biology Lab Science B:              |              |
| BIOL 1012  | General Biology II                            |              |
| BIOL 2112  | Introduction to Cellular and Molecular Biology |              |
| BIOL 2912  | Honors Introduction to Cellular and Molecular Biology (F) | |

Chemistry Sequence ¹
| Select one Chemistry Lab Science A:           |              |
| CHEM 1021 & CHEM 1023  | Introduction to Chemistry I and Introduction to Chemistry Laboratory I | |
| CHEM 1031 & CHEM 1033  | General Chemistry I and General Chemistry Laboratory I | |
| CHEM 1951 & CHEM 1953  | Honors General Chemical Science I and Honors Chemical Science Laboratory I | |
| Select one Chemistry Lab Science B:           |              |
| CHEM 1022 & CHEM 1024  | Introduction to Chemistry II and Introduction to Chemistry Laboratory II | |
| CHEM 1032 & CHEM 1034  | General Chemistry II and General Chemistry Laboratory II | |
CHEM 1952  
& CHEM 1954  
Honors General Chemical Science II 
and Honors Chemical Science Laboratory II

Earth & Environmental Science Sequence

Select this Lab Science A: 
EES 2001  
Physical Geology

Select one Lab Science B (both have co-requisite): 
EES 2011  
Mineralogy I (with CHEM 1031 co-requisite)  
EES 2061  
Introduction to Geochemistry (with CHEM 1031 co-requisite)

Physics Sequence

Select one Physics Lab Science A:  
PHYS 1021  
Introduction to General Physics I  
PHYS 1061  
Elementary Classical Physics I  
PHYS 1961  
Honors Elementary Classical Physics I (F)  
PHYS 2021  
General Physics I  
PHYS 2921  
Honors General Physics I (F)

Select one Physics Lab Science B:  
PHYS 1022  
Introduction to General Physics II  
PHYS 1062  
Elementary Classical Physics II  
PHYS 1962  
Honors Elementary Classical Physics II (S)  
PHYS 2022  
General Physics II  
PHYS 2922  
Honors General Physics II (S)

1  Students can choose to mix-and-match the Chemistry Sequence A and B courses. However, they must take at least 1 course from Chemistry Sequence A and 1 from Chemistry Sequence B. Note: Chemistry courses consist of a three-credit lecture plus a one-credit lab.

2  The Earth & Environmental Science (EES) sequence will require students to take CHEM 1031 as a co-requisite to either of the two EES Sequence B courses.

3  Students can choose to mix-and-match the Physics Sequence A and B courses. However, they must take at least 1 course from Physics Sequence A and 1 from Physics Sequence B.

Calculation of Major GPA

Courses listed under the major requirements for the degree will be included in the calculation of the major GPA. Courses that could not apply toward the major as an elective or required course would not be counted in the calculation of the major GPA. This would include CIS 1056, for example.

Distinction in Major

To graduate with Distinction in Major, students are required to have a 3.50 or higher grade point average (GPA) both in the major and overall, as well as be recommended by the department of Computer & Information Sciences.

Suggested Academic Plan

Bachelor of Arts in Information Science & Technology

Requirements for New Students starting in the 2019-2020 Academic Year

Year 1

Fall  
CIS 1001  
Introduction to Academics in Computer Science  
1  
Select one of the following:  
   CIS 1051  
   Introduction to Problem Solving and Programming in Python  
   CIS 1057  
   Computer Programming in C  
4  
Select one of the following:  
   MATH 1031  
   Differential and Integral Calculus  
   MATH 1041  
   Calculus I  
   MATH 1941  
   Honors Calculus I  
4  
SCTC 1001  
CST First Year Seminar  
1  
General Education/Elective Credits  
5  

Term Credit Hours  
15
| Year 2 | Fall | CIS 2109 | Database Management Systems | 4 |
| Year 2 | Spring | CIS 2229 | Architecture, Operating Systems and Networking | 4 |
| Year 3 | Fall | CIS 3309 | Component-Based Software Design | 4 |
| Year 3 | Spring | CIS 3344 | Client-Side Scripting for the Web | 4 |
| Year 4 | Fall | CIS 4296 | Information Systems Analysis and Design [WI] | 4 |
| Year 4 | Spring | CIS 4396 | Information Systems Implementation [WI] | 4 |

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