

# COMPUTER INFORMATION TECHNOLOGY MAJOR: SOFTWARE DEVELOPMENT OPTION (B.S.)

<https://cps.unh.edu/online/program/bs/computer-information-technology-software-development-option>

## Description

The major in Computer Information Technology focuses on information, its management and processing within an organization, and the application of technology to create, exchange, store, and use information in that context. The focus is on the business use of information and the application of computing technology. Graduates will typically follow career paths as applications development programmers, planners and designers of information systems, and information systems managers within organizations. The degree provides versatility through a best practices approach to the core areas of Information Technology.

## Requirements

### Degree Requirements

**Minimum Credit Requirement:** 120 credits

**Minimum Residency Requirement:** 30 credits must be taken at UNH

**Minimum Cumulative GPA:** 2.0 is required for conferral\*

**Core Curriculum Required:** General Education Program

Major, Option and Elective Requirements as indicated.

*\*GPA: Major and any state certification GPA requirements may be higher and are indicated in program details.*

A minimum grade of C- is required in all Major coursework. Some programs may have higher grade requirements for Major coursework as noted in the Major requirements section below. Students are allowed a maximum of two course overlaps. Overlaps can be used between Major, Minor, and General Education requirements with only 8 credits overlapped between the Major and Minor. Please note that Option requirements are considered part of the Major. Students must complete 16 upper-level credits in majors within the College of Professional Studies, Online.

### General Education Program Requirements

A minimum grade of D- is required in all General Education coursework. Students are allowed a maximum of two course overlaps. Overlaps can be used between Major, Minor and General Education requirements with only 8 credits overlapped between the Major and Minor.

All General Education requirements must be taken prior to the capstone.

Code	Title	Credits
ENG 420	The Writing Process	4
COM 460	Interpersonal Communication and Group Dynamics	4
COM 480	Visual Communication	4
CRIT 501	Introduction to Critical Inquiry	4

Select one of the following:		4
MTH 402	Math for Our World	
MTH 504	Statistics	
MTH 510	Pre-Calculus	
Knowledge of Human Behavior & Social Systems		4
Knowledge of the Physical & Natural World		4
Knowledge of Human Thought & Expression		4
CRIT 602	Advanced Critical Analysis and Strategic Thinking	4
IDIS 601A	Interdisciplinary Seminar: Being Happy	4
or IDIS 601B	Interdisciplinary Seminar: Business of Beer	
or IDIS 601C	Interdisciplinary Seminar: Paranormal Activities	
<b>Total Credits</b>		<b>40</b>

## Major Requirements

Prior to capstone enrollment, students are expected to complete all General Education program requirements. Students should consult with their advisor regarding specific major courses that may be completed with their capstone. Refer to the Degree Plan for a sample course sequence. Academic Advisor approval is required for registration to be processed.

Code	Title	Credits
<b>Major in Computer Information Technology</b>		
<i>Foundation Courses</i>		
CMPL 415	Programming Fundamentals	4
CMPL 512	Advanced Software Tools	4
CMPL 525	Foundations of Cybersecurity	4
<i>Intermediate Courses</i>		
CMPL 614	Computer and Network Systems	4
CMPL 622	Human Computer Interaction	4
MTH 504	Statistics	4
<i>Advanced Courses</i>		
CMPL 620	Virtualization and Cloud Computing	4
CMPL 641	Database Management Systems	4
CMPL 642	Systems Analysis and Design	4
<i>Option in Software Development</i>		
CMPL 530	Python Programming I	4
CMPL 637	Python Programming II	4
CMPL 648	Programming with JavaScript	4
CMPL 665	Web Application Development	4
CMPL 760	Mobile Application Development	4
<i>Integrative Capstone:</i>		
CMPL 795	Integrative Capstone: Internship in Computer Information Tech and Tech Management	4
or CMPL 797	Integrative Capstone: Best Practices in Information Technology	
<b>Total Credits</b>		<b>60</b>

## Electives

Open electives are courses students will need to take in addition to their general education and major requirements in order to satisfy the remaining credit totals for their programs. Open electives are defined as any credit course offered by the College not already included in the student's general education, major, option or minor. Students will need 120 credits total to graduate with a bachelor's degree from the Online Division of the College of Professional Studies.

## Degree Plan

**This degree plan is a sample and does not reflect the impact of transfer credit or current course offerings. UNH CPS Online undergraduate students should develop individual academic plans with their academic advisor during their first year at UNH.**

## Sample Course Sequence

### First Year

Fall		Credits
CMPL 415	Programming Fundamentals	4
CMPL 525	Foundations of Cybersecurity	4
ENG 420	The Writing Process	4
General Education Course		4
<b>Credits</b>		<b>16</b>

### Spring

CMPL 512	Advanced Software Tools	4
COM 460	Interpersonal Communication and Group Dynamics	4
CRIT 501	Introduction to Critical Inquiry	4
MTH 402 or MTH 504 or MTH 510	Math for Our World or Statistics or Pre-Calculus	4
<b>Credits</b>		<b>16</b>

### Second Year

Fall		Credits
CMPL 614	Computer and Network Systems	4
COM 480	Visual Communication	4
General Education Course		4
Elective		4
<b>Credits</b>		<b>16</b>

### Spring

CMPL 622	Human Computer Interaction	4
MTH 504	Statistics	4
General Education Course		4
Elective		4
<b>Credits</b>		<b>16</b>

### Third Year

Fall		Credits
CMPL 530	Python Programming I	4
CMPL 620	Virtualization and Cloud Computing	4
CMPL 637	Python Programming II	4
Elective		4
<b>Credits</b>		<b>16</b>

### Spring

CMPL 641	Database Management Systems	4
CMPL 648	Programming with JavaScript	4
CMPL 665	Web Application Development	4
CRIT 602	Advanced Critical Analysis and Strategic Thinking	4
<b>Credits</b>		<b>16</b>

### Fourth Year

Fall		Credits
CMPL 642	Systems Analysis and Design	4
IDIS 601A or IDIS 601B or IDIS 601C	Interdisciplinary Seminar: Being Happy or Interdisciplinary Seminar: Business of Beer or Interdisciplinary Seminar: Paranormal Activities	4
CMPL 760	Mobile Application Development	4

Elective		4
<b>Credits</b>		<b>16</b>
Spring		Credits
CMPL 797 or CMPL 795	Integrative Capstone: Best Practices in Information Technology or Integrative Capstone: Internship in Computer Information Tech and Tech Management	4
Elective		4
<b>Credits</b>		<b>8</b>
<b>Total Credits</b>		<b>120</b>

## Student Learning Outcomes

### Program Learning Outcomes

- Possess proficiency in information technology, including programming fundamentals, software, network systems, and databases, as well as their relevant web interfaces and applications.
- Demonstrate both practical skills and theoretical knowledge of information technology, enabling graduates to make a professional contribution to organizations across sectors.
- Engage in effective critical thinking and problem-solving in the field of information technology.
- Assess the needs of technology users and articulate appropriate strategies for meeting those needs through hardware and software.