Information Technology

Department Information

- **Department Web Site:**
  www.ndsu.edu/cs/ (http://www.ndsu.edu/cs/)
- **Credential Offered:**
  B.S.
- **Official Program Curriculum:**
  catalog.ndsu.edu/undergraduate/program-curriculum/information-technology/ (http://catalog.ndsu.edu/undergraduate/program-curriculum/information-technology/)

Information Technology is rapidly becoming the basis of most aspects of society. Working with practical systems while understanding underlying principles enables confident problem solving in this fast-changing environment. Systems, both cloud and physical systems, and applications together shape the information technology landscape.

THE PROGRAM

The Information Technology program bridges the technical and the theoretical side of computing. It is designed to provide the technical understanding that enables graduates to succeed in a world of rapidly advancing technology. At the same time, it includes the foundational knowledge that grounds applications in principles that remain important over time. System and application technologies are both considered.

CAREER OPPORTUNITIES

Technologists are needed in most businesses. The breadth and practical relevance of the information technology program makes graduates of this program particularly flexible in their choice of career path. The move to cloud technology has softened the historical division between system and applications experts and increased the need for those who have expertise in both areas. Graduates of the Information Technology program are in an excellent position to help advance technological innovation.

HIGH SCHOOL PREPARATION

The program does not explicitly require specific high school preparation. Taking IT, programming, networking or security content can be helpful but is not required. Likewise, it is useful, but not required, to take algebra and trigonometry in high school.

THE FACILITIES

The NDSU computer science department has a 40-seat Linux lab, extensive cloud resources, a cluster of remotely assessable Linux workstations, a number of virtual machines, and Hadoop and Spark analytic systems. Research labs support Windows, Macs, and Linux computers along with various peripheral equipment such as a cyber range, drones, and 3D printers. The department and the University have assumed a leadership role in computer networking through the acquisition and implementation of high-bandwidth network switches. The University also has entered into a six-state consortium for extremely high-level networking in the Upper Midwest. The high-performance Center for Computationally Assisted Science and Technology (CCAST) is available for distributed research projects. We are also a charter member of Internet2 and have connectivity to the national vBNS research network. The department maintains numerous web servers for class assignments and other information, which are accessed by thousands of users each day.

Sample Program Guide

IMPORTANT DISCLAIMER: This guide is not an official curriculum. This guide is a sample four-year degree plan of how students might plan this major with other degree requirements to complete their education in four years.Student plans will vary from this sample due to a variety of factors, such as, but not limited to, start year, education goals, transfer credit, and course availability. To ensure proper degree completion, enrolled students should utilize Degree Map (https://www.ndsu.edu/registrar/degreemap/) and Schedule Planner (https://www.ndsu.edu/onestop/degree-map-and-planning/) in Campus Connection and consult regularly with academic advisors to ensure graduation requirements are being met.

First Year			
Fall	**Credits**	**Spring**	**Credits**
CSCI 105	3	CSCI 177	3
CSCI 159	3	CSCI 228 or 160	3
CSCI 227	3	ENGL 120	3
MATH 105	3	COMM 110	3
ENGL 110	3	Humanities/FA Gen Ed	3
	15		**15**

Second Year				
Fall	**Credits**		**Spring**	**Credits**
CSCI 161		4	CSCI 371	3
CSCI 213		3	CSCI 377	3
CSCI 277		3	STAT 330	3
Humanities/FA Gen Ed and Global Perspectives		3	Social/Behavioral Sci Gen Ed and Cultural Diversity	3
Science/Tech Gen Ed		3	Science/Tech with Lab Gen Ed	4
		16		**16**
Third Year				
Fall	**Credits**		**Spring**	**Credits**
CSCI 222		3	CSCI 313	3
CSCI 312 or 372		3	CSCI 374	3
CSCI 366		3	CSCI 359	3
CSCI 397 or 300		3	ENGL 321	3
CSCI 450		3	Science/Tech Gen Ed	3
		15		**15**
Fourth Year				
Fall	**Credits**		**Spring**	**Credits**
CSCI 305		3	CSCI 445	3
CSCI 474		3	CSCI Tech Elective[1]	3
CSCI 489		3	Gen Ed Wellness	2
CSCI Tech Electives[1]		3	Free Elective	6
Social/Behavioral Sci Gen Ed		3		
		15		**14**

Total Credits: 121

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Tech Electives: CSCI 410 Computer Crime and Forensics, CSCI 422 Fundamentals of Data Engineering, CSCI 473 Foundations of the Digital Enterprise, CSCI 476 Cloud Systems Administration, CSCI 488 Human-Computer Interaction