

# INFORMATION SYSTEMS, MS DATABASE AND INTERNET TECHNOLOGIES SPECIALIZATION

This specialization addresses the growing demand for professionals with technical skills to analyze, design, implement, and manage software applications and digital media for the enterprise and IoT (Internet-of-Things). The program emphasizes experimentation and application of theoretical concepts to real-world scenarios with the goal of creating business value. Students should walk away with the ability to integrate data science concepts and machine learning algorithms to solve business problems. Throughout the course of study, students will acquire knowledge and skills in data modeling and database design, implementation, and programming skills, using both Relational Database Management Systems and NoSQL technologies. Students will also study design and development of distributed software systems that adhere to sound design principles and best practices, including scalable data services architecture and robust security.

## Curriculum

### Core Courses (5 units)

Course	Title
CIS 413-DL/413-0	Telecommunications and Computer Networks
CIS 414-DL	Object Oriented Programming
MSDS 430-DL/430-0	Python for Data Analysis
CIS 417-DL/417-0	Database Systems Design & Implementation
CIS 498-DL/498-0 or CIS 590-DL	Computer Information Systems Capstone Project Capstone Research

### Specialization Courses (6 units)

Course	Title
CIS 419-DL	Web Application Development
CIS 431-DL	Database Administration
CIS 435-DL	Practical Data Science Using Machine Learning
<b>Any three electives</b>	
CIS 436-DL	Data and Digital Platforms
CIS 452-DL/452-0	Cybersecurity Attacks and Counter Measures
CIS 453-DL	Enterprise Security Strategy
CIS 455-DL/455-0	Disaster Recovery and Continuity
CIS 457-DL/457-0	Management of Information Security
CIS 459-DL	Innovation with Blockchain Technology
CIS 460-DL/460-0	Information Technology Management
CIS 465-DL/465-0	Information Technology Strategy
CIS 471-DL	Digital Transformation: Strategy and Planning
CIS 473-DL	Digital Technologies
CIS 475-DL	Leading Digital Transformation Execution
CIS 477-DL	Enterprise Architecture
CIS 495-DL	Enterprise Agility Frameworks
CIS 496-DL	Business Writing and Communication
CIS 497-DL	Information Technology Finance
MSDS 475-DL or CIS 494-DL	Project Management Project Management Concepts

## About the Final Project

Students may pursue their capstone experience independently or as part of a team. As their final course, students take either the individual research project in an independent study format or the classroom final project class in which students integrate the knowledge they have gained in the core curriculum in a project presented by the instructor. In both cases, students are guided by faculty in exploring the body of knowledge on information systems while contributing research of practical value to the field. The capstone independent project and capstone class project count as one unit of credit.

Course	Title
<b>Choose one</b>	
CIS 498-DL/498-0	Computer Information Systems Capstone Project
CIS 590-DL	Capstone Research