

Master of Science: Applied Computer Science

Program Features

- Many graduate classes are offered in the late afternoons and evenings to accommodate the professionally employed students.
- This degree is offered as a full- or part-time degree.
- On-campus or online options available.

Program Description

The Master of Science degree in Applied Computer Science provides an advanced computer science education. This program offers the opportunity to specialize in one of two concentrations.

The database concentration provides a comprehensive approach for detailed study in database, data mining and data warehousing. Students successfully completing this program will have a practical knowledge of the principles and foundations for analysis, design, implementation and administration of large databases.

Students completing the general concentration will possess a broad applied knowledge in computer networking and communications, software engineering and artificial intelligence. They will have skills and practical experience in information technology. These skills will qualify them for professional, technical and managerial positions in education, industry and government.

Admission Criteria

In addition to Frostburg State University's general admission requirements, applicants must have:

1. A bachelor's degree in computer science/information science
OR A bachelor's degree and specified background courses determined by the graduate program coordinator
2. An undergraduate GPA of at least 3.0 on a 4.0 scale for full admission or documented proficiency

Admission to the program is determined by the Graduate Committee of the Department of Computer Science.

For more information:

Office of Graduate Services
301.687.7053
gradservices@frostburg.edu

Coordinator:

Dr. Xinliang Zheng
Department of Computer Science
301.687.3197
xzheng@frostburg.edu

Program Curriculum

	DATABASE	GENERAL
Basic Required Courses	12 credits	12 credits
Core Courses	15 credits	15 credits
Elective Courses	3 credits	3 credits
Total	30 credits	30 credits

Basic Required Courses (12 credits)

COSC 610 Advanced Data Structures and Algorithms

COSC 625 Software Engineering

COSC 630 Web Development and Programming I

COSC 631 Web Development and Programming II

Database Concentration

Core Courses (15 credits)

COSC 640 Database Systems I

COSC 641 Database Systems II

COSC 645 Data Mining

COSC 646 Data Cloud

COSC 647 Information Assurance

Elective in Database Concentration Courses (3 credits)

COSC 591 Seminar in Computer Science

COSC 594 Field Experience in Computer Science

COSC 599 Individual Problem Solving

COSC 602 Advanced Programming Concepts

COSC 690 Special Topics in Database Systems

COSC 691 Special Topics in Data Analytic Instruments

COSC 700 Master Research Paper or Project

General Concentration

Core Courses (15 credits)

COSC 620 Security in Computing

COSC 635 Networking and Data Communications I

COSC 636 Networking and Data Communications II

COSC 640 Database Systems I

COSC 641 Database Systems II

General Elective Courses (3 credits)

- COSC 550 Programming Language Structures
- COSC 555 Artificial Intelligence
- COSC 565 Computer Systems Architecture
- COSC 570 Compiler Designs and Constructions
- COSC 575 Interactive Computer Graphics
- COSC 580 Knowledge-Based Information Systems
- COSC 585 Theory of Computation
- COSC 591 Seminar in Computer Science
- COSC 594 Field Experience in Computer Science
- COSC 599 Individual Problems in Computer Science
- COSC 602 Advanced Programming Concepts
- COSC 700 Master's Research Paper or Project

Academic Advising

Upon admission to the program, each student will be assigned an academic advisor. The student must meet with the advisor to devise a plan of study.