

Master of Science in Applied Computer Science

- 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.

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 department Graduate Committee.
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.

Program Requirements

	CONCENTRATION	
	DATABASE	GENERAL
Basic Required Courses	9	9
Core Courses	12	18
Elective Courses in Concentration	6	—
General Elective Courses	3	3
Total	30	30

Basic Required Courses: 9 credits

COSC 610 Advanced Object-Oriented Data Structures and File Organization
COSC 620 Security in Computing
COSC 625 Advanced Software Engineering

Database Concentration

Core Courses: 12 credits

COSC 640 Database Management Systems I
COSC 641 Database Management Systems II
COSC 645 Data Mining
COSC 646 Data Warehousing

Elective in Concentration Courses: Two in concentration; 6 credits

COSC 647 Database Security
COSC 649 Database Administration
COSC 690 Special Topics in Database Management Systems.
COSC 691 Special Topics in Data Mining and Data Warehousing

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General Elective Courses: 3 credits

COSC 520 Robotics and Computer Control
COSC 550 Programming Language Structures
COSC 555 Artificial Intelligence
COSC 560 Operating Systems Concepts
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 599 Individual Problems in Computer Science
COSC 700 Master Research Paper or Project

General Concentration**Core Courses: 18 credits**

COSC 630 Web Development and Programming I
COSC 631 Web Development and Programming II
COSC 635 Networking and Data Communications I
COSC 636 Networking and Data Communications II
COSC 640 Database Management Systems I
COSC 641 Database Management 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 599 Individual Problems in Computer Science
COSC 700 Master 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 work.