

DATABASE SYSTEMS CERTIFICATE

Total Credits: 20

Catalog Edition: 2024-2025

Program Description

This certificate curriculum provides training, skills, and knowledge that prepare students for employment as entry-level database programmers and designers, or provides current professionals with essential database programming and design skills. Students will create and manipulate Microsoft Access and web databases as well as write database user interfaces in the Visual Basic.Net environment.

This program can be completed either on campus or online.

Program Outcomes

Upon completion of this program, a student will be able to:

- Describe the advantages, disadvantages, and appropriate uses of various database management systems (DBMS).
- Design a database system based on user requirements.
- Create entity-relationship diagrams that accurately describe a database structure.
- Demonstrate, explain, and successfully utilize basic database concepts such as primary and foreign keys, normalizing, bridge tables, alternate primary keys, and strong versus weak entities.
- Create a database system that successfully fulfills an organization's data requirements.

Program Advisors

Collegewide Coordinator

- Prof. Linda Fontaine
240-567-4005
Linda.Fontaine@montgomerycollege.edu

Germantown

- Prof. Terri Maradei
240-567-1967
Terri.Maradei@montgomerycollege.edu

Rockville and Takoma Park/Silver Spring

- Prof. Karen Penn De Martinez
240-567-8544
Karen.PennDeMartinez@montgomerycollege.edu

For more information, please visit <https://www.montgomerycollege.edu/academics/programs/computer-applications/database-systems-certificate.html>

To view the Advising Worksheet, please visit <https://www.montgomerycollege.edu/documents/counseling-and-advising/advising-worksheets/current-catalog/238.pdf>

2024-2025

Program Advising Guide

An Academic Reference Tool for Students

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Program Requirements

A suggested course sequence for full-time students follows. All students should review this advising guide and consult an advisor.

Program Requirements

CMAP 245 - Database Applications *3 semester hours*

CMSC 140 - Introduction to Programming *3 semester hours*

CMSC 222 - Visual Programming *3 semester hours*

TECH 272 - Website Development *4 semester hours*

TECH 278 - Web Application Development Using
ColdFusion *4 semester hours*

TECH 282 - Web Application Development Using PHP and
MySQL *3 semester hours*

OR

TECH 288 - Advanced Web Application Development
Using ColdFusion *3 semester hours*

Total Credit Hours: 20

This program can be completed either on campus or online.

Transfer Opportunities

Montgomery College has partnerships with multiple four-year institutions and the tools to help you transfer. To learn more, please visit <https://www.montgomerycollege.edu/transfer> or <http://artsys.usmd.edu>.

Get Involved at MC!

Employers and Transfer Institutions are looking for experience outside the classroom.

MC Student Clubs and Organizations: <https://www.montgomerycollege.edu/life-at-mc/student-life/>

Related Careers

Some require a Bachelor's degree.

Database Administrator, Database Design Analyst, Database Manager, Database Architect.

Career Services

Montgomery College offers a range of services to students and alumni to support the career planning process. To learn more, please visit <https://www.montgomerycollege.edu/career>

Career Coach

A valuable online search tool that will give you the opportunity to explore hundreds of potential careers or job possibilities in Maryland and the Washington D.C. metropolitan area. Get started today on your road to a new future and give it a try. For more information, please visit <https://montgomerycollege.emsicc.com>

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