

## DATABASE SYSTEMS CERTIFICATE: 238

Total Credits: 20

Catalog Edition: 2022-2023

### 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 Microsoft Access and web database applications as well as write database user interfaces in the Visual Basic.Net environment.

### 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.
- Understand and successfully utilize basic database design 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  
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#### Germantown

- Prof. Terri Maradei  
240-567-1967  
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#### Rockville and Takoma Park/Silver Spring

- Prof. Karen Penn De Martinez  
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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>

Students can go to the [Advisor Listing BEACAHMPS Handout](#) to find their assigned faculty advisor or remain with the faculty advisor they already have.

\* Faculty Advisors are provided to help students with specific academic program questions such as courses to take, career advice, etc.; while Montgomery College counselors respond to questions outside the BEACAHMPS program such as financial aid, scholarships, tuition fees, etc. Please visit <https://appserv3.montgomerycollege.edu/acalog/working/program-advising-guides/006.pdf> to see the BEACAHMPS faculty advisor assigned to you. Students may retain their faculty advisor from last year if they choose or change their advisor if they change their study program. Please contact the BECAHMPS college chair Dr. Maurice Shihadi at [maurice.shihadi@montgomerycollege.edu](mailto:maurice.shihadi@montgomerycollege.edu) if you have any questions.

2022-2023

# 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**

## 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>

## Notes: