

**COMPUTER APPLICATIONS  
Database Systems Certificate: 238  
Total Credits: 26  
Catalog Edition: 2017-18**

**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.

**Related Careers:**

- Database Administrator, Database Design Analyst; Database Manager, Database Architect
- To see more check out [Career Coach](#).

**Get Involved at MC!**

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

[Student Clubs and Organizations](#)

[Career Services](#)

[Student Life](#)

[Online Advising/Counseling](#)

**Computer/Technology Articulation Agreements:**

Click [here](#) to view CMAP articulations.

- The Catholic University of America
- Bachelor of Arts in Individualized Study
- Bachelor of Arts in Information Technology
- Excelsior College – [Technology Mgmt.](#)
- Strayer University – [Information Technology](#)
- UMUC – [Digital Media & Web Technology](#)
- UMUC – [Information Systems Mgmt.](#)

**Advising Resources:**

*Program Advisors*

*Linda Fontaine (Collegewide Coordinator)*  
[Linda.Fontaine@montgomerycollege.edu](mailto:Linda.Fontaine@montgomerycollege.edu)

*Terri Maradei (Germantown)*  
[Terri.Maradei@montgomerycollege.edu](mailto:Terri.Maradei@montgomerycollege.edu)

*Karen Penn De Martinez (RV and TPSS)*  
[Karen.PennDeMartinez@montgomerycollege.edu](mailto:Karen.PennDeMartinez@montgomerycollege.edu)

**Program Website:**

Computer Applications Program  
<http://cms.montgomerycollege.edu/cmap>

2017-2018

# Program Advising Guide

An Academic Reference Tool for Students

## Suggested Education Plan: *Database Systems Certificate: 238 (26 Credits)*

Name:	Mnumber (Student ID):	Date:
Semester/Year Started:	Declared Major:	
Education Goals:	Advisor:	

### Database Systems Certificate

Semester - One	Cr	Two	Cr
<b>Total Credits Semester - Three</b>	<b>Total Credits</b>		
<b>Total Credits</b>			

## Sample Plan for Database Systems Certificate (238)

*Total Credits: 26*

### Database Systems Certificate

Semester - One	Cr	Two	Cr
CMAP 106 Computer Literacy	3	CMAP 245 Advanced Database Applications	3
CMAP 242 Introduction to Database Applications	3	CMSC 140 Introduction to Programming	3
TECH (CMAP) 272 Professional Website Development	4	TECH (CMAP) 278 Web Application Development Using Cold Fusion	4
<b>Total Credits</b>	<b>10</b>	<b>Total Credits</b>	<b>10</b>
Semester - Three		Cr	
CMSC 222 Visual Programming	3		
TECH(CMAP) 282 Web Application Development Using PHP and MySQL <i>OR</i> TECH (CMAP) 288 Advanced Web Applications	3		
<b>Total Credits</b>	<b>6</b>		

Additional Advising Notes:

# DATABASE SYSTEMS CERTIFICATE: 238

Total Credits: 26  
Catalog Editions 15-16 through 18-19

Name:

Date:

ID #:

CERTIFICATE REQUIREMENTS	Course	Hours	Grade
	CA 106/ <b>CMAP 106</b>	3	
	CA 141/ <b>CMAP 242</b>	3	
	CA 240/ <b>CMAP 245</b>	3	
	CS 140/ <b>CMSC 140</b>	3	
	CS 215/ <b>CMSC 222</b>	3	
	CA 272/CMAP 272/ <b>TECH 272</b>	4	
	CA 278/CMAP 278/ <b>TECH 278</b>	4	
CA 282/CMAP 282/ <b>TECH 282</b> or CA 288/CMAP 288/ <b>TECH 288</b>		3	

**Overall GPA of 2.0 is required to graduate**

Total Credits:

*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.*

[Computer Applications Web Page](#)

Last Modified: June 2018

*Students will create Microsoft Access and web database applications as well as write database user interfaces in the Visual Basic.Net environment.*

Advising Worksheet Contact: [Anthony Solano](#)

See an [advisor](#) to submit an [Application for Graduation](#) the semester BEFORE you intend to graduate.

***This UNOFFICIAL document is for planning purposes ONLY and completion does not guarantee graduation.***

*This certificate is a career program and may not readily transfer to four year colleges/universities (except in special cases.) Visit [transfer planning](#) for more information.*