MATHEMATICS, SCIENCE
ASSOCIATE OF SCIENCE: 412B
Total Credits: 60
Catalog Edition: 2018-2019

Program Description

The mathematics track is a transfer program that provides the first two years of courses necessary for a four-year baccalaureate degree in mathematics.

Program Outcomes

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

• Effectively communicate the concepts of single and multivariable calculus, differential equations, and linear algebra using appropriate mathematical language.

• Apply mathematical approaches from single and/or multivariable calculus, differential equations, and linear algebra to analyze and solve problems in mathematics and other disciplines.

• Appropriately use current mathematical software, such as Matlab or MAPLE, for tasks in multivariable calculus, differential equations, and/or linear algebra.

Program Advisors

Germantown
• **Dr. David Torain**
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Rockville
• **Dr. Julie Rogers**
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• **Prof. Kimberly Fouche**
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For more information, please visit:
https://cms.montgomerycollege.edu/mathematics/programsandadvising/

2018-2019

Program Advising Guide

An Academic Reference Tool for Students

412B

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Suggested Course Sequence

A suggested course sequence for full-time students follows. All students should review this advising worksheet and consult an advisor. Visit https://cms.montgomerycollege.edu/mathematics/programsandadvising/ for more information on transfer requirements and suggested course sequences for specific universities and colleges.

First Semester

- ENGL 101 – Introduction to College Writing
  *3 semester hours ***

- MATH 181 – Calculus I
  4 semester hours (MATF)

- Arts distribution
  3 semester hours (ARTD)

- Behavioral and social sciences distribution
  3 semester hours (BSSD) **

- Humanities distribution
  3 semester hours (HUMD)

Second Semester

- MATH 182 – Calculus II
  4 semester hours

- Track electives
  4 semester hours †

- English foundation
  3 semester hours (ENGF)

- Natural sciences distribution with lab
  4 semester hours (NSLD) ‡

Third Semester

- MATH 117 – Elements of Statistics
  OR COMM 108 – Foundations of Human Communication
  OR COMM 112 – Business and Professional Speech Communication
  OR General education elective
  3 semester hours (GEEL)

- MATH 280 – Multivariable Calculus
  4 semester hours

- Natural sciences distribution with lab
  4 semester hours (NSLD) ‡

- Track electives
  4 semester hours †

Fourth Semester

Note: Apply for the College's graduation after registering for fourth semester courses.

- MATH 282 – Differential Equations
  3 semester hours

- MATH 284 – Linear Algebra
  4 semester hours

- Track electives
  4 semester hours †

- Behavioral and social sciences distribution
  3 semester hours (BSSD) **

Total Credit Hours: 60

* ENGL 101/ENGL 101A, if needed for ENGL 102/ENGL 103, or program elective.

** Behavioral and Social Science Distribution (BSSD) courses must come from different disciplines.

‡ Students are strongly encouraged to take two consecutive lab sciences courses.

† Students should choose electives carefully based on the requirements of their intended transfer institution. Students are encouraged to take a two-semester sequence of courses that fulfills their transfer goals. Track Electives include: ACCT 221, ACCT 222, BIOL 150, BIOL 151, BIOL 210, CHEM 131, CHEM 132, CHEM 203, CHEM 204, CMSC 140, CMSC 203, COMM 108, ECON 201, ECON 202, ENEE 140, ENES 102, ENES 220, ENES 221, ENES 240, MATH 165, PHYS 161, PHYS 233, PHYS 234, PHYS 262, or PHYS 263. Students must take at least one 200 level track elective.

MATHEMATICS A.S.: 412B

Total Credits: 60
Catalog Editions 17-18 through 18-19

Name: **Date:**   **ID #:**

GENERAL EDUCATION: FOUNDATION COURSES	Course	Hours	Grade
English Foundation (EN 102/ENGL 102 or EN 109/ENGL 103)		3	
Math Foundation	MA 181/**MATH 181**	4	

GENERAL EDUCATION: DISTRIBUTION COURSES	Course	Hours	Grade
Arts Distribution (ARTD)			
Humanities Distribution (HUMD)			
Behavioral & Social Sciences Distribution (BSSD) **		3	
Behavioral & Social Sciences Distribution (BSSD) **		3	
Natural Sciences Distribution with Lab (NSLD) ‡		4	
Natural Sciences Distribution with Lab (NSLD) ‡		4	
General Education Elective (GEEL)		3	

PROGRAM REQUIREMENTS	Course	Hours	Grade
ENGL 101 or ENGL 101A (if needed for ENGL102/103 or Program Elective)*		3	
	MA 182/**MATH 182**	4	
	MA 280/**MATH 280**	4	
	MA 282/**MATH 282**	3	
	MA 284/**MATH 284**	4	
PROGRAM ELECTIVES †(SELECT 12 CREDIT HOURS FROM THE FOLLOWING			
COURSES (Students must take at least one 200 level track elective): AC 201/**ACCT 221**,			
AC 202/**ACCT 222**, BI 107/**BIOL 150**, BI 108/**BIOL 151**, BI 203/**BIOL 210**,			
CH 101/**CHEM 131**, CH 102/**CHEM 132**, CH 203/**CHEM 203**, CH 204/**CHEM 204**,			
CS 140/**CMSC 140**, CS 103/**CMSC 203**, SP 108/**COMM 108**,			
ENES 206/**MATH 206**, EC 201/**ECON 201**, EC 202/**ECON 202**, EE 140/**ENEE 140**,			
CMSC 207/**MATH 207**, ES 102/**ENES 102**, ES 220/**ENES 220**, ES 221/**ENES 221**,			
ES 240/**ENES 240**, MA 165/**MATH 165**, PH 161/**PHYS 161**, **PHYS 233**,			
PHYS 234, PH 262/**PHYS 262**, or PH 263/**PHYS 263**			

Overall GPA of 2.0 is required to graduate

Has student completed the Global Perspectives requirement?   ☐ Yes   ☐ No

Total Credits: ☐

Global Perspectives Course: ☐

Has student completed at least one 200 level track elective for completion of the program?   ☐ Yes   ☐ No

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Last Modified: July 2018

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See an advisor to submit an Application for Graduation the semester BEFORE you intend to graduate.

Advising Worksheet
Contact: Anthony Solano

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

Transfer Opportunities

Montgomery College has partnerships with multiple four-year institutions and the tools to help you transfer. To learn more please visit: http://cms.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 & Organizations

https://cms.montgomerycollege.edu/edu/plain.aspx?id=2439

Related Careers

As described by the University of Houston's Math Department, Mathematics prepares you for a career in a diverse range of areas, and as science and technology become integrated into more and more aspects of our lives, employers are clamoring for employees with mathematical skills and problem-solving abilities. Some careers that a math major is especially good preparation for are the following:

Jobs in Industry or the Private Sector. There are numerous jobs in the private sector that desperately need math majors. These areas include: Actuarial Science, Computer Analyst or programmer, Economist, Engineering Analyst, Information Scientist, Marketing Research Analyst, Mathematician, Meteorologist, Numeral Analyst, Operations Research, Statistician, and Systems Analyst.

Government Jobs. There are a variety of government positions that require a mathematics degree. In particular, the National Security Agency (NSA) is the largest employer of mathematicians whose skills are useful to help create and break codes, analyze intelligence data, and perform signal analysis. They hire people with a variety of technical degrees at all levels (undergraduate and graduate).

Mathematics Teacher, Mathematics Professor, or Professional Mathematician. These are perhaps the most obvious careers that a math major can pursue. If you want to be a mathematics professor or a professional mathematician, you will need to go to graduate school in mathematics.

Career Services

http://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. Visit the website listed below: https://montgomerycollege.emsicareercoach.com

Notes:

Visit https://cms.montgomerycollege.edu/mathematics/programsandadvising/ for more information on transfer requirements and suggested course sequences for specific universities and colleges.

MC MONTGOMERY COLLEGE
MAKE YOUR MOVE