

# AS Science, Mathematics Concentration

## Supporting Course Sequence: Engineering

### MONTGOMERY COLLEGE

Semester 1		Total Credits	16
MATH 181	Calculus I <sup>1</sup>	4	
ENGL 102	Critical Reading, Writing & Research <sup>1</sup>	3	
CMSC 140	Intro. to Programming <sup>2</sup>	3	
	Gen. Ed. Distribution Course - ARTD <sup>3</sup>	3	
	Gen. Ed. Distribution Course - BSSD <sup>3 4</sup>	3	

Semester 2		Total Credits	16
MATH 182	Calculus II	4	
PHYS 161	Physics I	3	
COMM 108 OR COMM 112	Foundations of Human Communication/Business & Professional Speech Communication	3	
	Gen. Ed. Distribution Course - BSSD <sup>3 4</sup>	3	
	Gen. Ed. Distribution Course - HUMD <sup>3</sup>	3	

Semester 3		Total Credits	15
MATH 280	Multivariable Calculus	4	
MATH 284	Linear Algebra	4	
ENES 102	Statics	3	
	Gen. Ed. Distribution Course - NSLD <sup>3 5</sup>	4	

Semester 4		Total Credits	14
MATH 282	Differential Equations	3	
ENES 221	Dynamics	3	
CMSC 207	Intro to Discrete Structures <sup>6</sup>	4	
	Gen. Ed. Distribution Course - NSLD <sup>3 5</sup>	4	

### [MC AS Mathematics Requirements](#)

### UNIVERSITY of MARYLAND

Semester 1		Total Credits	16-17
MATH 140	Calculus I	4	
ENGL 101	Intro. to Writing	3	
	Programming Requirement <sup>2</sup>	3-4	
	Gen. Ed. Requirements <sup>3</sup>	3	
	Gen. Ed. Requirements <sup>3</sup>	3	

Semester 2		Total Credits	16
MATH 141	Calculus II	4	
PHYS 161	Physics I	3	
COMM 107	Oral Communication: Principles and Practices	3	
	Gen. Ed. Requirements <sup>3</sup>	3	
	Gen. Ed. Requirements <sup>3</sup>	3	

Semester 3		Total Credits	15
MATH 241	Calculus III	4	
MATH 240	Intro. to Linear Algebra	4	
ENES 102	Mechanics I	3	
	Gen. Ed. Requirements <sup>3</sup>	4	

Semester 4		Total Credits	14
MATH 246	Differential Equations	3	
ENES 220	Mechanics II	3	
CMSC 250	Discrete Structures <sup>6</sup>	4	
	Gen. Ed. Requirements <sup>3</sup>	4	

### [UMCP BS Mathematics Requirements](#)

<sup>1</sup>Many students start at MC missing one or more pre-requisites for MATH 181 and ENGL 102. The pre-requisite for MATH 181 is MATH 165. The pre-requisite for ENGL 102 is ENGL 101 or ENGL 101A. For placement information visit the [Assessment Center link](#).

<sup>2</sup>CMSC 140 does not have an equivalent course at UMCP, but will transfer as a lower level elective and will satisfy the math major programming requirement at UMCP.

<sup>3</sup>Earning an AS degree at MC guarantees that the General Education requirements at UMCP are considered complete. Students who do not transfer with a degree or do not at least complete the General Education requirements at MC can find information about the General Education requirements at UMCP, using the [UMCP Gen Ed link](#).

<sup>4</sup>Behavioral and Social Science Distribution (BSSD) courses must come from different disciplines.

<sup>5</sup>Students are strongly encouraged to take two consecutive lab science courses.

<sup>6</sup>CMSC 207 is not required, but is highly recommended.

Other notes: Students are required to select at least one course with a global and cultural perspectives designation in order to satisfy the Gen. Ed. Global Perspectives requirement. See an advisor to submit an application for graduation the semester BEFORE you intend to graduate.

# AS Science, Mathematics Concentration

## Supporting Course Sequence: Engineering

### MONTGOMERY COLLEGE

Semester 1		Total Credits	10
MATH 181	Calculus I <sup>1</sup>	4	
ENGL 102	Critical Reading, Writing & Research <sup>1</sup>	3	
	Gen. Ed. Distribution Course - ARTD <sup>3</sup>	3	

Semester 2		Total Credits	10
MATH 182	Calculus II	4	
CMSC 140	Intro. to Programming <sup>2</sup>	3	
	Gen. Ed. Distribution Course - BSSD <sup>3 4</sup>	3	

Semester 3		Total Credits	10
MATH 280	Multivariable Calculus	4	
COMM 108 OR COMM 112	Foundations of Human Communication/Business & Professional Speech Communication	3	
	Gen. Ed. Distribution Course - BSSD <sup>3 4</sup>	3	

Semester 4		Total Credits	10
MATH 284	Linear Algebra	4	
PHYS 161	Physics I	3	
	Gen. Ed. Distribution Course - HUMD <sup>3</sup>	3	

Semester 5		Total Credits	10
MATH 282	Differential Equations	3	
ENES 102	Statics	3	
	Gen. Ed. Distribution Course - NSLD <sup>3 5</sup>	4	

Semester 6		Total Credits	11
CMSC 207	Intro to Discrete Structures <sup>6</sup>	4	
ENES 221	Dynamics	3	
	Gen. Ed. Distribution Course - NSLD <sup>3 5</sup>	4	

### UNIVERSITY of MARYLAND

Semester 1		Total Credits	10
MATH 140	Calculus I	4	
ENGL 101	Intro. to Writing	3	
	Gen. Ed. Requirements <sup>3</sup>	3	

Semester 2		Total Credits	10-11
MATH 141	Calculus II	4	
	Programming Requirement <sup>2</sup>	3-4	
	Gen. Ed. Requirements <sup>3</sup>	3	

Semester 3		Total Credits	10
MATH 241	Calculus III	4	
COMM 107	Oral Communication: Principles and Practices	3	
	Gen. Ed. Requirements <sup>3</sup>	3	

Semester 4		Total Credits	10
MATH 240	Intro. to Linear Algebra	4	
PHYS 161	Physics I	3	
	Gen. Ed. Requirements <sup>3</sup>	3	

Semester 5		Total Credits	10
MATH 246	Differential Equations	3	
ENES 102	Mechanics I	3	
	Gen. Ed. Requirements <sup>3</sup>	4	

Semester 6		Total Credits	11
CMSC 250	Discrete Structures <sup>6</sup>	4	
ENES 220	Mechanics II	3	
	Gen. Ed. Requirements <sup>3</sup>	4	

### [MC AS Mathematics Requirements](#)

### [UMCP BS Mathematics Requirements](#)

<sup>1</sup>Many students start at MC missing one or more pre-requisites for MATH 181 and ENGL 102. The pre-requisite for MATH 181 is MATH 165. The pre-requisite for ENGL 102 is ENGL 101 or ENGL 101A. For placement information visit the [Assessment Center link](#).

<sup>2</sup>CMSC 140 does not have an equivalent course at UMCP, but will transfer as a lower level elective and will satisfy the math major programming requirement at UMCP.

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