

# AS Science, Mathematics Concentration

## Supporting Course Sequence: Chemistry

### MONTGOMERY COLLEGE

Semester 1		Total Credits	14
MATH 181	Calculus I <sup>1</sup>	4	
ENGL 102	Critical Reading, Writing & Research <sup>1</sup>	3	
CHEM 131	Principles of Chemistry I	4	
	Gen. Ed. Distribution Course - ARTD <sup>2</sup>	3	

Semester 2		Total Credits	17
MATH 182	Calculus II	4	
CHEM 132	Principles of Chemistry II <sup>3</sup>	4	
COMM 108 OR COMM 112	Foundations of Human Communication/Business & Professional Speech Communication	3	
CMSC 140	Intro. to Programming <sup>4</sup>	3	
	Gen. Ed. Distribution Course - BSSD <sup>2 5</sup>	3	

Semester 3		Total Credits	16
MATH 280	Multivariable Calculus	4	
MATH 284	Linear Algebra	4	
CHEM 203	Organic Chemistry I	5	
	Gen. Ed. Distribution Course - HUMD <sup>2</sup>	3	

Semester 4		Total Credits	15
MATH 282	Differential Equations	3	
CHEM 204	Organic Chemistry II	5	
CMSC 207	Intro to Discrete Structures <sup>6</sup>	4	
	Gen. Ed. Distribution Course - BSSD <sup>2 5</sup>	3	

### UNIVERSITY of MARYLAND

Semester 1		Total Credits	14
MATH 140	Calculus I	4	
ENGL 101	Intro. to Writing	3	
CHEM 131/2	Chem. I – Fund. of Gen. Chem./Lab	4	
	Gen. Ed. Requirements <sup>2</sup>	3	

Semester 2		Total Credits	16-17
MATH 141	Calculus II	4	
	Elective	3	
COMM 107	Oral Communication: Principles and Practices	3	
	Programming Requirement <sup>4</sup>	3-4	
	Gen. Ed. Requirements <sup>2</sup>	3	

Semester 3		Total Credits	15
MATH 241	Calculus III	4	
MATH 240	Intro. to Linear Algebra	4	
CHEM 231/2	Organic Chemistry I/Lab	4	
	Gen. Ed. Requirements <sup>2</sup>	3	

Semester 4		Total Credits	14
MATH 246	Differential Equations	3	
CHEM 241/2	Organic Chemistry II/Lab	4	
CMSC 250	Discrete Structures <sup>6</sup>	4	
	Gen. Ed. Requirements <sup>2</sup>	3	

### [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>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>3</sup>MC's CHEM 132 (4 credits) will transfer only as UMCP's CHEM 271 (2 credits), and not also as the lab portion, CHEM 272 (2 credits). UMCP's CHEM 271/2 is not required in the math major chemistry supporting course sequence at UMCP (and is not a prerequisite for CHEM 231/2 or CHEM 241/2). But, at MC, CHEM 132 is a prerequisite for CHEM 203 so it is included.

<sup>4</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>5</sup>Behavioral and Social Science Distribution (BSSD) courses must come from different disciplines.

<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: Chemistry

### 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>2</sup>	3	

Semester 2		Total Credits	10
MATH 182	Calculus II	4	
CMSC 140	Intro. to Programming <sup>4</sup>	3	
	Gen. Ed. Distribution Course - BSSD <sup>2 5</sup>	3	

Semester 3		Total Credits	11
MATH 280	Multivariable Calculus	4	
CHEM 131	Principles of Chemistry I	4	
COMM 108 OR COMM 112	Foundations of Human Communication/Business & Professional Speech Communication	3	

Semester 4		Total Credits	11
MATH 284	Linear Algebra	4	
CHEM 132	Principles of Chemistry II <sup>3</sup>	4	
	Gen. Ed. Distribution Course - HUMD <sup>2</sup>	3	

Semester 5		Total Credits	11
MATH 282	Differential Equations	3	
CHEM 203	Organic Chemistry I	5	
	Gen. Ed. Distribution Course - BSSD <sup>2 5</sup>	3	

Semester 6		Total Credits	9
CMSC 207	Intro to Discrete Structures <sup>6</sup>	4	
CHEM 204	Organic Chemistry II	5	

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

### UNIVERSITY of MARYLAND

Semester 1		Total Credits	10
MATH 140	Calculus I	4	
ENGL 101	Intro. to Writing	3	
	Gen. Ed. Requirements <sup>2</sup>	3	

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

Semester 3		Total Credits	11
MATH 241	Calculus III	4	
CHEM 131/2	Chem. I – Fund. of Gen. Chem./Lab	4	
COMM 107	Oral Communication: Principles and Practices	3	

Semester 4		Total Credits	10
MATH 240	Intro. to Linear Algebra	4	
	Elective	3	
	Gen. Ed. Requirements <sup>2</sup>	3	

Semester 5		Total Credits	10
MATH 246	Differential Equations	3	
CHEM 231/2	Organic Chemistry I/Lab	4	
	Gen. Ed. Requirements <sup>2</sup>	3	

Semester 6		Total Credits	8
CMSC 250	Discrete Structures <sup>6</sup>	4	
CHEM 241/2	Organic Chemistry II/Lab	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>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>3</sup>MC's CHEM 132 (4 credits) will transfer only as UMCP's CHEM 271 (2 credits), and not also as the lab portion, CHEM 272 (2 credits). UMCP's CHEM 271/2 is not required in the math major chemistry supporting course sequence at UMCP (and is not a prerequisite for CHEM 231/2 or CHEM 241/2). But, at MC, CHEM 132 is a prerequisite for CHEM 203 so it is included.

<sup>4</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>5</sup>Behavioral and Social Science Distribution (BSSD) courses must come from different disciplines.

<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.

Last Modified: Jan 2018