

CHEMISTRY AND BIOCHEMISTRY ASSOCIATE OF SCIENCE: 412D

Total Credits: 60

Catalog Edition: 2015-16

Program Description

The chemistry and biochemistry program is designed to provide the first two years of courses necessary to obtain a chemistry or biochemistry baccalaureate degree from a four-year college or university. In addition to general and organic chemistry knowledge, students will be trained in data collection and analysis, and scientific communication.

Through the laboratory portion of the program, students will reinforce their understanding and application of the theory learned in class, develop laboratory skills and techniques, and formulate conclusions based on observations. Students are strongly encouraged to work with an adviser in course selection as transfer requirements between four-year institutions may differ.

Program Outcomes

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

- Apply knowledge of general and organic chemistry to analyze data, draw conclusions, and solve problems.
- Apply safe practices to execute laboratory techniques and use appropriate equipment and instrumentation to carry out experimental procedures.

Program Outcomes (*continued*)

- Access scientific information using basic scientific references and literature and evaluate technical information critically.
- Communicate in an ethical, clear and organized manner, scientific concepts, experimental results, and properly cited reference material.
- Work effectively in groups, as leaders or team members, to solve problems and interact productively with a diverse group of peers.
- Apply knowledge of general and organic chemistry to analyze data, draw conclusions, and solve problems.

Program Advising

Rockville

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For more information please visit:

www.montgomerycollege.edu/advising

or

[GT STEP Advising](http://www.montgomerycollege.edu/EDU/Department4.aspx?id=67267)

(<http://cms.montgomerycollege.edu/EDU/Department4.aspx?id=67267>)

2015-2016

Program Advising Guide

An Academic Reference Tool for Students

412D

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Suggested Course Sequence

A suggested course sequence for full-time students follows. All students should review this advising guide and consult an advisor.

First Semester

CHEM 131 - Principles of Chemistry I

4 semester hours (NSLD)

ENGL 101 - Introduction to College Writing

*3 semester hours **

MATH 181 - Calculus I

4 semester hours (MATF)

Health foundation

1 semester hour (HLTF)

Speech foundation

3 semester hours (SPCF)

Second Semester

BIOL 150 - Principles of Biology I

4 semester hours

CHEM 132 - Principles of Chemistry II

4 semester hours (NSLD)

ENGL 102 - Critical Reading, Writing, and

Research

3 semester hours (ENGF)

MATH 182 - Calculus II

4 semester hours

Third Semester

CHEM 203 - Organic Chemistry I

5 semester hours

PHYS 161 - General Physics I:

Mechanics and Heat

3 semester hours

Arts distribution

3 semester hours (ARTD)

Behavioral and social sciences distribution

*3 semester hours (BSSD) ***

Mathematics or science program elective

1 semester hour

Fourth Semester

CHEM 204 - Organic Chemistry II

5 semester hours

PHYS 262 - General Physics II:

Electricity and Magnetism

4 semester hours

Behavioral and social sciences distribution

*3 semester hours (BSSD) ***

Humanities distribution

3 semester hours (HUMD)

Total Credit Hours: 60

Advising Notes

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

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

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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	
Speech Foundation (SP 108/COMM 108 or SP 112/COMM 112)		3	
Health Foundation HLHF (Choose HLTH 100 - HLTH 230)			

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)	CH 101/ CHEM 131	4	
Natural Sciences Distribution with Lab (NSLD)	CH 102/ CHEM 132	4	

PROGRAM REQUIREMENTS	Course	Hours	Grade
EN 101/ENGL 101 (if needed for ENGL 102/103 or general elective if not)			
(only if needed for MA 181/ MATH 181)	MA 180/ MATH 165	(4)	
	MA 182/ MATH 182	4	
	BI 107/ BIOL 150	4	
	CH 203/ CHEM 203	5	
	CH 204/ CHEM 204	5	
	PH 161/ PHYS 161	3	
	PH 262/ PHYS 262	4	
MATHEMATICS and SCIENCE PROGRAM ELECTIVE			

Has student completed the Global Perspectives requirement? Yes No

Overall GPA of 2.0 is required to graduate

Total Credits:

Global Perspectives Course:

* The two behavioral and social sciences courses MUST be in different disciplines

Last Modified: August 2015

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.

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/EDU/Plain.aspx?id=62341> or artsys.usmd.edu

Get Involved at MC!

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

MC Student Clubs and Organizations

<http://cms.montgomerycollege.edu/edu/plain.aspx?id=2439>

Related Careers

Some require a Bachelor's degree.

[Food Scientist and Technologist](#), [Chemical Technician](#), [Medical and Clinical Laboratory Technologist](#), [Geological Sample Test Technician](#), [Chemist](#), [Materials Scientist](#), [Biochemist and Biophysicist](#), [Chemical Engineer](#), [Biochemical Engineer](#), [Chemistry Teacher](#), [Postsecondary](#)

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:



Montgomery College

endless possibilities

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