

## **BIOLOGICAL SCIENCE AREA OF CONCENTRATION, SCIENCE AS: 412F**

**Total Credits: 60**

**Catalog Edition: 2021-2022**

### **Program Description**

The biological science area of concentration in one of the life sciences. Working closely with a counselor or advisor, students will be able to tailor their program of study to fit the needs of most, if not all, colleges and universities offering a degree in biology or the biological sciences. Also, students planning to transfer to a four-year institution prior to attending medical, dental, veterinary, physical therapy, podiatry, or chiropractic school will find all or most of the prerequisite courses needed for admission to these professional schools. Finally, students planning to transfer to pharmacy, medical technology, or optometry school programs that accept students after two years of undergraduate education will find all the courses needed for admission into these programs.

Students are strongly advised to work closely with a biology or chemistry faculty member or an academic transfer counselor in order to select courses that will prevent or minimize the loss of credits upon transfer.

### **Program Outcomes**

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

- Identify, describe, and explain basic biological concepts
- Use an interdisciplinary approach to explain and solve life science concepts (from knowledge learned in biological, chemical, and physical sciences and mathematics).
- Utilize the scientific method to analyze problems in the life sciences.

### **Program Advisors**

#### **Germantown**

- Prof. Kiersten Newtoff, 240-567-1852,  
[Kiersten.Newtoff@montgomerycollege.edu](mailto:Kiersten.Newtoff@montgomerycollege.edu)

#### **Rockville**

- Dr. Antonio Del Castillo-Olivares, 240-567-5406,  
[Antonio.Delcastilloolivares@montgomerycollege.edu](mailto:Antonio.Delcastilloolivares@montgomerycollege.edu)

#### **Takoma Park/Silver Spring**

- Prof. Sean Cooney, 240-567-1425,  
[Sean.Cooney@montgomerycollege.edu](mailto:Sean.Cooney@montgomerycollege.edu)

For more information, please visit <https://www.montgomerycollege.edu/academics/programs/science/biological-science-as-degree.htm> or GT STEP Advising <https://www.montgomerycollege.edu/gtstep>

To view the Advising Worksheet, please visit <https://www.montgomerycollege.edu/documents/counseling-and-advising/advising-worksheets/current-catalog/412f.pdf>

**2021-2022**

# **Program Advising Guide**

**An Academic Reference Tool for Students**

**412F**

**BIOLOGICAL SCIENCE AREA OF CONCENTRATION, SCIENCE AS: 412F  
ASSOCIATE OF SCIENCE: 412F**

# BIOLOGICAL SCIENCE AREA OF CONCENTRATION, SCIENCE AS: 412F

## 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

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

OR

English Foundation 3 semester hours \*

MATH 165 - Precalculus 4 semester hours (MATF)

OR

MATH 170 - Calculus for Life Sciences I 4 semester hours (MATF)

OR

MATH 181 - Calculus I 4 semester hours (MATF)

CHEM 131 - Principles of Chemistry I 4 semester hours (NSLD)

Behavioral and Social Sciences Distribution 3 semester hours (BSSD) \*\*

### Third Semester

BIOL 151 - Principles of Biology II 4 semester hours (NSLD)

COMM 108 - Foundations of Human Communication 3 semester hours (GEEL)

OR

COMM 112 - Business and Professional Speech Communication 3 semester hours (GEEL)

Arts Distribution 3 semester hours (ARTD)

Program Electives 4 semester hours †††

## 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.

† Program electives: (Program electives range from 2-5 credits. Students are encouraged to speak with their transfer institution when selecting program electives. It is recommended that in a 2 semester chemistry sequence, both courses be taken at the same institution, e.g. CHEM 203 and CHEM 204.) BIOL 202, BIOL 210, BIOL 212, BIOL 213, BIOL 217, BIOL 226, BIOL 228, BIOL 230, BIOL 252, BIOT 120, CHEM 203, CHEM 204, CMSC 140, CMSC 203, CMSC 204, MATH 171, MATH 182, MATH 280, MATH 282, PHYS 161, PHYS 203, PHYS 204, PHYS 233, PHYS 234, PHYS 262, PHYS 263, SCIR 297.

†† Students planning to transfer to UMCP should take MATH 170, and should choose as electives: BIOL 252, CHEM 203, CHEM 204 and MATH 171. Students that enter calculus ready should consider taking PHYS 233 and PHYS 234.

### Second Semester

English Foundation 3 semester hours (ENGF) \*\*\*

BIOL 150 - Principles of Biology I 4 semester hours (NSLD)

CHEM 132 - Principles of Chemistry II 4 semester hours

MATH 170 - Calculus for Life Sciences I 4 semester hours

OR

MATH 181 - Calculus I 4 semester hours

OR

Program Elective 4 semester hours †,††

Humanities Distribution 3 semester hours (HUMD)

### Fourth Semester

BIOL 222 - Principles of Genetics 4 semester hours

Behavioral and Social Sciences Distribution 3 semester hours (BSSD) \*\*

Program Elective 4 semester hours †,††

Program Elective 3 semester hours †,††

## Transfer Opportunities

Montgomery College has partnerships with multiple four-year institutions and the tools to help you transfer. To learn more, please visit <https://www.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 and Organizations: <https://www.montgomerycollege.edu/life-at-mc/student-life/>

## Related Careers

Some require a Bachelor's degree.

Natural Sciences Manager, Microbiologist, Biologist, Zoologist and Wildlife Biologist, Biological Technician, Pharmacist, Biostatistician, Bioinformatics Scientist, Occupational Therapist, Molecular and Cellular Biologist, Epidemiologist, Soil and Water Conservationist, Orthodontist Food Science Technician, Athletic Trainer, Pediatrician, General, Physician Assistant & Medical and Clinical Laboratory Technologist.

## Career Services

Montgomery College offers a range of services to students and alumni to support the career planning process. To learn more, please visit <https://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. For more information, please visit <https://montgomerycollege.emsicc.com>

## Notes: