

# PHYSICS AREA OF CONCENTRATION, SCIENCE AS

Total Credits: 60

Catalog Edition: 2024-2025

## Program Description

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

## Program Outcomes

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

- Identify, formulate, and solve basic physics problems.
- Integrate natural sciences to build solid foundation in physics applications using appropriate mathematical skills.
- Use appropriate and varied computer application software in physics.
- Design, perform, collect, and analyze data for simple physics experiments using the scientific method.

## Program Advisors

### Germantown and Takoma Park/Silver Spring

- Dr. Alla Webb, 240-567-7934,  
[Alla.Webb@montgomerycollege.edu](mailto:Alla.Webb@montgomerycollege.edu)

### Rockville

- Catalina Cetina 240-567-5236  
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For more information, please visit <https://www.montgomerycollege.edu/academics/programs/science/physics-as-degree.html>

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

2024-2025

# Program Advising Guide

An Academic Reference Tool for Students

412C

PHYSICS AREA OF CONCENTRATION, SCIENCE AS: 412C  
ASSOCIATE OF SCIENCE: 412C

# PHYSICS AREA OF CONCENTRATION, SCIENCE AS

## 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* \*

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

CMSC 140 - Introduction to Programming *3 semester hours*

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

Program Elective, *3 semester hours* †

### Third Semester

PHYS 262 - General Physics II: Electricity and Magnetism *4 semester hours* (NSLD)

MATH 280 - Multivariable Calculus *4 semester hours*

MATH 282 - Differential Equations *3 semester hours*

Arts Distribution *3 semester hours* (ARTD)

Program Elective, *3 semester hours* †

### Second Semester

English Foundation *3 semester hours* (ENGF)

PHYS 161 - General Physics I: Mechanics and Heat *3 semester hours* (NSND/GEEL)

MATH 182 - Calculus II *4 semester hours*

Program Elective, *3 semester hours* †

### Fourth Semester

PHYS 263 - General Physics III: Waves, Optics, and Modern Physics *4 semester hours* (NSLD)

MATH 284 - Linear Algebra *4 semester hours*

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

Humanities Distribution *3 semester hours* (HUMD)

## Total Credit Hours: 60

\* ENGL 101/ENGL 101A, if needed for ENGL 102/ENGL 103, or elective. English course placement is determined by Accuplacer English/Reading Test, AP/IB, or transfer credits.

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

† Program electives from the following disciplines: BIOL, CHEM, CMSC, DATA, ENES, ENEE, GEOL, depending on your transfer institution.

AA and AS programs require one global and cultural perspectives (GCP) General Education course.

## 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.

Sciences Manager, Scientist, Postsecondary Science Teachers, Nuclear physicist, Astronomer, Patent Agent, Meteorologist.

## 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: