

Physics Associate of Arts Emphasis (AA)

60 Credits

Physics encompasses the study of the universe from the largest galaxies to the smallest subatomic particles and is the basis of many other sciences. Students who study physics develop a range of skills that can be applied in many areas, including: problem solving, with a pragmatic and analytical approach; constructing logical arguments; applying analytical skills; and grasping complex problems.

An Associate of Arts with Emphasis in Physics from Normandale provides students with fundamental knowledge of physics and mathematics that will ensure that they have the foundation and prerequisites to complete a bachelor's degree in physics at a transfer institution. In addition to the AA with Emphasis in Physics, the Physics Department at Normandale offers classes that fulfill requirements for students studying mathematics, the physical and biological sciences, engineering, and some health fields. All physics classes at Normandale fulfill Goal 3 (Natural Sciences) of the MnTC.

Required Courses

Incorporate the following Required Courses into the General Education/Minnesota Transfer Curriculum or Additional Course Requirements sections below.

MATH 2510	Calculus 3: Multivariable Calculus	5 cr
MATH 2520	Calculus 4: Differential Equations with Linear Algebra	5 cr
PHYS 1121	Physics 1 for Scientists and Engineers	5 cr
PHYS 1122	Physics 2 for Scientists and Engineers	5 cr
PHYS 2250	Modern Physics	4 cr

General Education/Minnesota Transfer Curriculum (MnTC) – 40 Credits

*See MnTC Curriculum for specific course options

Goal 1: Communication – 2 Courses

ENG 1101	College Writing	4 cr
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Complete one of the following five courses:

COMM 1100	Introduction to Communication	3 cr
COMM 1101	Fundamentals of Public	3 cr

COMM 1111	Speaking Interpersonal Communication	3 cr
COMM 1121	Small Group Communication	3 cr
COMM 1421	Strategic Media Communication	3 cr

Goal 2: Critical Thinking

(Met by completion of all 40 credits of the MnTC)

Goal 3: Natural Sciences – 2 Courses

(Select from two different departments; at least one must include a lab)

Course #1 - met by taking required PHYS courses

Course #2 _____

Goal 4: Mathematical/Logical Reasoning – 1 Course

Course - met by taking required MATH courses

Goal 5: History and Social/Behavioral Sciences – 2 Courses

(Select from two different departments)

Course #1 _____

Course #2 _____

Goal 6: Humanities and Fine Arts 2 Courses

(Select from two different departments)

Course #1 _____

Course #2 _____

Goal 7: Human Diversity, Race, Power, and Justice in the United States – 1 Course

Course _____

Goal 8: Global Perspective – 1 Course

Course _____

Goal 9: Ethical and Civic Responsibility – 1 Course

Course _____

Goal 10: People and The Environment – 1 Course

Course _____

Additional Course Requirements – 20 Credits

- One Health (HLTH) course.
- One Exercise Science (EXSC) course (EXSC 1129 is recommended).
- Elective credits – additional course(s) numbered 1000 and above, if needed to complete the 60-credit requirement.

Other Degree Requirements

- Earn a minimum cumulative grade point average (GPA) of 2.0 for college-level coursework (courses numbered 1000 and above) completed at Normandale.
- Earn a minimum cumulative grade point average (GPA) of 2.0 in the MnTC.
- Earn a minimum of 15 college-level credits at Normandale.