

PHYSICS - ASSOCIATE OF ARTS OREGON TRANSFER (AAOT)

Description

Physics is arguably the oldest academic discipline; it is the study of matter and its motion and related energy. The Associate of Arts Oregon Transfer (AAOT) with a focus in physics includes most courses that are commonly required for a major and meets lower division general education requirements at all Oregon public universities. Since there are minor variations between university physics programs, students may have to take some additional courses after transferring.

Learning Outcomes

Arts & Letters

1. Interpret and engage in the Arts & Letters, making use of the creative process to enrich the quality of life; and
2. Critically analyze values and ethics within a range of human experience and expression to engage more fully in local and global issues.

Cultural Literacy

1. Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

Health

1. Explain the relationship between human behavior and health.

Mathematics

1. Use appropriate mathematics to solve problems; and
2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

Science or Computer Science

1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models and solutions and generate further questions;
2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically evaluate existing or alternative explanations, solve problems, and make evidence-based decisions in an ethical manner; and
3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

Social Science

1. Apply analytical skills to social phenomena in order to understand human behavior; and
2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

Speech/Oral Communication

1. Engage in ethical communication processes that accomplish goals;
2. Respond to the needs of diverse audiences and contexts; and
3. Build and manage relationships.

Writing and Information Literacy

1. Read actively, think critically, and write purposefully and capably for academic and, in some cases, professional audiences;
2. Recognize and articulate the need for information, and then locate, evaluate, and ethically utilize that information to communicate effectively; and
3. Demonstrate appropriate reasoning in response to complex issues.

Entrance Requirements

While this program has no formal entrance requirements, individual courses may have prerequisites which must be met prior to enrollment.

Course Requirements

Course	Title	Credits
General Education/Foundational		
Health: (https://catalog.cocc.edu/degree-certificate-overview/general-education/#fhe)		
Choose 3 credits ¹		3
Mathematics: (https://catalog.cocc.edu/degree-certificate-overview/general-education/#fma)		
Choose one course		4
Recommend: MTH 251		
Oral Communication: (https://catalog.cocc.edu/degree-certificate-overview/general-education/#foc)		
Choose one course		3-4
Writing: (https://catalog.cocc.edu/degree-certificate-overview/general-education/#fwi)		
WR 121	Academic Composition	4
WR 122	Argument, Research, and Multimodal Composition	4
	or WR 227 Technical Writing	
Recommend: WR 227		
General Education/Discipline Studies		
Cultural Literacy: (https://catalog.cocc.edu/degree-certificate-overview/general-education/#dcl)		
One course from the following categories must be designated as cultural literacy on the Discipline Studies list (credits count once).		
Arts and Letters: (https://catalog.cocc.edu/degree-certificate-overview/general-education/#dal)		
Choose three courses from at least two prefixes		9-12
Social Science: (https://catalog.cocc.edu/degree-certificate-overview/general-education/#dss)		
Choose four courses from at least two prefixes		12-16
Science/Math/Computer Science: (https://catalog.cocc.edu/degree-certificate-overview/general-education/#dsn)		

Choose four courses from at least two prefixes including at least three laboratory courses in biological and/or physical science 12-20

Recommend: MTH 252, PH 211, PH 212, PH 213

Electives

Choose any course numbered 100 or above that brings the total credits to 90 quarter hours. This may include up to 12 credits of Career and Technical Education courses designated by COCC as acceptable. 39

Recommend: CH 221, CH 222, CH 223, ENGR 201, ENGR 202, ENGR 211, ENGR 212, ENGR 213, GE 101, GE 102, MTH 253, MTH 254, MTH 255, MTH 256

Total Credits 90-106

¹ HHPA activity courses (1 credit each) are not to be duplicated.

Performance Standards

- Academic Requirements:
 - Students must have a 2.0 cumulative GPA to earn a COCC certificate or degree.
 - Options for additional standards:
 - All courses in the program must be completed with a grade of C or higher

Sample Plan

First Year

Fall	Credits
Health (3 credits with HHP/HHPA prefix)	3
Elective (recommend CH 221)	5
MTH 251 Calculus I	4
WR 121 Academic Composition	4
Credits	16

Winter

Discipline Studies Math/Science/Computer Science (recommend MTH 252)	4
Discipline Studies Math/Science/Computer Science (recommend PH 211)	5
Discipline Studies Social Science	3-4
Elective (recommend CH 222)	5
Credits	17-18

Spring

Discipline Studies Math/Science/Computer Science (recommend PH 212)	5
Elective (recommend CH 223)	5
Elective (recommend MTH 253)	4
Credits	14

Second Year

Fall	Credits
Discipline Studies Math/Science/Computer Science (recommend PH 213)	5
Discipline Studies Social Science	3-4
Elective (recommend MTH 256)	4
Writing (recommend WR 227)	4
Credits	16-17

Winter

Discipline Studies Arts & Letters	3-4
Discipline Studies Social Science	4
Elective (recommend MTH 254)	4
Oral Communication	3-4
Credits	14-16

Spring

Discipline Studies Arts & Letters	3-4
Discipline Studies Arts & Letters	3-4
Discipline Studies Social Science	3-4
Elective (recommend MTH 255)	4
Credits	13-16
Total Credits	90-97