

Physics

CHEMISTRY/PHYSICS DEPARTMENT

Associate in Science (A.S.) Degree

This program parallels the first two years of baccalaureate degree programs in physics related fields. The major prepares graduates to transfer to a four-year college or university to pursue studies in physics, applied physics, computational physics, astronomy, astrophysics, geology, meteorology, material sciences, and other related fields.

What will students learn if they study Science Transfer?

Students concentrate on theoretical and applied physics, and mathematics. This prepares them to meet the challenges of advanced physics in professional careers.

Are there any requirements that must be satisfied before taking courses in the major?

Students must have a grade of "C" or better in high school algebra II, geometry, advanced algebra and trigonometry, laboratory chemistry and laboratory physics. They must also pass the College's placement test.

Can students transfer to a four-year college or university?

The Statewide Transfer Agreement for New Jersey ensures that students who earn an A.A. or A.S. degree at a community college will have those credits fully transferable to a New Jersey public four-year institution, will have completed half of the credits required for a basic four-year degree and will have completed all of the lower division general education requirements. In addition, articulation agreements with private institutions may provide similar transfer provisions. Students should discuss the transfer process with an advisor.

How long will it take to complete this degree?

Once students complete developmental coursework (if needed), the degree can be completed in two years of full-time study. They can shorten the amount of time by taking courses in the summer and winter sessions.

Questions?

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PHYSICS - SCIENCE TRANSFER

Associate in Science (A.S.) Degree - PHY.AS

Below are required courses and recommended course groupings and sequences for program completion.

Courses Credits Requisites / Comments

Semester I

CHM 121 General Chemistry I – Lecture	3	Two years of high school algebra and geometry or MAT 013, MAT 014 and one year of high school chemistry or CHM 010.
CHM 125 General Chemistry I – Lab	1	Two years of high school algebra and geometry or MAT 013, MAT 014 and one year of high school chemistry or CHM 010.
ENG 121 English Composition I	3	A passing score on the College's placement test or a grade of "C" or better in ENG 010.
MAT 131 Analytical Geometry and Calculus I	4	MAT 129, or MAT 129A/MAT 129B, or appropriate score on the College's placement test and/or satisfactory score on the diagnostic examination, or departmental approval.
___ ___ General Education Social Science Elective (GE SS)	3	
___ ___ Physical/Health Education Elective	1-3	

Semester II

CHM 122 General Chemistry II - Lecture	3	CHM 121
CHM 126 General Chemistry II - Lab	1	CHM 121, CHM 125
MAT 132 Analytical Geometry and Calculus II	4	MAT 131, MAT 131A/MAT 131B, or equivalent
PHY 133 Analytical Physics I – Lecture	3	Prerequisite(s): One year of high school laboratory physics. Corequisite(s): MAT 131 or equivalent.
PHY 135 Analytical Physics I – Lab	1	Prerequisite(s): One year of high school laboratory physics. Corequisite(s): MAT 131 or equivalent.
ENG 122 English Composition II	3	A grade of "C" or better in ENG 121

Semester III

MAT 210 Linear Algebra	4	MAT 132
MAT 233 Analytical Geometry and Calculus III	4	MAT 132 or equivalent
PHY 134 Analytical Physics II – Lecture	3	Prerequisite(s): PHY 133 Corequisite(s): MAT 132 or equivalent.
PHY 136 Analytical Physics II – Lab	1	Prerequisite(s): PHY 135 Corequisite(s): MAT 131 or equivalent.
___ ___ General Education Humanities Elective (GE HUM)	3	

Semester IV

MAT 234 Differential Equations	4	MAT 233 or approval of department chair of Mathematics
PHY 236 Analytical Physics III – Lecture	3	Prerequisite(s): MAT 132 and PHY 134
PHY 239 Analytical Physics III – Lab	1	Prerequisite(s): MAT 132 and PHY 136 or one year of integral or differential calculus.
CSC 106 Intermediate PC Applications with Programming	3	
___ ___ General Education Social Science Elective (GE SS)	3	
OR		
___ ___ General Education Humanities Elective (GE HUM)		
___ ___ General Education Science Elective	3-4	Select from CHM 221 (lecture) with CHM 227 (lab), SCI 155, SCI 157, SCI 158, SCI 256 or a course with permission of the department chairperson. Please see catalog for appropriate prerequisites.

Total Credits: 62-65

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