

Student ID: _____	Catalog: 2017-2018 Catalog
Student Name: _____	Program: Physics, B.S.
Adviser Name: _____	Minimum Credits Required: _____

Physics, B.S.

Major Code: 7101	Degree Awarded: Bachelor of Science
Delivery Mode(s): Classroom	Age Restriction: No
Admission Status: Undergraduate	Location(s): Main Campus - Melbourne

Physics is the discipline most directly concerned with understanding the physical world on a fundamental level. As such, it covers an extremely broad range of subjects and areas of specialization that seek to unify and understand this diversity in terms of the smallest possible number of laws and principles. A physicist therefore must receive a broad, general training in science. Mathematics, a primary tool, must be mastered as well as experimental laboratory skills. Most important is the development of a variety of problem solving skills and a critical, incisive approach to physical problems.

The curriculum for the physics major includes core courses in physics, mathematics and related sciences, plus a liberal mixture of applied courses from engineering fields and an enriching selection of humanities as electives. Students considering a career in medicine or other health sciences should consider the premedical physics program detailed below. A degree in physics provides an excellent background for entering the health sciences.

Research is a major activity of the department, which possesses good instrumentation required for research in selected areas of physics. Participation in research programs by undergraduates is strongly encouraged. A maximum of six credit hours of research can be used to fulfill technical and free elective requirements.

Degree Requirements

Candidates for the Bachelor of Science in Physics must complete the course requirements listed in the following sample curriculum. Because the subject matter of general physics forms a critically important foundation for all advanced physics courses, the minimum grade for satisfying the prerequisite requirements for a physics major is a grade of C for each of the following courses:

- PHY 1001 Physics 1
- PHY 2002 Physics 2
- PHY 2003 Modern Physics
- PHY 2091 Physics Laboratory 1
- PHY 2092 Physics Laboratory 2

Freshman Year

Fall (16 credit hours)

Course Name	Term Taken	Grade	Gen Ed
CHM 1101 General Chemistry 1			
COM 1101 Composition and Rhetoric			
FYE 1000 University Experience			
MTH 1001 Calculus 1 * or MTH 1010 Mathematical Analysis 1			
PHY 1050 Physics and Space Science Seminar			
SPS 1020 Introduction to Space Sciences *			

Spring (16 credit hours)

Course Name	Term Taken	Grade	Gen Ed
CHM 1102 General Chemistry 2			
COM 1102 Writing About Literature			
MTH 1002 Calculus 2 or MTH 1020 Mathematical Analysis 2			
PHY 1001 Physics 1			
PHY 2091 Physics Laboratory 1			

Sophomore Year

Fall (15 credit hours)

Course Name	Term Taken	Grade	Gen Ed
HUM 2051 Civilization 1: Ancient Through Medieval			
MTH 2001 Calculus 3			

PHY 2002 Physics 2			
PHY 2092 Physics Laboratory 2			
Restricted Elective (CSE 15xx) Credit Hours: 3			
Spring (16 credit hours)			
Course Name	Term Taken	Grade	Gen Ed
MTH 2201 Differential Equations/Linear Algebra			
PHY 2003 Modern Physics			
Free Elective Credit Hours: 3 Humanities Core Course Credit Hours: 3 Social Sciences Elective Credit Hours: 3			
Junior Year			
Fall (17 credit hours)			
Course Name	Term Taken	Grade	Gen Ed
COM 2223 Scientific and Technical Communication			
MTH 3101 Complex Variables			
PHY 3011 Physical Mechanics			
PHY 3060 Thermodynamics, Kinetic Theory and Statistical Mechanics			
Free Elective Credit Hours: 3			
Spring (17 credit hours)			
Course Name	Term Taken	Grade	Gen Ed
MTH 3210 Introduction to Partial Differential Equations and Applications			
PHY 3035 Quantum Mechanics			
PHY 3152 Electronic Measurement Techniques			
PHY 3440 Electromagnetic Theory			
Humanities Elective Credit Hours: 3			
Senior Year			
Fall (17 credit hours)			
Course Name	Term Taken	Grade	Gen Ed
PHY 4020 Optics			
PHY 4021 Experiments in Optics			
PHY 4033 Introduction to Solid State Physics			
PHY 4200 Senior Seminar 1 (Q)			
Free Elective Credit Hours: 3 Restricted Elective (MTH or CSE) Credit Hours: 3 Technical Elective or Undergraduate Research Credit Hours: 3			
Spring (15 credit hours)			
Course Name	Term Taken	Grade	Gen Ed
PHY 4030 Introduction to Subatomic Physics			
PHY 4071 Senior Laboratory			
PHY 4210 Senior Seminar 2 (Q)			
Free Elective Credit Hours: 3 Humanities or Social Science Elective Credit Hours: 3 Technical Elective or Undergraduate Research Credit Hours: 3			
Total Credits Required: 129			
<i>*Students should register for SPS 1020 Introduction to Space Sciences. If a student places into MTH 1002 Calculus 2 or MTH 1020 Mathematical Analysis 2 they are encouraged to take PHY 1001 Physics 1 in the first semester and SPS 1020 Introduction to Space Sciences (or SPS 1010 Introduction to Astronomy) later in the program.</i>			
Humanities Core Courses			

Not all humanities core courses are offered online or every term; check the current schedule of classes for humanities core options.

Course Name	Term Taken	Grade	Gen Ed
HUM 2052 Civilization 2: Renaissance Through Modern			
HUM 2142 World Art History 2: Early Modern to Post-Colonial			
HUM 2212 British and American Literature 1			
HUM 2213 British and American Literature 2			
HUM 2331 American History: Pre-Columbian to Civil War Era			
HUM 2332 American History: From Reconstruction to the Present			
HUM 3333 American Military History			

Notes: