

PHYSICS (B.S.) - ASTROPHYSICS - ONLINE

Important: This degree plan is effective for those starting this degree program in fall 2026 through summer 2027. This degree plan will remain in effect for students who do not break enrollment or who do not change degree programs, concentrations, or cognates.

General Education/Foundational Skills Requirements

Code	Title	Hours
Communication & Information Literacy ¹		
ENGL 101	Composition and Rhetoric	3
	Communications Elective	3
	Information Literacy Elective	3
	Information Literacy Elective	3
Technological Solutions & Quantitative Reasoning ¹		
UNIV 104	Instructional Technology for Successful Online Learning	0-3
	Math Elective MATH 114 or higher	3
Critical Thinking ¹		
RLGN 104	Christian Life and Biblical Worldview ²	4
	Critical Thinking Elective	3
Civic & Global Engagement ¹		
	Cultural Studies Elective	3
Social & Scientific Inquiry ¹		
	Natural Science Elective	3
	Social Science Elective	3
Christianity & Contexts ¹		
BIBL 104	Survey of Old and New Testament	4
THEO 104	Introduction to Theology Survey ²	4
Total Hours		39-42

¹ Refer to the list of approved general education electives before enrolling in foundational skill requirements

² Students transferring in 45 or more UG credit hours will have the requirement of RLGN 104 waived; Students transferring in 60 or more UG credit hours will also have the requirement of THEO 104 waived

Major Requirements

Code	Title	Hours
Major Foundational Courses		
ENGL 103	Technical Communication for the Professions ¹	3
MATH 131	Calculus and Analytic Geometry I ¹	4
PHYS 231	University Physics I ¹	4
Total Hours		11

¹ Course may fulfill select general education requirements.

Code	Title	Hours
Major Courses		
MATH 132	Calculus and Analytic Geometry II	4

Code	Title	Hours
MATH 410	Matrix and Linear Algebra	3
MATH 430	Multivariable Calculus	3
MATH 432	Applied Differential Equations	3
PHYS 232	University Physics II	4
PHYS 305	Introduction to Modern Physics	3
PHYS 310	Numerical Methods in Physics	3
PHYS 321	Mechanics	3
PHYS 331	Electricity and Magnetism	3
PHYS 432	Thermodynamics and Statistical Mechanics	3
PHYS 433	Quantum Physics	3
PHYS 440	Wave Optics	4
PHYS 491	Physics Capstone	3
Total Hours		42

Code	Title	Hours
Astrophysics Cognate		
PHYS 450	Planetary Science	3
PHYS 451	Stellar Astrophysics	3
PHYS 452	Galaxies and Cosmology	3
Total Hours		9

Code	Title	Hours
Free Electives		
	Choose 25-28 credit hours of Free Electives	25-28
Total Hours		25-28

All applicable prerequisites must be met

Graduation Requirements

- **120** Total hours
- **2.0** Overall grade point average
- **Grade of 'C'** Minimum required for all upper-level courses in the major
- **30** credits at the upper level (300-400) applied to your program of study.
- **25%** Of major taken through Liberty University
- **30** Hours must be completed through Liberty University
- **Grad App** Submission of Degree Completion Application must be completed within the last semester of a student's anticipated graduation date

Course Sequence

Freshman Year		
First Semester		Hours
	Communications Elective ¹	3
	Math Elective (MATH 131) ¹	4
BIBL 104	Survey of Old and New Testament	4
ENGL 101	Composition and Rhetoric	3
UNIV 104	Instructional Technology for Successful Online Learning	0-3
Hours		14-17

Second Semester		
	Critical Thinking Elective ¹	3
	Information Literacy Elective (ENGL 103) ¹	3

Social Science Elective ¹	3
MATH 132 Calculus and Analytic Geometry II	4
RLGN 104 Christian Life and Biblical Worldview	4
Hours	17

¹ Refer to the list of approved general education electives at general education electives before enrolling in foundational skills requirements.

All applicable prerequisites must be met

Sophomore Year

First Semester

Information Literacy Elective ¹	3
Natural Science Elective (PHYS 231) ¹	4
MATH 430 Multivariable Calculus	3
Elective	3
Elective	3
Hours	16

Second Semester

Cultural Studies Elective ¹	3
PHYS 232 University Physics II	4
THEO 104 Introduction to Theology Survey	4
Elective	3
Elective	3
Hours	17

Junior Year

First Semester

MATH 410 Matrix and Linear Algebra	3
MATH 432 Applied Differential Equations	3
PHYS 305 Introduction to Modern Physics	3
Elective	3
Elective	3
Hours	15

Second Semester

PHYS 310 Numerical Methods in Physics	3
PHYS 321 Mechanics	3
PHYS 331 Electricity and Magnetism	3
PHYS 450 Planetary Science	3
Elective	3
Hours	15

Senior Year

First Semester

PHYS 432 Thermodynamics and Statistical Mechanics	3
PHYS 433 Quantum Physics	3
PHYS 440 Wave Optics	4
PHYS 451 Stellar Astrophysics	3
Elective	1
Hours	14

Second Semester

PHYS 452 Galaxies and Cosmology	3
PHYS 491 Physics Capstone	3
Elective	3
Elective	3
Hours	12

Total Hours **120-123**