

BACHELOR OF SCIENCE WITH A COMBINED MAJOR IN PHYSICS AND ASTRONOMY AND A MINOR IN MATHEMATICS

Minimum requirements for the BS with a combined major in physics and astronomy and a minor in mathematics

COURSE	TITLE	S.H.
FIRST YEAR REQUIREMENT -STUDENT SUCCESS		
YSU 1500	Success Seminar	1-2
or SS 1500	Strong Start Success Seminar	
or HONR 1500	Intro to Honors	
General Education Requirements		
ENGL 1550	Writing 1	3-4
or ENGL 1549	Writing 1 with Support	
ENGL 1551	Writing 2	3
CMST 1545	Communication Foundations	3
Mathematics Requirement (met through MATH in major)		
Arts and Humanities (6 s.h.)		6
Natural Sciences (2 courses, 1 with lab) (6-7 s.h.)		
Requirement met through courses in the major		
Social Science (6 s.h.)		6
Social and Personal Awareness (6 s.h.)		6
Major Requirements		
Physics Courses:		
PHYS 2610	General Physics 1	4
PHYS 2610L	General Physics Laboratory 1	1
PHYS 2611	General Physics 2	4
PHYS 2611L	General Physics laboratory 2	1
PHYS 3703	Classical Mechanics and Dynamics	4
PHYS 3704	Modern Physics	4
PHYS 3704L	Modern Physics Laboratory	1
PHYS 3705	Thermodynamics and Classical Statistical Dynamics	3
PHYS 3705L	Thermodynamics and Classical Statistical Mechanics Laboratory	1
PHYS 3741	Electromagnetic Field Theory 1	3
Select 6 s.h. of upper division physics courses.		6
Astronomy Courses:		
ASTR 1504	Descriptive Astronomy	3
ASTR 2609	Moon and Planets	3
ASTR 3711	Astrophysics 1	3
ASTR 3712	Astrophysics 2	3
ASTR 4811	Observational Astronomy 1	3
ASTR 4812	Observational Astronomy 2	3
Mathematics Courses:		
MATH 1571	Calculus 1	4
MATH 1572	Calculus 2	4
MATH 2673	Calculus 3	4
MATH 3705	Differential Equations	3

Minor Course:		
One additional 3 s.h. upper division elective in mathematics is required for the mathematics minor.		3
Other Courses		
CHEM 1515	General Chemistry 1	3
CHEM 1515L	General Chemistry 1 Laboratory	1
CHEM 1516	General Chemistry 2	3
CHEM 1516L	General Chemistry 2 Laboratory	1
CSIS 2610	Programming and Problem-Solving	3
CSIS 2610L	Programming and Problem-Solving Lab	1
Elective courses needed: at least 8 hours of upper division electives required. STEM 4890 as an internship or REU Program is strongly recommended.		12

Total Semester Hours 120-122

Year 1		
Fall		
		S.H.
YSU 1500	Success Seminar	1-2
or SS 1500	or Strong Start Success Seminar	
or HONR 1500	or Intro to Honors	
PHYS 2610 & 2610L	General Physics 1 and General Physics Laboratory 1 (P, NS)	5
ASTR 1504	Descriptive Astronomy (NS)	3
MATH 1571	Calculus 1 (P)	4
ENGL 1550	Writing 1	3-4
or ENGL 1549	or Writing 1 with Support	
Students should see an advisor to check the availability of courses before consulting this four-year plan.		

Semester Hours 16-18

Spring		
ASTR 2609	Moon and Planets	3
PHYS 2611 & 2611L	General Physics 2 and General Physics laboratory 2 (P)	5
MATH 1572	Calculus 2 (P)	4
First-Year Experience Course		3

Semester Hours 15

Year 2		
Fall		
PHYS 3704 & 3704L	Modern Physics and Modern Physics Laboratory (P)	5
CHEM 1515 & 1515L	General Chemistry 1 and General Chemistry 1 Laboratory (NS)	4
MATH 2673	Calculus 3 (P)	4
ENGL 1551	Writing 2	3

Semester Hours 16

Spring		
CHEM 1516 & 1516L	General Chemistry 2 and General Chemistry 2 Laboratory (P, NS)	4
MATH 3705	Differential Equations (P)	3
CMST 1545	Communication Foundations	3
CSIS 2610	Programming and Problem-Solving	3
CSIS 2610L	Programming and Problem-Solving Lab	1

Semester Hours 14

Year 3		
Fall		
PHYS 3703	Classical Mechanics and Dynamics (P)	4
PHYS 3741	Electromagnetic Field Theory 1 (P)	3
ASTR 3711	Astrophysics 1 (P)	3
Physics Elective (Upper Division)		3

Social Sciences GER Domain		3
Semester Hours		16
Spring		
PHYS 3705 & 3705L	Thermodynamics and Classical Statistical Dynamics and Thermodynamics and Classical Statistical Mechanics Laboratory (P)	4
Physics Elective (Upper Division)		3
ASTR 3712	Astrophysics 2 (P)	3
Arts & Humanities GER Domain		3
Social & Personal Awareness GER Domain		3
Semester Hours		16
Year 4		
Fall		
ASTR 4811	Observational Astronomy 1	3
Upper Division elective		3
Arts & Humanities Elective GER Domain		3
Social Sciences Elective GER Domain		3
Semester Hours		12
Spring		
ASTR 4812	Observational Astronomy 2 (P)	3
Math Elective (Upper Division)		3
Electives (Upper Division)		4
Electives		2
Social & Personal Awareness GER Domain		3
Semester Hours		15
Total Semester Hours		120-122