

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

COURSE	TITLE	S.H.
FIRST YEAR REQUIREMENT -STUDENT SUCCESS		
YSU 1500 or YSU 1500S or HONR 1500	Success Seminar Youngstown State University Success Seminar Intro to Honors	1-2
General Education Requirements		
ENGL 1550 or ENGL 1549	Writing 1 Writing 1 with Support	3-4
ENGL 1551	Writing 2	3
Mathematics Requirement (met through MATH in major)		
Arts and Humanities (6 s.h.)		
Natural Sciences (2 courses, 1 with lab) (6-7 s.h. met with courses in the major)		
Social Science (6 s.h.)		
Gen Ed Electives 6s.h. met with NS courses in the major		
CMST 1545	Communication Foundations	3
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.		
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 if desired.		
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.		21

Total Semester Hours **120-125**

Year 1

Fall		S.H.
YSU 1500 or YSU 1500S or HONR 1500	Success Seminar or Youngstown State University Success Seminar or Intro to Honors	1-2
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 or ENGL 1549	Writing 1 or Writing 1 with Support	3-4
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
Elective		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
Elective (any)		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 (any)		5
Semester Hours		15
Total Semester Hours		120-122