

BACHELOR OF SCIENCE IN PHYSICS

Minimum requirements for the B.S. in Physics

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 with 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 & 2610L	General Physics 1 and General Physics Laboratory 1	5
PHYS 2611 & 2611L	General Physics 2 and General Physics laboratory 2	5
PHYS 3703	Classical Mechanics and Dynamics	4
PHYS 3704 & 3704L	Modern Physics and Modern Physics Laboratory	5
PHYS 3705 & 3705L	Thermodynamics and Classical Statistical Dynamics and Thermodynamics and Classical Statistical Mechanics Laboratory	4
PHYS 3741	Electromagnetic Field Theory 1	3
PHYS 4805	Undergraduate Physics Research	3
PHYS 3742	Electromagnetic Field Theory 2	3
PHYS 3750	Mathematical Physics	3
PHYS 5810	Quantum Mechanics and Quantum Statistical Mechanics 1	3
PHYS 5811	Quantum Mechanics and Quantum Statistical Mechanics 2	3
Mathematics Courses:		
MATH 1571	Calculus 1	4
MATH 1572	Calculus 2	4
MATH 2673	Calculus 3	4
MATH 3705	Differential Equations	3
One additional 3 s.h. upper division elective in mathematics is required for the mathematics minor.		3
Other Courses:		
CHEM 1515 & 1515L	General Chemistry 1 and General Chemistry 1 Laboratory	4
CHEM 1516 & 1516L	General Chemistry 2 and General Chemistry 2 Laboratory	4
ECEN 2614	Basics of Electrical Engineering	3
Select one of the following programming courses		3-4
CIS 3735		

CSIS 2610	Programming and Problem-Solving	
Electives:		
If CIS 3735 is selected, 8 hours of upper division electives and 10 hours of 9-20 any level electives; OR if CSIS 2610 is selected, 11 hours of upper division electives and 6 hours of any level electives needed		
Total Semester Hours		120-124
Year 1		
Fall		
YSU 1500	Success Seminar	1
PHYS 2610 & 2610L	General Physics 1 and General Physics Laboratory 1 (P, NS)	5
ENGL 1550	Writing 1	3-4
or ENGL 1549	or Writing 1 with Support	
CHEM 1515 & 1515L	General Chemistry 1 and General Chemistry 1 Laboratory (NS)	4
MATH 1571	Calculus 1 (P)	4
Semester Hours		17-18
Spring		
PHYS 2611 & 2611L	General Physics 2 and General Physics laboratory 2 (P, NS)	5
CHEM 1516 & 1516L	General Chemistry 2 and General Chemistry 2 Laboratory (P, NS)	4
First-Year Experience Course		2
MATH 1572	Calculus 2 (P)	4
Semester Hours		15
Year 2		
Fall		
PHYS 3704 & 3704L	Modern Physics and Modern Physics Laboratory (P)	5
MATH 2673	Calculus 3 (P)	4
CSIS 2610	Programming and Problem-Solving	4-3
or CIS 3735	or	
ENGL 1551	Writing 2	3
Semester Hours		16-15
Spring		
PHYS 3705 & 3705L	Thermodynamics and Classical Statistical Dynamics and Thermodynamics and Classical Statistical Mechanics Laboratory (P)	4
MATH 3705	Differential Equations (P)	3
Social & Personal Awareness GER Domain		3
Arts & Humanities GER Domain		3
CMST 1545	Communication Foundations	3
Semester Hours		16
Year 3		
Fall		
PHYS 3703	Classical Mechanics and Dynamics (P)	4
PHYS 3741	Electromagnetic Field Theory 1 (P)	3
PHYS 3750	Mathematical Physics	3
Social Sciences GER Domain		3
Arts & Humanities GER Domain		3
Semester Hours		16
Spring		
ECEN 2614	Basics of Electrical Engineering	3
PHYS 3742	Electromagnetic Field Theory 2 (P)	3
Math Elective (Upper Division)		3

Social Sciences GER Domain		3
Semester Hours		12
Year 4		
Fall		
PHYS 4805	Undergraduate Physics Research	3
PHYS 5810	Quantum Mechanics and Quantum Statistical Mechanics 1 (P)	3
Electives (Upper Division)		8
Semester Hours		14
Spring		
PHYS 5811	Quantum Mechanics and Quantum Statistical Mechanics 2 (P)	3
Social & Personal Awareness GER Domain		3
Elective (Upper Division if CSIS 2610; any level if CIS 3735)		3
Electives at any level: 6 hours if CSIS 2610; 7 hours if CIS 3735		6-7
Semester Hours		15-16
Total Semester Hours		121-122