

Physics Major-Physics Concentration

I. MAJOR COURSES (36 hours)

Group A: Required courses

Course	Hrs	Subject
*PHYS 2311, 2341	3+1	Physics 1 + Lab
*PHYS 2321, 2351	3+1	Physics 2 + Lab
PHYS 3011	2	Advanced Physics Lab
PHYS 3051	3	Modern Physics
PHYS 3451	3	Math. Methods
PHYS 3731	3	Analytical Mechanics
PHYS 3751	3	Quantum Mechanics
PHYS 4111	3	Electricity and Magnetism 1
PHYS 4121	3	Electricity and Magnetism 2
PHYS 3951	1	Independent Research
PHYS 4951	<u>1</u>	Senior Thesis Seminar
	30 hrs	

*PHYS 2111, 2121, can be substituted for PHYS 2311, 2321

Group B: Electives

Choose 2 additional courses from the list below to complete the hours required for the physics major.

Course	Hrs	Subject	Course	Hrs	Subject
PHYS 3111	3	Nuclear Physics	PHYS 3551	3	Electronics
PHYS 3411	3	Optics	PHYS 3571	3	Computational Physics
PHYS 3471	3	Astrophysics	PHYS 4151	3	Plasma Physics
PHYS 3511	3	Solid State	PHYS 4901	3	Special Topics in Physics
PHYS 3531	3	Statistical Mechanics			

Substitutions: A maximum of 3 external credit hours may be substituted provided a grade of C or better is earned in the corresponding course. Substitutions which may be allowed are:

ENGR 2131 for PHYS 3731, or
ECCS 3111 for PHYS 4111, or
CHEM 3421 for PHYS 3531.

II. OTHER REQUIRED COURSES

MATH 1631, 1641, 2631 Calculus 1, 2, 3
MATH 2651 Differential Equations

III. COURSES RECOMMENDED for students planning to go to graduate school:

MATH 3651 Partial differential equations
MATH 3631 Complex variables
ECCS 1611 Programming 1

IV. CAPSTONE PROJECT

PHYS 3951 and PHYS 4951

The student is required to complete a capstone project. This project will consist of research on a physics topic in consultation with a physics professor. In general, PHYS 3951 will be taken in the fall semester of the senior year and PHYS 4951 will be taken in the spring semester of the senior year.