Sample 4-Year Plan: Physics B.A.

Northern Kentucky University

This is **one way** a student can complete this program in four years if the student requires no remedial courses.

MAJOR: Physics

FIRST YEAR Get to know your faculty. Talk with them about research opportunities. Attend Career Services workshops to learn how to build your resume. Join the physics club.	**Fall Semester**		**Spring Semester**	
	MAT 129 Calculus I	4	MAT 229 Calculus II	5
	PHY 220 University Physics with Laboratory I	4	PHY 224 University Physics with Laboratory III[1]	4
	Gen Ed: Communication; Written I; ENG 101 College Writing[2]	3	Gen Ed: Communication;Oral; CMST 101 Public Speaking[2]	3
	Gen Ed	3	Gen Ed	3
	TOTAL	**14**	**TOTAL**	**15**
SECOND YEAR Do a preliminary audit at the end of the year to be sure you are on track to graduate.	**Fall Semester**		**Spring Semester**	
	MAT 329 Calculus III	4	MAT 325 Differential Equations	3
	PHY 222 University Physics with Laboratory II[1]	4	PHY 360 Thermodynamics/ PHY 310 Dynamics	3
	PHY 361 Modern Physics I	3	Gen Ed: Communication; Written II; ENG 291 Advanced College Writing[2]	3
	PHY 300 Intermediate Physics Laboratory	2	PHY 301 Advanced Physics Laboratory	2
	Gen Ed	3	PHY 320 Physical Optics/ PHY 315 Introduction to Astrophysics/ AST 310 Astronomical Techniques[3]	3
	TOTAL	**16**	**TOTAL**	**14**
THIRD YEAR Take a leadership role in the physics club. Consider being a physics tutor with the NKU learning assistance programs. Engage in research with faculty by taking PHY 492 as an elective.	**Fall Semester**		**Spring Semester**	
	MAT 330 Classical Applied Physics/PHY 330 Mathematical Physics[4]	3	PHY 360 Thermodynamics/ PHY 310 Dynamics	3
	PHY 320/PHY 315/AST 310[3]	3	Physics elective 300 level or above[3]	3
	CHE 120 General Chemistry I	3	CHE 121 General Chemistry II	3
	CHE 120L General Chemistry I Laboratory	1	CHE 121L General Chemistry II Laboratory	1
	MAT 234 Linear Algebra or CSC 270 Mathematics Software Programming[4]	3	Gen Ed	3
	Gen Ed	3	PHY 320/PHY 315/AST 310[3]	3
	TOTAL	**16**	**TOTAL**	**16**
FOURTH YEAR If you're considering graduate school, prepare for the admission tests (e.g., GRE). Take the test. Develop your resume. Begin your job search.	**Fall Semester**		**Spring Semester**	
	Physics elective 300 level or above[3]	3	Elective 300 level or above	4
	Gen Ed	3	PHY 494 Physics Seminar	1
	PHY 405 Classical Mechanics	3	Elective 300 level or above	3
	Elective	3	Elective	3
	Elective	3	Elective	3
	TOTAL	**15**	**TOTAL**	**14**
			GRAND TOTAL OF CREDITS	**120**

Notes: This plan is ONE way in which you can complete your degree program in four years; it is not the only way. It assumes that you do not have to take any developmental courses (courses numbered below 100), that you start with MAT 129, that you are not a transfer student, and you are beginning in the fall semester.

[1]PHY 222 and PHY 224 may be taken in any order after completion of PHY 220 with a grade of *C-* or better. PHY 222 is taught only fall semesters; PHY 224 is taught only spring semesters.

[2]Regarding general education, as shown on this plan, the physics program highly recommends that you complete one oral and one written communication class during your first year and the second written communication class in your second year. The natural sciences and the mathematics/statistics requirements will be satisfied by the required physics, mathematics, and chemistry courses for the major. How you sequence the remainder of the general education program is up to you.

[3]The physics B.A. requires nine elective hours at the 300 level or above. Note: the offering of the following courses is once every three semesters: PHY 315 Astrophysics, PHY 320 Physical Optics, PHY 410 Electromagnetic Theory, PHY 420 Modern Physics II; PHY 460 Quantum Mechanics. This regular rotation of courses is fixed so that physics majors can plan in advance their schedules and graduate after completing four years at NKU. See the up-to-date offering schedule on the website (physics.nku.edu). Those who are planning to pursue graduate studies should pursue the physics B.S. degree instead.

[4]Assumes a minor in mathematical sciences (for students majoring in physical sciences). Only two courses are needed beyond those required by the physics program to obtain a minor in mathematical sciences. MAT 330/PHY 330 gives credit towards both the mathematics minor and physics major.