



COLLEGE OF LETTERS AND SCIENCES Major Planning Guide
PHYSICS ENGINEERING EMPHASIS major, Bachelor of Science – minor required

Not an official document. Refer to Advising Report for full requirements.
 Sample Advising Reports available on-line at <http://www.uww.edu/registrar/ars/index.html>

Major Planning Guides are sample programs which illustrate the type of curriculum a student will take to complete the degree in 4 years.

All students must complete a minimum of 120 credits including

- 1) at least 32 units of general education, including specific GenEd courses, as well as approved math and science, physical education and elective courses.
- 2) requirements for the BA or BS degree
- 3) requirements for the major and for the minor (an approved minor is required for this major)

*ACT/SAT scores determine which Math and English course is appropriate for you. Refer to your AR for this information and then adjust this schedule accordingly. The Planning Guide begins with the most common placement for this major, Calculus and Analytical Geometry 1.

**The Bachelor of Science requires two lab sciences and 5 credits of advanced math or 3 of math and 3 of computer science.

The following table represents a typical 4-year plan for a Physics major who wants to pursue an engineering career. This 4-year plan fulfills the requirements for a Bachelor of Science, a Physics major and a Mathematics minor, as well as the General Education courses required by the University for graduation. Other minors are also available. You may wish to view a table of course requirements to compare the physics coursework required for each of the four emphases of the physics major.

Courses in **Bold** indicate specific courses that must be completed for the major. Other courses such as GenEd Courses or major/minor electives can be selected from a number of course choices.

Freshman Year	
PHYSCS 180 Physics for Scientists and Engineers I - 5 units	PHYSCS 181 Physics for Scientists and Engineers II - 5 units
PHYSCS 190 Frontiers of Engineering and Physics - 1 unit	MATH 254 Calculus and Analytic Geometry II - 5 units
MATH 253 Calculus and Analytic Geometry I - 5 units	GENED 110 World of the Arts - 3 units
Intrauniv 104 - Freshman Seminar - 1 unit	ENGLISH 102* Freshman English - 3 units
ENGLISH 101* Freshman English - 3 units	
Semester 1: 15 units	Semester 2: 16 units
Sophomore Year	
PHYSCS 190 Frontiers of Engineering and Physics - 1 unit	PHYSCS 310 Mechanics: Dynamics - 3 units
PHYSCS 221 Intermediate Laboratory - 2 units	PHYSCS 330 Electronics - 4 units
PHYSCS 305 Mechanics: Statics - 3 units	
PHYSCS 324 Methods of Theoretical Physics - 3 units	MATH 355 Matrices and Linear Algebra - 3 units
MATH 255 Calculus and Analytic Geometry III - 4 units	GENED 120 or 140 Global or Historical Perspectives - 3 units
GENED 130 Individual and Society - 3 units	COMM 110 Fundamentals of Speech - 3 units
Semester 1: 16 units	Semester 2: 16 units
Junior Year	
PHYSCS 364 Thermal Physics - 3 units	PHYSCS 325 Classical Electromagnetism - 3 units
MATH 361 Differential Equations - 3 units	PHYSCS 344 Modern Physics - 4 units
CHEM 102 Introductory Chemistry I - 5 units	COMPSCI 170 or 174 - 3 units
GENED 390 World of Ideas - 3 units	CHEM 104 Introductory Chemistry II - 5 units
PEGRNL 192 Personal Health and Fitness - 1 unit	PHYSCS 389 Junior Seminar – 1 unit
Semester 1: 15 units	Semester 2: 15 units
Senior Year	
PHYSCS 489 Senior Seminar 1 unit	PHYSCS 360 Optics - 4 units
PHYSCS Elective – 3 units	MATH 459 Partial Differential Equations - 3 units (for Math minor)
ENGLISH 370/371 Adv Composition/Writing in the Sciences – 3 units	GenEd Elective - 3 units
Diversity (choose GenEd course) - 3 units	Elective (GenEd, if needed) - 3-6 units
GenEd Elective - 3 units	
Semester 1: 13 units	Semester 2: 13 - 16 units

Transfer students may have different general education requirements than those listed. Refer to your Advising Report for requirements specific to you.

General Degree Notes

You must begin your Math and English sequences with the appropriate course. The English course you start with will be determined by your ACT/SAT score. The Math course you start with will be determined by your UW Math Placement score or AP Calculus results. Please refer to your Academic Advising Report and adjust the sample 4 year plan accordingly.

All students must complete a minimum of 120 credits including:

- 1) At least 32 units of general education, including specific Gen Ed core courses, as well as approved math and science, physical education, and elective courses. Your general education electives must come from the following categories: GA, GS, GH, GE, or GI.
- 2) All requirements for the BA or BS Degree.
- 3) All requirements for the major and minor (if required).

College of Letters and Sciences Degree Notes

This plan includes Bachelor of Science (BS) requirements. For the BS, students must complete two lab sciences and 5 credits of advanced math or two 3 credit courses chosen from advanced math, statistics or computer science instead of the BA requirements.

A Bachelor of Arts (BA) is also available. For the BA, students must demonstrate that they have achieved basic competency in a foreign language equivalent to one year of study at the college level. Students must also complete two 300/400 level courses outside of the major and minor subjects.

Major Notes

The Planning Guide begins with the most common placement for this major but students who place lower may need additional math credits.

Courses in **bold** typeface indicate specific courses that must be completed for the major.