



**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.

<b>Freshman Year</b>	
<b>PHYSCS 180 Physics for Scientists and Engineers I - 5 units</b>	<b>PHYSCS 181 Physics for Scientists and Engineers II - 5 units</b>
<b>PHYSCS 190 Frontiers of Engineering and Physics - 1 unit</b>	<b>MATH 254 Calculus and Analytic Geometry II - 5 units</b>
<b>MATH 253 Calculus and Analytic Geometry I - 5 units</b>	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
<b>Sophomore Year</b>	
<b>PHYSCS 190 Frontiers of Engineering and Physics - 1 unit</b>	<b>PHYSCS 310 Mechanics: Dynamics - 3 units</b>
<b>PHYSCS 221 Intermediate Laboratory - 2 units</b>	<b>PHYSCS 330 Electronics - 3 units</b>
<b>PHYSCS 305 Mechanics: Statics - 3 units</b>	<b>PHYSCS 331 Electronics Laboratory - 1 unit</b>
<b>PHYSCS 324 Methods of Theoretical Physics - 3 units</b>	<b>MATH 355 Matrices and Linear Algebra - 3 units</b>
<b>MATH 255 Calculus and Analytic Geometry III - 3 units</b>	GenEd 120 or 140 Global or Historical Perspectives - 3 units
GenEd 130 Individual and Society - 3 units	Speech 110 Fundamentals of Speech - 3 units
Semester 1: 15 units	Semester 2: 16 units
<b>Junior Year</b>	
<b>PHYSCS 364 Thermal Physics - 3 units</b>	<b>PHYSCS 325 Classical Electromagnetism - 3 units</b>
<b>MATH 361 Differential Equations - 3 units</b>	<b>PHYSCS 344 Modern Physics - 4 units</b>
<b>Chemistry 102 Introductory Chemistry I - 5 units</b>	<b>CompSci 172, 174 or 347 - 3 units</b>
GenEd 390 World of Ideas - 3 units	<b>Chemistry 104 Introductory Chemistry II - 5 units</b>
PEGRNL 192 Personal Health and Fitness - 1 unit	
Semester 1: 15 units	Semester 2: 15 units
<b>Senior Year</b>	
<b>PHYSCS 489 Senior Seminar - 2 units</b>	<b>PHYSCS 360 Optics - 4 units</b>
<b>PHYSCS 496 Special Topics: Digital Logic - 3 units</b>	MATH 459 Partial Differential Equations - 3 units (for Math minor)
<b>English 370 Adv Composition</b>	GenEd Elective - 3 units
Diversity (choose GenEd course) - 3 units	Elective (GenEd, if needed) - 3-6 units
GenEd Elective - 3 units	
Semester 1: 14 units	Semester 2: 13 - 16 units