

PHYSICS
DEPARTMENT OF PHYSICS
COLLEGE OF LETTERS & SCIENCES
(38 UNITS) BS /BSE

The Physics website: <http://www.uww.edu/cls/physics> has information on courses, majors, intern and career possibilities, scholarships and other important information.

Calculation Skills

- MATH 152 Elementary Functions (5 units) *Pre-req: MATH 141(C or better)*
- MATH 253 Calculus & Analytical Geometry I (5 units) *Pre-req: MATH 152 with a C or better or equivalent high school preparation as determined by the Mathematics Department. Un-req: MATH 243 and MATH 250*
- MATH 254 Calculus & Analytical Geometry II (5 units) *Pre-req: MATH 250 (B or better) or MATH 253 (C or better)*
- MATH 255 Calculus & Analytical Geometry III (3 units) *Pre-req: MATH 254 (C or better)* **BS ONLY**
- MATH 355 Matrices & Linear Algebra (3 units) *Pre-req: Math 250 or Math 253* **BS ONLY**
- MATH 361 Differential Equations (3 units) *Pre-req: Math 255* **BS ONLY**

Physics Requirements

Freshman year

-PHYSICS 190 Horizons of Engr.&Phys. (1 unit, taken twice as Fresh. & Soph.) (*offered in fall only*)

AND

-PHYSICS 180* Physics for Scientists and Engineers I (5 units) *Co-req: MATH 253, (offered in fall only)*

-PHYSICS 181* Physics Sci/Engr. II (5 units) *Pre-req: PHYSICS 180/Co-req: MATH 254 (offered in spring only)*

Note: * It is *strongly* recommended that all physics majors take the 180/181 series. While the Physics 140/141 series is allowed for Graduate School and BSE emphases, it is not recommended. The 140/141 sequence is *not* permitted in the Industry and Engineering emphases. In addition, a co-requisite of Math 253 and Math 254 in PHYSICS 140 and 141, respectively, is **REQUIRED** to prepare physics majors for PHYSICS 305 and 324 taken in sophomore year.

Sophomore Fall Semester (these courses are offered in the fall only)

-PHYSICS 190 Horizons of Engineering & Physics (1 unit, taken twice as Fresh. & Soph.) (*offered Fall only*)

-PHYSICS 221 Intermediate Lab (2 units) *Pre-req: PHYSICS 181 or 141 and MATH 254*

-PHYSICS 305 Mechanics-Statics (3 units) *Pre-req: PHYSICS 181 or PHYSICS 141; and MATH 254*

-PHYSICS 324 Methods of Theor. Physics (3 units) *Pre-req: PHYSICS 181 OR PHYSICS 141 and MATH 254*

Chemistry Requirements (for Engineering & Industry emphases only)

-CHEM 102 Introductory Chemistry (5 units) *Pre-req: MATH 141*

-CHEM 104 Introductory Chemistry (5 units) *Pre-req: CHEM 102*

CompSci Requirements (for Engineering/Graduate School/Industry emphases only)

-COMPSCI, 172 or 174 (3 units) (taking COMPSCI 347 in addition to 172/174 is recommended)

Important Facts:

- Physics majors should **declare their major and minor** as soon as possible.
- The **four emphases in the Physics Major:** Engineering, Graduate School, High School Education and Industrial.
- It is very important for students to begin the **Math and Physics sequences** in their Freshman Fall Semester.
- Students with low math placement should immediately see the Physics Chair.
- Physics 290 (co-req Math 253) and 291 (pre-req Physics 290) are 1 unit courses designed to help students connect math techniques to physics problems. They are not required, and they do not count towards the major. Physics majors are encouraged (especially students who may be weaker in their math skills) to take Physics 290 and 291, as they will help all students be successful in their physics courses.
- The Math requirements for BSE-Physics majors are not reflected on the AR: Math 253 & Math 254 are required.
- PHYSICS 100 (GM), PHYSICS 120 (GL), PHYSICS 130 (GL), PHYSICS 150 (GM), PHYSICS 212 (GL) and PHYSICS 240 (GM) do **not** count towards major.
- The most common minors for a Physics major are Math (finishing unique math requirements place most students only 3 units away from finishing Math minor), Chemistry, Computer Science, Geology and Biology.
- A **Dual-Degree Program** in Engineering is available with UW-Milwaukee and UW-Madison.
- Physics majors cannot minor in physics.

****Contact Information:**

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