

Bachelor of Science in Physics – Computational Physics Concentration

A Suggested Sequence of Required Courses (2015-2016 Catalog)

F r e s h m a n Y e a r			
Fall _____ 0 Chapel (CHA 1088) _____ 3-4 Foreign Language 1401/1412 (see reverse) _____ 4 CSI 1430 Intro to Computer Science I w/ Lab _____ 1 Lifetime Fitness _____ 3 MTH 1321 Calculus I (<i>if eligible</i>) _____ 4 PHY 1420 General Physics I Total: 15-16	Spring _____ 0 Chapel (CHA 1088) _____ 3-4 Foreign Language 1402/2310 (see reverse) _____ 4 CSI 1440 Intro to Computer Science II w/ Lab _____ 1 Lifetime Fitness _____ 3 MTH 1322 Calculus II _____ 4 PHY 1430 General Physics II Total: 15-16		
S o p h o m o r e Y e a r			
Fall _____ 3 Foreign Language 2310 (see reverse) _____ 3 CSI 2350 Discrete Structures _____ 3 MTH 2311 Linear Algebra _____ 3 MTH 2321 Calculus III _____ 1 PHY 2135 Basic Electronics Lab _____ 3 PHY 2350 Modern Physics Total: 16	Spring _____ 3 Foreign Language 2320 (see reverse) _____ 3 ENG 1302 or FAS 1302 _____ 3 CSI 2334 Intro. to Computer Systems _____ 3 MTH 3325 Ordinary Differential Equations _____ 1 PHY 2190 Introduction to Research _____ 3 PHY 2360 Math and Computational Physics Total: 16		
J u n i o r Y e a r			
Fall _____ 3 REL 1310 _____ 3 CSI 3324 Numerical Methods _____ 3 MTH 3326 Partial Differential Equations _____ 1 PHY 3175 Intermediate Physics Lab I _____ 3 PHY 3320 Intermediate Classical Mechanics _____ 3 PHY 3372 Intro Quantum Mechanics I Total: 16	Spring _____ 3 REL 1350 _____ 3 ENG 3300 (see below) _____ 1 Lifetime Fitness _____ 3 PHY or CSI (3000 or 4000 level) _____ 3 PHY 3330 Inter. Electricity & Magnetism _____ 3 PHY 3373 Intro Quantum Mechanics II Total: 16		
S e n i o r Y e a r			
Fall _____ 1 PHY 4190 Dissemination of Research Results _____ 3 PHY 4340 Statistical & Thermal Physics _____ 3 PHY or CSI (3000 or 4000 level) _____ 0 PHY 4001 Exit Exam _____ 3 ENG 2301 or ENG 2304/2306/GTX _____ 3 History/Social Science (see reverse) _____ 3 PSC 2302 Total: 16	Spring _____ 3 PHY 4360 Computer Models in Physics _____ 3 PHY or CSI (3000 or 4000 level) _____ 3 ENG 2301 or ENG 2304/2306/GTX _____ 3 History/Social Science (see reverse) _____ 1 Lifetime Fitness _____ 3 Elective Total: 16		

*All students must graduate with a minimum of 124 hours,
36 of which must be at the 3000/4000 level.*

Notes about major requirements:

- English requirement: It is recommended that science majors take ENG 3300 during their junior year rather than ENG 1304. Students may also take FAS 1118, 1128, and 1138 instead of ENG 1304.
- Prior to taking PHY 4190, students are expected to make substantial progress on a research project. Research typically begins when PHY 2190 is taken in the sophomore year. Students involved in research during their junior year should enroll in PHY 3V95 (Undergraduate Research). In addition, students are strongly encouraged to participate in summer research opportunities.
- Many required courses are offered only one time each year in either the fall semester or the spring semester.
- Check your degree audit often through Bearweb to ensure that you are making timely progress toward your degree.
- For more information, see the undergraduate catalog.

Please see reverse side for important information on general requirements.

Notes about General Requirements:

- Course selection is subject to availability within each semester.
- Please keep in mind that this is only a suggested sequence. Actual sequence will vary according to possible second major, minor, other program of study (including pre-health), and individual circumstances (ex., transfer credit, dual credit, and credit by exam).
- In order to complete your degree, you must fulfill all requirements in your major and general requirements for the Bachelor of Science.
- To complete a double major, you may not count any courses toward both majors.
- For more specific information on general requirements, see your undergraduate catalog.
- Check your degree audit often through Bearweb to ensure that you are making timely progress toward your degree.

History/Social Science (choose 2 courses from the following areas - 6 hours):

- Anthropology, Economics, History, Honors, Philosophy, Political Science, Psychology, Sociology, GEOG 1300, FAS 1303, 1304 or 1305, or 3 courses from FAS 1115, 1125, 1135.
- Check your major to determine if special courses are needed.

Foreign Language:

- **Option A:** One modern language through 2320 level:
Arabic, Chinese, French, German, Italian, Japanese, Korean, Portuguese, Russian, Spanish, and Swahili
- **Option B:** One classical language through 2320 level or two classical through 1302 level:
Latin, Greek, Hebrew (If available, Akkadian, Aramaic, Syriac, and/or Ugaritic may be used)
*Chemistry majors must take a modern foreign language; German or Russian are strongly recommended.

Math & Science: You must complete a minimum of 34 hours of math and science courses. See the undergraduate catalog for a more detailed explanation or refer to your audit for specific science/math courses that may be required by your major.

Fine Arts: None required for this degree.

Biology/Chemistry Prerequisite Policies:

- **Biology:** In order to register for BIO 1305 and 1306 students must have either a satisfactory math score on the ACT or SAT OR have completed MTH 1320 (Pre-Calculus) with a grade of B or better.
- **Chemistry:** In order to register for CHE 1301 students must have either a satisfactory math score on the ACT or SAT or have a minimum grade of B in CHE 1300 AND a minimum grade of B in either MTH 1320 (Pre-Calculus) or MTH 1321 (Calculus).