

# Bachelor of Science in Physics - Computational Physics Concentration

*A Suggested Sequence of Required Courses*

## F r e s h m a n Y e a r

Fall			Spring			
_____	0	0 0	Core: Common Course (Chapel)	_____	0	Core: Common Course (Chapel)
_____	0	0 0	Core: Common Requirement (*Creative Arts Event)	_____	0	Core: Common Requirement (*Creative Arts Event)
_____	3	3 3	Core: Common Course	_____	3	Core: Common Course
_____	3-4	3 4	Core: Distribution List (**Foreign Language)	_____	3-4	Core: Distribution List (**Foreign Language)
_____	4	4 4	<b>Computer Science, three semester hours</b>	_____	4	<b>CSI 1440 Intro to Computer Science II w/ Lab</b>
_____	3	3 3	<b>MTH 1321 Calculus I</b>	_____	3	<b>MTH 1322 Calculus II</b>
_____	4	4 4	<b>PHY 1420 General Physics I</b>	_____	4	<b>PHY 1430 General Physics II</b>
Total: 17-18			Total: 17-18			

## S o p h o m o r e Y e a r

Fall			Spring			
_____	0	0 0	Core: Common Requirement (*Creative Arts Event)	_____	0	Core: Common Requirement (*Creative Arts Event)
_____	3	3 3	Core: Distribution List (**Foreign Language)	_____	3	Core: Common Course
_____	1	1 1	Core: Lifetime Fitness	_____	3	Elective (see below) / <b>DL (Foreign Language)</b>
_____	3	3 3	<b>CSI 2350 Discrete Structures</b>	_____	3	<b>CSI 2334 Intro to Computer Systems</b>
_____	3	3 3	<b>MTH 2311 Linear Algebra</b>	_____	3	<b>MTH 3325 Ordinary Differential Equations</b>
_____	3	3 3	<b>MTH 2321 Calculus III</b>	_____	1	<b>PHY 2190 Introduction to Research</b>
_____	1	1 1	<b>PHY 2135 Basic Electronics Lab</b>	_____	3	<b>PHY 2360 Math and Computational Physics</b>
_____	3	3 3	<b>PHY 2350 Modern Physics</b>			
Total: 17			Total: 16			

## J u n i o r Y e a r

Fall			Spring			
_____	0	0 0	Core: Common Requirement (*Creative Arts Event)	_____	0	Core: Common Requirement (*Creative Arts Event)
_____	3	3 3	Core: Common Course	_____	3	Core: Common Course
_____	3	3 3	<b>CSI 3324 Numerical Methods</b>	_____	3	Core: Distribution List Course
_____	3	3 3	<b>MTH 3326 Partial Differential Equations</b>	_____	3	Core: Distribution List Course
_____	1	1 1	<b>PHY 3175 Intermediate Physics Lab I</b>	_____	3	<b>PHY or CSI (3000 or 4000 level)</b>
_____	3	3 3	<b>PHY 3320 Intermediate Classical Mechanics</b>	_____	3	<b>PHY 3330 Interim. Electricity &amp; Magnetism</b>
_____	3	3 3	<b>PHY 3372 Intro Quantum Mechanics I</b>	_____	3	<b>PHY 3373 Intro to Quantum Mechanics II</b>
Total: 16			Total: 18			

## S e n i o r Y e a r

Fall			Spring			
_____	3	3 3	Core: Distribution List Course	_____	3	Core: Distribution List Course
_____	3	3 3	Core: Distribution List Course	_____	3	<b>PHY 4360 Computer Models in Physics</b>
_____	0	0 0	<b>PHY 4001 Exit Exam</b>	_____	3	<b>PHY or CSI (3000 or 4000 level)</b>
_____	3	3 3	<b>PHY OR CSI (3000 OR 4000 level)</b>	_____	3	<b>PHY or CSI (3000 or 4000 level)</b>
_____	3	3 3	<b>PHY 4340 Statistical &amp; Thermal Physics</b>	_____	3	Elective (see below)
_____	1	1 1	<b>PHY 4190 Dissemination of Research Results</b>			
_____	3	3 3	Elective (see below)			
Total: 16			Total: 15			

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

### Notes about major requirements:

- This is a Degree Requirement Guide. It provides a general understanding of how the courses that fulfill a BS degree may be taken during your time at Baylor. Because every major under the BS degree will differ, it is important that you refer to your degree audit and catalog for the specific requirements for your chosen major. In addition, it is imperative that you meet with your assigned advisor each semester to make sure you are fulfilling all requirements for a timely graduation.

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

– **Core - Common Course:** These are common courses that are part of the general education requirements for all College of Arts and Sciences (A&S) degrees. All students in A&S must fulfill these requirements. Those areas within the Core that may require multiple semesters are indicated above. The 1000-level Core courses should be taken in the freshman or sophomore years and 2000-level Core courses should typically be taken in the sophomore year or later. Please refer to your degree audit or catalog for a full listing of courses. Please see your assigned advisor for a more detailed explanation.

– **Core - Distribution Lists (DL):** This portion of the A&S Core curriculum includes 9 separate sections with over 200 courses from which to choose. You must complete the specific requirements of each section. Those areas within the DLs that may require multiple semesters are indicated above. Please refer to your degree audit or catalog for a full listing of courses. Please see your assigned advisor for a more detailed explanation. **NOTE:** Three of the DL sections (Scientific Method I, II, and Critical Thinking) are covered by science classes from most BS majors. Please see your advisor to discuss if this will apply to your chosen major.

– **\*Core - Creative Arts Experience (CAE):** You must attend 12 approved CAE events as part of the general education requirements. You are encouraged to attend 2 approved CAE events per semester (or 4 within one academic year) in order to fulfill this requirement in a timely manner. Please see your assigned advisor for more information.

– **\*\*Core - Foreign Language:** The hours to complete your foreign language requirement may differ depending on which of the three options you choose from the DL or if you test into a higher level of language from the beginning. The hours could range from 8-12 hours. Please see your assigned advisor for more information.

– **Major Course:** These are the courses that are required for your major. Refer to the catalog or your degree audit for the exact number of hours required for your chosen major(s). The hours for each major will vary slightly. It will be critical that you work with your assigned academic advisor to understand the sequencing of these major courses.

– 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.

– **Elective:** Because the number of electives that are available with most BS majors can vary significantly, you will want to discuss the possibility of adding a double major, secondary major, minor(s) or certificate(s) with your assigned advisor. Otherwise, these elective hours can be any 1000-4000 level course for which you qualify to register. Please refer to your catalog for a full listing of classes. Please see your assigned advisor for a more detailed explanation.