

# ACADEMIC PLANNING SHEET

# B.S. PHYSICS

COLORADO STATE UNIVERSITY - PUEBLO

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2019-2020 CATALOG

(Fall Start in an ODD Year)

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	Fall Semester		Spring Semester	
<b>First Year</b>  (Odd F/ Even S)	MATH 126: Calculus and Analytic Geometry I CHEM 121/L: General Chemistry I/Lab ENG 101: English Composition I General Education Course: Humanities	5 5 3 3	PHYS 221/L: General Physics I/Lab MATH 224: Calculus and Analytical Geometry II MATH 207: Matrix & Vector Algebra ENG 102: English Composition II	5 5 3 3
	<b>TOTAL SEMESTER HOURS</b>	<b>16</b>	<b>TOTAL SEMESTER HOURS</b>	<b>16</b>
<b>Second Year</b>  (Even F/ Odd S)	PHYS 222/L: General Physics II/Lab PHYS 321: Thermodynamics PHYS 322: Advanced Lab – Thermodynamics MATH 325: Intermediate Calculus General Education Course: Humanities	5 3 1 4 3	PHYS 323/L: General Physics III/Lab MATH 337: Differential Equations I CHEM 122/L: General Chemistry II/Lab MATH 242: Intro. to Computation	5 3 5 4
	<b>TOTAL SEMESTER HOURS</b>	<b>16</b>	<b>TOTAL SEMESTER HOURS</b>	<b>17</b>
<b>Third Year</b>  (Odd F/ Even S)	PHYS 341: Optics PHYS 342: Advanced Lab - Optics MATH 338: Differential Equations II General Education Course: Humanities General Education Course: Social Science	3 1 3 3 3	PHYS 431: Electricity and Magnetism PHYS 432: Adv. Lab – Electricity & Magnetism PHYS 492: Research General Education Course: History General Education Course: Social Science Elective	4 1 1 3 3 3
	<b>TOTAL SEMESTER HOURS</b>	<b>13</b>	<b>TOTAL SEMESTER HOURS</b>	<b>15</b>
<b>Fourth Year</b>  (Even F/ Odd S)	PHYS 301: Analytical and Orbital Mechanics PHYS 480: Lab Practicum Approved Math Elective(s)* Elective Elective	4 1 4 3 3	PHYS 441: Quantum Mechanics PHYS 499: Thesis Research PHYS 493: Physics Seminar Elective Elective	4 1 1 3 3
	<b>TOTAL SEMESTER HOURS</b>	<b>15</b>	<b>TOTAL SEMESTER HOURS</b>	<b>12</b>

**\*Include Approved Math Elective (Junior or Senior Year)** Math 307: Intro to Linear Algebra OR Math 350: Probability OR Math 425: Complex Variables. For a 3 hour math elective, an additional one credit hour of general electives is needed.

**DISCLAIMER:** The Academic Planning Sheet is designed as a guide for students planning their course selections. The information on this page provides only a suggested schedule. Actual course selections should be made with the advice and consent of an academic adviser. While accurately portraying the information contained in the college catalog, this form is not considered a legal substitute for that document. Students should become familiar with the catalog in effect at the time in which they entered CSU -Pueblo.

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## General Education Requirements: 24 semester hours

- ENG 101: English Composition I (3)
- ENG 102: English Composition II (3)
- Mathematics Course (3)
  - MATH 126: Calculus & Analytic Geometry I (5)
- Humanities Courses (9)
- History Course (3)
- Social Sciences Courses (6)
- Natural and Physical Sciences Courses (8) (2 courses with labs)
  - PHYS 221/L: General Physics I with/Lab (5)
  - PHYS 222/L: General Physics II with/Lab (5)

## Transfer Students:

<u>Course Completed elsewhere</u>	<u>CSU-Pueblo equivalent</u>
(Ex: English 101)	(Ex: English 101)

## Major Requirements:

*Physics Emphasis:* 40 semester hours

- PHYS 221/L: General Physics I/Lab (5)
- PHYS 222/L: General Physics II/Lab (5)
- PHYS 301: Analytical and Orbital Mechanics (4)
- PHYS 321: Thermodynamics (3)
- PHYS 322: Advanced Laboratory-Heat (1)
- PHYS 323/L: General Physics III/Lab (5)
- PHYS 341: Optics (3)

*Physics Emphasis: cont'd*

- PHYS 342: Advanced Laboratory-Optics (1)
- PHYS 431: Electricity and Magnetism (4)
- PHYS 432: Advanced Lab Electricity & Magnetism (1)
- PHYS 441: Quantum Mechanics (4)
- PHYS 480: Practicum in Lab Instruction (1)
- PHYS 492: Research (1)
- PHYS 493: Seminar (1)
- PHYS 499: Thesis Research (1)

*Other Required Courses:* 37-39 semester hours

- CHEM 121/L: General Chemistry I/Lab (5)
  - CHEM 122/L: General Chemistry II/L (5)
  - MATH 242: Introduction to Computation (4)  
OR
  - EN 103: Problem Solving for Engineers (3)
  - MATH 126: Calculus & Analytic Geometry I (5)
  - MATH 207: Matrix & Vector Algebra with Applications (3)
  - MATH 224: Calculus and Analytic Geometry II (5)
  - MATH 325: Intermediate Calculus (4)
  - MATH 337: Differential Equations I (3)
  - MATH 338: Differential Equations II (3)
  - Approved Math Elective (3-4)
- (Courses italicized meet General Education requirements)

*Electives:* 15-17 semester hours

## Institutional Graduation Requirements:

- Total of 120 semester hours, minimum.
- Complete a minimum of 40 semester hours in upper-division courses.
- Overall cumulative grade point average of at least 2.00.
- A minimum of 60 semester hours must be earned from a four-year institution. Of these, a minimum of 30 semester hours of credit must be earned in residence.
- Of the last 30 semester credits earned immediately preceding graduation, no more than 15 may be completed at other colleges or universities.
- All other requirements as specified in the Catalog.

## Additional Major Graduation Requirements:

- Students must have at least a 2.000 grade-point average in physics courses and no more than four credits in physics with grades of D.
- At least 12 physics credits applied to the major must be earned at CSU-Pueblo with a C or better average.
- Students must have earned a C or better grade in lower-division prerequisite courses before being admitted to upper-division courses in physics.

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