



**Transfer Guide for Community College Students Transferring to:
Colorado State University Pueblo Bachelor of Science in**

Physics (Engineering Emphasis)

Contact for Physics Department: 719-549-2433

<http://csm.csupueblo.edu/Physics/Pages/Default.aspx>

I. General Education Courses

*Students who do not place into college level English Composition or Math will have to take pre-requisite Developmental Education courses.

| | Credit Hours | Community College Course Number and Title or gtPathways Category | 4-year Institution's Course (credits) |
|------------------------------|---------------------|--|--|
| Written Communication | 6 | ENG 121: English Composition I (3 cr) (GT-CO1) English Composition II (3 cr) (GT-CO2) | ENG 101, 3 credits ENG 102, 3 credits |
| Oral Communication | 3 | COM 115, Public Speaking (3 cr) | COMR 103, 3 credits |
| Mathematics | 5 | MAT 201, Calculus I | MATH 126, 5 credits |
| Arts & Humanities | 6 | Two gtPathways Arts & Humanities courses from two different areas (<u>GT-AH1</u> , <u>GT-AH2</u> , <u>GT-AH3</u> , or <u>GT-AH4</u>) | 6 credits |
| Social & Behavioral Sciences | 6 | Two gtPathways Social & Behavioral Science courses from two different areas (<u>GT-SS1</u> , <u>GT-SS2</u> , or <u>GT-SS3</u>) | 6 credits |
| History | 3 | One gtPathways History course (<u>GT-HI1</u>) | 3 credits |
| Natural & Physical Sciences | 10 | PHY 211, Physics Calculus-Based I With Lab PHY 212, Physics Calculus-Based II With Lab | PHYS 221/L, 5 credits PHYS 222/L, 5 credits |
| | 39 | TOTAL GEN ED CREDITS | 39 |

II. Required Courses

| Credit Hours | Community College Course Number and Title | |
|---------------------|--|-----------------------|
| 5 | CHE 111, General College Chemistry I With Lab | CHEM 121/L, 5 credits |
| 5 | CHE 112, General College Chemistry II With Lab | CHEM 122/L, 5 credits |
| 5 | MAT 202, Calculus II | MATH 224, 5 credits |
| 3 | EKG 211, Engineering Mechanics I - Statics | EN 211, 3 credits |
| 3 | EKG 212, Engineering Mechanics II - Dynamics | EN 212, 3 credits |
| 21 | TOTAL REQUIRED COURSES CREDITS | 21 |
| 60 | TOTAL ASSOCIATE DEGREE CREDITS | |

ASSOCIATE OF SCIENCE DEGREE REQUIREMENTS (60 Credits):

Students should note that all required courses must be satisfactorily completed as part of the AS degree at the community college and will also transfer and apply to the bachelor's degree requirements at the receiving 4-year institution. However, if you're going to transfer before completing the AS degree, you may not need some of these courses. In that case, check with the receiving institution and an advisor for your options.

GUARANTEES & LIMITATIONS

1. **Completion of Associate's Degree:** This transfer guide identifies the courses a student needs to complete (with a C- or higher) to earn an AS degree at a Colorado community/junior college in order to be able to finish the designated baccalaureate degree in no more than 60 credits. Per [Colorado Commission on Higher Education \(CCHE\) Policy I, L](#), students who complete an AS degree at a Colorado community/junior college and who are admitted to a Colorado public baccalaureate institution are guaranteed the following: the full transfer and application of a minimum of 60 credits toward the baccalaureate degree requirements at the Colorado institution of higher education; completion of the lower-division component of the receiving institution's general education core curriculum; and junior standing. Course credit may be applied to major, elective or other requirements at the receiving institution's discretion. If more than 60 college-level credits are taken or the student gets lower than a C- in one or more courses at the community/junior college, then some loss of transfer credit may occur, and students may not be able to complete this baccalaureate degree in 120 credits.
2. **Transfer Before Completing the Associate's Degree:** If the student intends to transfer prior to completing an AS degree, this transfer guide should still be used to identify the courses that can most effectively prepare them for efficiently completing the designated major at the baccalaureate institution to which they are transferring. While not completing the required associate's degree eliminates the guarantees described here, gtPathways general education courses identified in Section I are guaranteed to transfer and apply to the receiving institution's gtPathways lower division general education requirements. Students are strongly encouraged to finish course sequences (such as English Comp I & II or Calculus I, II & III) before transferring.

For additional information on CCHE transfer policies and gtPathways guaranteed transfer of general education credit, visit <http://highered.colorado.gov/Academics/Transfers/Students.html>. To file a transfer-related complaint with the Colorado Department of Higher Education, visit <http://highered.colorado.gov/Academics/Complaints/default.html>

The chart shown below illustrates the remaining requirements to complete the BS in Physics (Engineering Emphasis) after transferring to CSU-Pueblo. 60 semester credits are the maximum amount of transfer credit allowed from two-year institutions. Therefore the credits shown below **MUST** be completed at CSU-Pueblo.

| Additional Physics Course Requirements | | |
|--|---|------------|
| PHYS 301 | Theoretical Mechanics | 4 credits |
| PHYS 321 | Thermodynamics | 3 credits |
| PHYS 322 | Advanced Laboratory-Heat | 1 credit |
| PHYS 323/L | General Physics III With Lab | 5 credits |
| PHYS 341 | Optics | 3 credits |
| PHYS 342 | Advanced Laboratory – Optics | 1 credit |
| PHYS 431 | Electricity and Magnetism | 4 credits |
| PHYS 492 | Research | 1 credit |
| Engineering Course Requirements | | |
| EN 101 | Introduction to Engineering | 2 credits |
| EN 103 | Problem Solving for Engineers | 3 credits |
| EN 107 | Engineering Graphics | 2 credits |
| EN 231/L | Circuit Analysis I With Lab | 5 credits |
| EN 321 | Thermodynamics | 3 credits |
| EN 324/L | Materials Science & Engineering With Lab | 4 credits |
| EN 441/L | Engineering of Manufacturing Processes With Lab | 4 credits |
| EN 443 | Quality Control and Reliability | 3 credits |
| EN 471 | Operations Research | 3 credits |
| Additional Degree Requirements | | |
| MATH 207 | Matrix and Vector Algebra With Applications | 2 credits |
| MATH 325 | Intermediate Calculus | 3 credits |
| MATH 337 | Differential Equations I | 3 credits |
| Open Elective | Any Approved Discipline | 1 credit |
| Total A.S. Transfer Credit Applied Toward B.S. Degree | | 60 |
| Total Additional Credit Required for B.S. Degree | | 60 |
| Total B.S. Degree Requirements | | 120 |