

Physics (Chemical Physics 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	MAT 255, Linear Algebra	MATH 207, 2 credits
3	EGG 130, Engineering Computing	EN 103, 3 credits
21	TOTAL REQUIRED COURSES CREDITS	20
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 (Chemical Physics 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 341/342 OR PHYS 431	Optics/Advanced Laboratory-Optics OR Electricity and Magnetism	4 credits OR 4 credits
PHYS 441	Quantum Mechanics	4 credits
PHYS 492	Research	1 credit
Additional Degree Requirements		
MATH 325	Intermediate Calculus	3 credits
MATH 337	Differential Equations I	3 credits
Approved Chemistry Electives	Chemistry	22 credits
Open Electives	Any Approved Discipline	10 credits
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