Colorado Community College to UNC Transfer Guide*

Physics A.S. / Physics B.S. – Astronomy Concentration

2024-2025 Catalog

Degree Requirements – 120 Credits

*Guide for students transferring to the University of Northern Colorado from a Colorado community college for the purpose of completing a bachelor's degree. Courses marked as (**bold**) are UNC equivalent courses (if applicable) upon transfer. UNC Liberal Arts Curriculum (LAC) is waived with completion of AA/AS degree (if an AA/AS degree is not completed, additional liberal arts courses may be required). This guide is based on UNC degree and Colorado general education requirements from the above catalog term.

This four-year plan is a **recommended schedule** and not reflective of every student's individual academic context. Some requirements may vary by college. Some degrees have Statewide Transfer Articulation Agreements in place; please see https://cdhe.colorado.gov/transfer-degrees for details. This guide is for planning purposes only. Students should consult with their academic advisor for course sequence guidance.

COMMUNITY COLLEGE – 60 Credits			
YEAR 1 – FALL: 14 credits		**YEAR 1 – SPRING: 14 credits**	
ENG 1021 English Composition I (GT-CO1) **(*ENG 122 College Composition)**	3 credits	ENG 1022 English Composition II (GT-CO2) **(*ENG 123 College Research Paper)**	3 credits
PHY 2111 Physics: Calculus-based I w/Lab (GT-SC1) **(*PHYS 240 General Physics I)**	5 credits	MAT 2410 Calculus I (GT-MA1) **(*MATH 131 Calculus I)**	5 credits
Arts & Humanities (GT-AH)	3 credits	Arts & Humanities (GT-AH)	3 credits
Social & Behavioral Sciences (GT-SS)	3 credits	History (GT-HI1)	3 credits
YEAR 2 – FALL: 18 credits		**YEAR 2 – SPRING: 14 credits**	
CHE 1111 Gen College Chemistry with lab (GT-SC1) **(*CHEM 111/111 L Principles of Chemistry I)**	5 credits	PHY 2113 Physics III: Calculus-Based Modern Physics **(*Substituted for PHYS 321 Elementary Modern Physics)**	3 credits
MAT 2420 Calculus II (GT-MA1) **(*MATH 132 Calculus II)**	5 credits	MAT 2430 Calculus III (GT-MA1) **(*MATH 233 Calculus III)**	4 credits
PHY 2112 Physics: Calculus-based II w/Lab (GT-SC1) **(*PHYS 241 General Physics II)**	5 credits	CSC 1060 Computer Science **(*Substitute for CS 120 Intro to Programming)**	4 credits
Arts & Humanities (GT-AH)	3 credits	MAT 2560 Differential Equations (GT-MA1) **(*MATH 335 Differential Equations I)**	3 credits
UNIVERSITY OF NORTHERN COLORADO – 60 Credits			
YEAR 3 – FALL: 17 credits		**YEAR 3 – SPRING: 14 credits**	
PHYS 320 Mathematical Methods I	3 credits	PHYS 301 Seminar in Physics	1 credit
PHYS 323 Elementary Modern Physics Lab	1 credit	PHYS 342 Electricity and Magnetism II	3 credits
PHYS 341 Electricity and Magnetism I	3 credits	PHYS 420 Mathematical Methods II	3 credits
PHYS 355 Computer Applications in Physics	3 credits	AST 310 Techniques in Observational Astronomy	4 credits
PHYS 347 Optics	4 credits	University-wide Elective	3 credits
AST 303 Galaxy Formation and Cosmology	3 credits		
YEAR 4 – FALL: 15 credits		**YEAR 4 – SPRING: 14 credits**	
PHYS 340 Mechanics	4 credits	PHYS 360 Laboratory Physics	2 credits
PHYS 345 Quantum Mechanics I	3 credits	PHYS 445 Quantum Mechanics II	3 credits

YEAR 4 – FALL (continued)		YEAR 4 – SPRING (continued)	
PHYS 440 Thermodynamics and Statistical Mechanics	4 credits	PHYS 448 Nuclear and Particle Physics	3 credits
PHYS 370 Research I	1 credit	PHYS 470 Research II	1 credit
AST 301 Classical Astronomy and the Solar System	3 credits	AST 302 Stars and the Milky Way	3 credits
		University-wide Elective	2 credits

Every UNC student must meet the following requirements in order to graduate with a bachelor's degree: earn a minimum of 120 semester credit hours; possess a minimum of a 2.00 cumulative grade point average; meet all degree requirements in the student's major field of study. Each major and/or concentration may have additional requirements necessary for graduation. Students must consult with their major advisor to receive information on any additional graduation requirements. View the UNC Undergraduate Catalog for current degree requirements.

Contact Information –

Department of Physics and Astronomy; Ross Hall 0232; (970)351-2961
www.unco.edu/nhs/physics-astronomy/

Program Admission Requirements –

Academic Good Standing.

For information about admission to the University of Northern Colorado, please visit https://www.unco.edu/admissions/.

Notes –

Students who need more preparation in mathematics should start in MAT 1340 College Algebra or MAT 1420 College Trigonometry.

Many of the upper-level major courses at UNC are offered every other year, so the courses taken in years 3 and 4 depend on whether a student enters UNC in an even or odd year. Consultation with a UNC advisor is necessary in determining the year 3, fall semester schedule.

A minimum 2.0 cumulative grade point average is required in PHYS prefix courses for graduation.