DEGREE WORKSHEET FOR:

BS Physics, Astronomy

2022-2023 Catalog

Degree Requirements – 120 credits

[1]For students beginning their 1st year in odd years (2023, 2025, etc.)			
YEAR 1 - FALL (15 credits)		**YEAR 1 - SPRING (15 credits)**	
PHYS 240 General Physics I (LAS1, LASL*)	5 credits	PHYS 241 General Physics II	5 credits
MATH 131[2] Calculus I (LAX1*)	4 credits	MATH 132 Calculus II (LAX1*)	4 credits
ENG 122 College Composition (LAW1*)	3 credits	CS 120 Introduction to Programming	3 credits
Liberal Arts Curriculum (choose one LAA1, LAA2, LAA3, LAA4 that is also a LAMS or LAIS*)	3 credits	Liberal Arts Curriculum (LAW2*)	3 credits
YEAR 2 - FALL (15 credits)		**YEAR 2 - SPRING (15 credits)**	
PHYS 320 Mathematical Methods I	3 credits	PHYS 321 Elementary Modern Physics	3 credits
MATH 233 Calculus III	4 credits	PHYS 420 Mathematical Methods II	3 credits
CHEM 111 Principles of Chemistry I (LAS1*)	4 credits	AST 302 Stars and the Milky Way	3 credits
CHEM 111L Principles of Chemistry I Lab (LAS1, LASL*)	1 credit	Liberal Arts Curriculum (choose one LAB1, LAB2 or LAB3 that is also a LAMS and/or LAIS*)	3 credits
AST 301 Classical Astronomy and the Solar System	3 credits	Liberal Arts Curriculum (LAH1*)	3 credits
YEAR 3 - FALL (14 credits)		**YEAR 3 - SPRING (16 credits)**	
PHYS 341 Electricity and Magnetism I	3 credits	PHYS 301 Seminar in Physics	1 credit
PHYS 347 Optics	4 credits	PHYS 342 Electricity and Magnetism II	3 credits
AST 303 Galaxy Formation and Cosmology	3 credits	PHYS 355 Computer Applications in Physics	3 credits
Liberal Arts Curriculum (LAA1, LAA2, LAA3, LAA4*)	3 credits	AST 310 Observational Techniques	3 credits
PHYS 323 Elementary Modern Physics Lab	1 credit	University-wide Electives	6 credits
YEAR 4 - FALL (15 credits)		**YEAR 4 - SPRING (15 credits)**	
PHYS 345 Quantum Mechanics I	3 credits	PHYS 445 Quantum Mechanics II	3 credits
PHYS 340 Mechanics	4 credits	PHYS 360 Laboratory Physics	2 credits
PHYS 440 Thermodynamics and Statistical Mechanics	4 credits	PHYS 470[3] Research II	1 credit
PHYS 370[3] Research I	1 credit	PHYS 448 Nuclear & Particle Physics	3 credits
Liberal Arts Curriculum (choose one additional LAA, LAH or LAB*)	3 credits	University-wide Electives	6 credits
[1]For students beginning their 1st year in even years (2022, 2024, etc.)			
YEAR 1 - FALL (15 credits)		**YEAR 1 - SPRING (15 credits)**	
PHYS 240 General Physics I (LAS1, LASL*)	5 credits	PHYS 241 General Physics II	5 credits
MATH 131[2] Calculus I (LAX1*)	4 credits	MATH 132 Calculus II (LAX1*)	4 credits
ENG 122 College Composition (LAW1*)	3 credits	CS 120 Introduction to Programming	3 credits
Liberal Arts Curriculum (choose one LAA1, LAA2, LAA3, LAA4 that is also a LAMS or LAIS*)	3 credits	Liberal Arts Curriculum (LAW2*)	3 credits

YEAR 2 - FALL (15 credits)		YEAR 2 - SPRING (15 credits)	
PHYS 320 Mathematical Methods I	3 credits	PHYS 321 Elementary Modern Physics	3 credits
MATH 233 Calculus III	4 credits	PHYS 420 Mathematical Methods II	3 credits
CHEM 111 Principles of Chemistry I (LAS1*)	4 credits	Liberal Arts Curriculum (LAH1*)	3 credits
CHEM 111L Principles of Chemistry I Lab (LAS1, LASL*)	1 credit	University-wide Electives	6 credits
Liberal Arts Curriculum (choose one LAB1, LAB2 or LAB3 that is also a LAMS and/or LAIS*)	3 credits		
YEAR 3 - FALL (15 credits)		**YEAR 3 - SPRING (15 credits)**	
PHYS 340 Mechanics	4 credits	PHYS 301 Seminar in Physics	1 credit
PHYS 323 Elementary Modern Physics Lab	1 credit	PHYS 360 Laboratory Physics	2 credits
AST 301 Classical Astronomy and the Solar System	3 credits	PHYS 448 Nuclear & Particle Physics	3 credits
PHYS 440 Thermodynamics and Statistical Mechanics	4 credits	AST 302 Stars and the Milky Way	3 credits
Liberal Arts Curriculum (LAA1, LAA2, LAA3, LAA4*)	3 credits	Liberal Arts Curriculum (choose one additional LAA, LAH or LAB*)	3 credits
		University-wide Elective	3 credits
YEAR 4 - FALL (14 credits)		**YEAR 4 - SPRING (16 credits)**	
PHYS 345 Quantum Mechanics I	3 credits	PHYS 445 Quantum Mechanics II	3 credits
PHYS 370[3] Research I	1 credit	PHYS 342 Electricity and Magnetism II	3 credits
PHYS 341 Electricity and Magnetism I	3 credits	PHYS 355 Computer Applications in Physics	3 credits
PHYS 347 Optics	4 credits	AST 310 Observational Techniques	3 credits
AST 303 Galaxy Formation and Cosmology	3 credits	PHYS 470[3] Research II	1 credit
		University-wide Elective	3 credits

***To view LAC courses, visit The Liberal Arts Curriculum webpage**

This four-year plan is a recommended schedule to complete your bachelor's degree in 4 years. 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; have at least 31 credit hours in courses designated as Liberal Arts Curriculum; 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.**

Admission Requirement – No separate admission requirement.
Minor Required – No minor required.
Contact Information –

Department of Physics and Astronomy
Ross Hall Room 0232, 970-351-2961
Program Web Page: https://www.unco.edu/nhs/physics-astronomy/

Notes –

[1] Because some of the major courses are offered every other year, two plans are provided -- one for the student's 1st year commencing in an even year and one for it commencing in an odd year.

[2]Students who need further preparation in mathematics may need to start in MATH 124 (4) -- College Algebra or MATH 127 (4) -- Elementary Functions. Please consult your major advisor.

[3]PHYS 370 and 470 are variable credit courses that may be taken for up to three credits each.
Suggested electives include: MATH 221, MATH 335, MATH 336, PHYS 401, CS 160

Physics
2-18-2022

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

*Liberal Arts Curriculum Course Indicators			
LAA1	Arts & Humanities: Arts & Expression	LAIS	International Studies
LAA2	Arts & Humanities: Literature & Humanities	LAMS	U.S. Multicultural Studies
LAA3	Arts & Humanities: Ways of Thinking	LAS1	Natural & Physical Sciences
LAA4	Arts & Humanities: World Languages	LASL	Natural & Physical Sciences LAB
LAB1	Social & Behavior Sciences: Economic or Political Systems	LAW1	Introductory Written Communication
LAB2	Social & Behavior Sciences: Geography	LAW2	Intermediate Written Communication
LAB3	Social & Behavior Sciences: Human Behavior, Culture or Social Frameworks	LAW3	Advanced Written Communication
LAH1	History	LAX1	Mathematics