Radford University Bachelor of Science in Physics (Experimental and Theoretical Physics)

TRANSFER GUIDE
Catalog Years: 2025 - 2026

Associate Transfer Degree Plan in Science or Physics

COURSE REQUIREMENTS

Complete at VCCS				Complete at Radford University		
BACHELOR'S DEGREE REQUIREMENT	**SATISFIED BY**			**BACHELOR'S DEGREE REQUIREMENT**		
Course	**Credits**	**CC Course**	**Notes**	**Course**	**Credits**	**Notes**
UNIV 100	1-2	SDV 100 College Success Skills or 101 Orientation		PHYS 303 - Mathematical Methods in Physics	3	MATH 172 is prerequisite
ENGL 111	3	ENG 111 College Comp I		PHYS 305 – Modern Physics	4	MATH 172 and PHYS 222 are prerequisites
General Education	3	ENG 112 College Comp II		PHYS 306 – Intermediate Mechanics	3	MATH 172 is prerequisite
General Education	3	Any UCGS Art, Humanities, or Literature	These two courses must come from two different disciplines.	PHYS 309 – Electronics Laboratory	3	PHYS 222 is prerequisite
General Education	3	Any UCGS Art, Humanities, or Literature		PHYS 330 - Thermodynamics	3	MATH 172 and PHYS 222 are prerequisites
General Education	3	Any UCGS Social & Behavioral Sciences (not History)		PHYS 370 – Computational methods in Physics	3	PHYS 305 is prerequisite; PHYS 306 is co-requisite
General Education	3	Any UCGS History		PHYS 401 – Career and Professional Development	1	
MATH 171	4	MTH 263 Calculus I		PHYS 421 – Electromagnetism	4	MATH 172 and PHYS 303 are prerequisites
PHYS 221	4	PHY 241 University Physics I	Prerequisite: students must have completed MTH 263 with a C or better	PHYS 430 – Quantum Mechanics	3	MATH 172 is prerequisite
MATH 172	4	MTH 264 Calculus II		PHYS 440 – Advanced Physics Laboratory	3	PHYS 303, PHYS 305, PHYS 309 are prerequisites

PHYS 222	4	PHY 242 University Physics II	Prerequisite: students must have completed PHY 241 and MTH 264 with a C or better	PHYS 3xx/4xx	6	6 credits of elective PHYS courses 300 or above
MATH 271	4	MTH 265 Calculus III		Additional coursework to total 120 hours to graduate, if necessary		
MATH 346	3	MTH 267 Differential Equations				
MATH 260	3	MTH 266 Linear Algebra				
CHEM 111 / CHEM 112	4-8	**Select 1-2 courses from:** CHM 111 Gen Chem I, CHM 112 Gen Chem II, CSC 221 Intro to Problem Solving and Prog, CSC 222 Object Oriented Prog, Additional MTH course	Recommend completing CHM 111 and CHM 112 to meet major requirements			
		Students who have completed all prerequisites and community college and four-year college requirements (e.g. World Languages, ITE, CST) should take additional courses from the rows above or transfer elective courses to fulfill the 60-62 credit requirement.	MTH 161/162 or 167 as pre-req's for MTH 263 are transferable but could impact degree completion timeline.			
		Additional transfer electives, if needed to meet 60 credits				
CREDITS PRE-TRANSFER: 60-62				**CREDITS POST-TRANSFER: 58-60**		

TRANSFER GUIDANCE

Guaranteed Admission Agreement

By meeting the following criteria, students who complete the prescribed curriculum and meet the criteria below are guaranteed admission into Radford University.

- Earn a transferable associate degree
- Earn a minimum 2.8 cumulative GPA
- Be in good standing at the current institution

Please visit the TransferVirginia.org portal to explore different majors (Transfer Tools) and Transfer Guides that outline course requirements for specific majors. (Resource Center)

IMPORTANT LINKS & DATES:

- **University Transfer Center:** https://admissions.radford.edu
- **Admission Application**: By March 1 for Priority Fall Admission and November 1 for Priority Spring Admission at https://www.radford.edu/admissions/apply/index.html

  Financial Aid: https://www.radford.edu/fin-aid
- **FAFSA - Free Application for Federal Student Aid:** Priority deadline is March 1; apply at studentaid.gov

WHAT SHOULD I CONSIDER WHEN SELECTING COURSES?

- Create a schedule for all required courses, pay attention to prerequisites and when courses are offered, complete your first math and English courses in your first year. For help, see Transfer Steps and Resource Center at www.TransferVirginia.org.
- Connect with an advisor at your community college and Radford University within your first year. Set up an account at www.TransferVirginia.org.

IS THIS DEGREE RIGHT FOR ME?

- A degree in physics from Radford University provides students with critical thinking, problem solving, and foundational skills to prepare them for success in future post-graduate study or their career.
- All students will gain experience doing research as it is embedded within the curriculum. Students can also choose to do independent research projects with a faculty mentor.

WHAT IS THE IMPACT OF WORK COMPLETED TOWARDS MY 4 YEAR DEGREE?

- **Associate Transfer Degree Completion:** The completion of the transfer-oriented degree program will satisfy the REAL Curriculum (lower division/general education) requirements. Students will need to complete all other University, college, and departmental requirements in order to obtain the baccalaureate degree from RU.
- **Dual Enrollment – Completion of Associate Degree in HS:** Students completing the associate degree in high school should apply using the freshman application. If admitted, the student will receive the benefits associated with the transferable associate degree (as noted prior).
- **Credit for Prior Learning:** AP, IB, and CLEP will be evaluated for credits (based on receipt and evaluation of scores). See https://catalog.radford.edu/content.php?catoid=55&navoid=2617
- **Catalog Year:** Students will be subject to the catalog in effect at the time of enrollment at RU
- unless otherwise requested.

IS THIS COLLEGE RIGHT FOR ME?

- Main campus is located in the city of Radford and our Radford University Carilion campus is located in Roanoke. RU is well-known for strong faculty/student bonds, vibrant student life and a commitment to student support.
- Situated in the stunning landscape of southwest Virginia, there are plenty of nearby opportunities to explore the outdoors.
- With 70+ bachelor's degree programs across a variety of disciplines, the classes at Radford are hands-on and designed to help you prepare for your chosen career path.
- Transfer students have the option to live on-campus or off-campus within the local area.
- Over 80% of students receive some form of financial aid.
- 16 Division I teams and 300+ student organizations.

Learn more about our university at www.TransferVirginia.org .

DID YOU KNOW THAT…

- Completing your Associate transfer degree post-high school satisfies all lower division general education requirements and increases the chance of completing your bachelor's degree?
- Exceeding 3 years or 90 credits at your community college means you may have exhausted your financial aid at that college and have limited your future financial aid at Radford University?

WHAT CAN I DO WITH THIS DEGREE?

Explore possible careers, salaries, and job outlook at www.TransferVirginia.org .

PROGRAM SUCCESSES & HIGHLIGHTS

- The Department is equipped with modern instrumentation including an ultra-high vacuum scanning tunneling microscope, wind tunnel, and graphene deposition system.
- The Department also has facilities for designing and building custom research equipment including a 3d-printer, small CNC machine, laser cutter, milling machine and lathe.
- The Department operates the Selu Observatory. Students interested in astronomy research can qualify to independently control the telescope and associated sensors. https://www.radford.edu/artis-college-science-technology/selu-observatory/index.html
- The Department operates the Planetarium. Students can qualify to run planetarium shows open to both the campus and public. https://www.radford.edu/artis-college-science-technology/planetarium/index.html.
- The Department supports the local Society of Physics Students chapter. The group takes an annual trip to the Green Bank Observatory and sponsors other social and outreach activities. The chapter has consistently been recognized nationally as "Distinguished" or "Outstanding" annually. https://www.radford.edu/artis-college-science-technology/physics-department/society-of-physics-students.html.

WHAT ARE MY CHANCES FOR GETTING ACCEPTED?

- Of students who apply, approximately 65% of transfer applicants are accepted to Radford University and about 80% of the entering transfer class comes from the Virginia Community College System. Learn more about applying at www.TransferVirginia.org.

DO MORE WITH YOUR DEGREE!

- Students with a degree in physics have a large variety of possible career choices from medical physics to engineering.
- More information about preparing for a career with a physics degree can be found at the Careers Toolbox, created by the Society of Physics Students and American Institute of Physics. https://www.spsnational.org/sites/all/careerstoolbox/.

OTHER THAN CLASSES, ARE THERE OTHER PROGRAM REQUIREMENTS?

- All students must complete a total of at least 120 credit hours.
- Overall GPA on all Radford University courses must be at least 2.0.
- Overall GPA on courses in major taken at Radford University must be at least 2.0.