MAJOR REQUIREMENTS – PHY (Minimum 63 hours, while at UNCW)
The Three-Plus-Two Physics and Electrical Engineering Program is a cooperative agreement between the University of North Carolina Wilmington Physics Program and the North Carolina State University Electrical Engineering Program. The program gives students the opportunity to earn a Bachelor of Science degree in physics from the University of North Carolina Wilmington and a Bachelor of Science degree in electrical engineering from North Carolina State University. Students must complete all coursework listed below to satisfy the Three-Plus-Two Program requirements. The UNCW phase of study can be completed in three years. Students meeting NCSU’s transfer admission requirements (see below) are automatically accepted in the Electrical Engineering Program at NCSU. This program can be completed in two years. UNCW will accept credits from NCSU to complete degree requirements at UNCW and NCSU will accept credits from UNCW to complete degree requirements at NCSU. Thus, the student receives a degree from UNCW and a degree from NCSU. For more information and NCSU course requirements, visit http://uncw.edu/phy/curriculum/requirements.html.

- **CHM 101** General Chemistry I (4)
- **CHM 102** General Chemistry II (4) Prerequisite: CHM 101
- **MAT 161** Calculus with Analytic Geometry I (4) Prerequisite: MAT 112 or 115 or equivalent preparation
- **MAT 162** Calculus with Analytic Geometry II (4) Prerequisite: MAT 161
- **MAT 261** Multivariate Calculus (4) Prerequisite: MAT 162
- **MAT 361** Differential Equations (3) Prerequisite: MAT 261
- **PHY 201** General Physics I (4) Corequisite: MAT 161
- **PHY 202** General Physics II (4) Prerequisite: PHY 201, Corequisite MAT 162
- **PHY 311** Mathematical Physics (4) Prerequisite: PHY 202
- **PHY 321** Classical Dynamics I (3) Prerequisite: PHY 202, Corequisite: PHY 311 or MAT 361
- **PHY 322** Classical Dynamics II (3) Prerequisite: PHY 321
- **PHY 335** Modern Physics (4) Prerequisite: PHY 202
- **PHY 400** Advanced Laboratory (2) Prerequisite: PHY 300
- **PHY 411** Electricity and Magnetism I (3) Prerequisite: PHY 202, Corequisite: MAT 261
- **PHY 412** Electricity and Magnetism II (3) Prerequisite: PHY 411
- **PHY 444** Quantum Theory (4) Prerequisite: PHY 335, Corequisite: MAT 361
- **PHY 455** Thermal Physics (3) Prerequisite: PHY 335 or consent of instructor
- **PHY 495** Physics Seminar (1-3) Prerequisite: Consent of instructor

(Meets Oral Communication and Applied Learning Requirements)

Additional courses prescribed by the Electrical Engineering Program at NCSU: Of these, the following are taught on-site at UNCW as distance education classes: ECE 109, 200, 209, 212, E 115.

**NOTE:** Students must finish the UNCW phase of study with an overall GPA of at least 2.90 and have at least a 2.50 GPA in the last two calculus courses (MAT 162 and 261) to meet NCSU’s transfer admission requirements. Students in this program will be advised jointly by the chair of Physics and Physical Oceanography and the director of the Engineering Program at UNCW to ensure completion of the correct requirements for both programs.

A grade of “C-” or better is required in each physics course and a “C” (2.00) average on all courses taken in physics.

*These courses require a lab
+May also be used to satisfy University Studies Foundations & Approaches and Perspectives requirements

All UNCW University Studies Courses must be completed.

**Requirements to declare PHY:** Completion of 24 hours

For further information, see the PHY website: [http://www.uncw.edu/phy](http://www.uncw.edu/phy) and [http://catalogue.uncw.edu](http://catalogue.uncw.edu).