**PHYSICS – (PHYS\_BS\_01) BS DEGREE – 32 COURSE UNITS**

**MAJOR COURSE REQUIREMENTS**

Fulfill via completion of course requirements in three categories

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| **Core Courses**  (7) | **Major Options or Specialization Courses**  (10 Course Units) | **Correlate Courses**  (2) |
| PHY 099 – Orientation Seminar (0 cred) | 5 Physics option courses\* | MAT 127 – Calculus A |
| PHY 203 – Physics I for Physicists | 5 Specialization options\*\* | MAT 128 – Calculus B |
| PHY 204 – Physics II for Physicists | 1 Capstone course\*\*\* |  |
| PHY 306 – Mathematical Physics |  |  |
| PHY 321 – Modern Physics |  |  |
| PHY 401 – Classical Mechanics |  |  |
| PHY 356 – Thermal Physics |  |  |
| PHY 421 – Electromagnetic Theory I |  |  |
| PHY 299 – Research Fundamentals Seminar (0.25 credits, required only for students matriculating Fall 2015 or later) | \* All 5 options must be 200+ level PHY courses. 2 courses must include a lab chosen from PHY 311, 345, 411, 451.  1 course may be Independent Research. |  |
|  | \*\*3 courses may be any course from the school of science or engineering, 2 courses may be from any pre-set physics specialization list **OR** any 200+ level school of Sci./Eng. |  |
|  | \*\*\*PHY 493, PHY451, or SED 498 (may  double count within Physics options or Specialization options) |  |
| *Seven-course prescribed major specializations may be chosen from within major option and specialization courses. Prescribed specializations are available in Pre-graduate Physics, Biomedical Physics, Computational Physics, Condensed Matter, Geophysics, Astrophysics, and Physical science-Secondary Education. These are outlined on the department website,* [*http://physics.tcnj.edu/academics/programs/*](http://physics.tcnj.edu/academics/programs/)*.* | | |

**LIBERAL LEARNING REQUIREMENTS**

Fulfill via completing course requirements in one of four options:

**Option 1 – Breadth Distribution from Approved List**

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| **Arts & Humanities**  (2 or 3 courses) | **Social Science & History**  (2 or 3 courses) | **Natural Sciences & Quantitative Reasoning**  (Requirements fulfilled by major course) |
| Literary, Visual, or Performing Arts course | Behavioral, Social, or Cultural Perspectives course | Natural Science course (with lab) |
| World Views/Ways of Knowing course | Social Changes in Historical Perspective course | Quantitative Reasoning course |
| FSP or Literary, Visual, or Performing Arts course  or  World Views/Ways of Knowing course | FSP or Behavioral, Social, or Cultural Perspectives course  or  Social Changes in Historical Perspective course | Natural Science course or  Quantitative Reasoning course |

**Option 2 – Designated Interdisciplinary Concentration (**see <https://liberallearning.tcnj.edu/courses-information/interdisciplinary-concentrations/>**)**

**Option 3– Self-designed Interdisciplinary Concentration (**see <https://liberallearning.tcnj.edu/courses-information/interdisciplinary-concentrations/>**)**

**Option 4 – Second Major**

**CIVIC RESPONSIBILITIES, PROFICIENCIES & ELECTIVES**

Fulfill via completion of course requirements in three categories

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| --- | --- | --- |
| **Civic Responsibilities** | **Intellectual & Scholarly Growth** | **Electives** |
| IDS 103 – Community Engaged Learning (*zero-credit requirement*) | IDS 102 – Information Literacy online tutorial (*zero-credit requirement*) | Elective course |
|  | **(WRI 101 or 102 may be required freshmen year)** |  |
| **Concepts** – *(fulfilled through liberal learning, other courses, or sustained experience)* | **Writing Intensive Courses** | Elective course |
| Gender | FSP First Seminar course  (*satisfies one liberal learning requirement)* |  |
| Global Perspective | Mid-level course  *(usually fulfilled by option or specialization course)* |  |
| Race & Ethnicity | Capstone course  *(usually fulfilled by option or specialization course)* |  |
|  | **Second Language** (0-3 courses) |  |