

# PHYSICS MAJOR – B.A. WITH TEACHING OPTION

No additional students are being admitted to this program as of Fall 2021.

This program prepares students for initial New York State certification to teach at the secondary school (7-12) level.

## Summary

| Code                 | Title   | Credits    |
|----------------------|---|------------|
|                      | Physics and Science Content Area Requirements         | 60         |
|                      | Core Education Requirements                           | 41-47      |
|                      | Integrative Core Curriculum Requirements <sup>1</sup> | 17-29      |
|                      | Electives   | 2          |
| <b>Total Credits</b> |   | <b>120</b> |

<sup>1</sup> See Integrative Core Curriculum requirements, with information about the H&S CLA requirement. (<https://catalog.ithaca.edu/undergrad/schools/school-humanities-sciences/#integrativecorecurriculumicctext>)

## Degree Requirements

| Code  | Title   | Credits |
|---|---|---------|
| <b>CORE PHYSICS COURSES</b>                           |   |         |
| PHYS 11700  | Principles of Physics I: Mechanics  | 4       |
| PHYS 11800  | Principles of Physics II: Electricity and Magnetism                                     | 4       |
| PHYS 12000  | Introductory Applied Physics Laboratory   | 3       |
| ASTR 17500  | Stars, Galaxies and the Universe  | 3       |
| PHYS 21700  | Principles of Physics III: Waves, Optics and Thermodynamics                             | 4       |
| PHYS 21800  | Principles of Physics IV: Modern Physics  | 4       |
| PHYS 22500  | DC and AC Circuits  | 3       |
| PHYS 36000  | Advanced Physics Laboratory   | 3       |
| PHYS 44000  | Inquiry and the Nature of Science for the Science Teacher                               | 3       |
|   | Select two courses from the following (some courses may have additional prerequisites): | 6       |
| PHYS 30500  | Electromagnetism  |         |
| PHYS 31100  | Classical Mechanics   |         |
| PHYS 32000  | Thermodynamics  |         |
| PHYS 42100  | Quantum Mechanics   |         |
| <b>ADDITIONAL REQUIREMENTS OUTSIDE THE DEPARTMENT</b> |   |         |
| BIOL 11500  | Essentials of Biology   | 3       |
| CHEM 11000  | General Chemistry   | 3       |
| COMP 17100  | Principles of Computing Science I   | 4       |
| EDUC 34100  | Science, Technology, and Society  | 1       |
| MATH 11100  | Calculus I  | 4       |
| MATH 11200  | Calculus II   | 4       |
| MATH 21100  | Calculus III  | 4       |

| <b>CORE EDUCATION REQUIREMENTS</b> |  |                |
|------------------------------------|--|----------------|
| EDUC 10200                         | Reading Foundations  | 2              |
| EDUC 20100                         | Technology for the Middle/Secondary School Teacher                               | 2              |
| EDUC 20200                         | Literacy Across the Disciplines for Middle and Secondary Education               | 2              |
| EDUC 21010                         | Educational Psychology   | 3              |
| EDUC 21800                         | Introduction to Pedagogy and Practice  | 3              |
| EDUC 21910                         | Early Field Experience: Theory and Practice                                      | 3              |
| EDUC 22900                         | Second Language Acquisition: Its Nature and Meaning for Educators                | 2              |
| EDUC 23900                         | Educating Students with Special Needs in Diverse Classrooms                      | 3              |
| EDUC 34000                         | Social and Cultural Foundations of Education                                     | 3              |
| EDUC 40800                         | Professional Development Seminar   | 0              |
| EDUC 41010                         | Pedagogy and Practice for the Science Teacher                                    | 3              |
| EDUC 41210                         | Seminar in Reflective Practice   | 3              |
| EDUC 49810                         | Professional Semester in Education   | 12             |
| EDUC 19210                         | Child Abuse Identification and Prevention  | 0              |
| EDUC 19220                         | Drug and Alcohol Abuse: Identification and Prevention                            | 0              |
| EDUC 19230                         | School Violence Prevention   | 0              |
| EDUC 19240                         | Harassment, Bullying, and Discrimination in Schools: Prevention and Intervention | 0              |
|                                    | Foreign Language proficiency   | 0-6            |
| <b>Total Credits</b>               |  | <b>101-107</b> |

## Additional Requirements

- All teaching-option students must successfully complete a year of college-level study in a language other than English or demonstrate equivalent proficiency.
- All teaching-option students must successfully complete writing course WRWG 10600 or above.
- All teaching-option students must maintain a minimum overall G.P.A. of 3.0 as well as a G.P.A. of 3.0 in their subject area coursework.
- Students must earn a grade of B or better in all EDUC courses in Education Core to qualify for student teaching. A grade of B- does not qualify.
- EDUC 49810 and EDUC 41210 constitute a full course load during the student-teaching semester. No additional courses may be taken nor can teacher candidates participate in extra-curricular activities that have the potential to affect time for teaching and preparation.
- During the semester of student teaching, the student may not play a college sport.
- All candidates for initial certification must successfully complete all New York State Certification tests or performance assessments required by the state for the applicant's intended teaching certificate (type, grade levels, and subject areas).
- The department chair and the coordinator of teacher education in the subject area must approve any exceptions to the above requirements.

9. The All-College Teacher Education Unit at Ithaca College requires teacher education students, regardless of program area, to be reviewed at four programmatic transition points during their course of study. Continuation in a teacher education major is contingent upon the student successfully meeting the requirements of each transition point review; therefore, admission into one of the Ithaca College Teacher Education Program majors at admission or upon transfer to the College *does not guarantee* that a student will be allowed to complete the program required for teaching certification. Further information can be found in the Unit-Wide Assessment Systems section of the main Department of Education catalog page.