

Physics Curriculum Map
(effective Fall 2016 and after)

The curriculum map provides insight and direction for students to graduate in four years. With the assistance of a student's academic advisor and department chairperson, the map will provide a guide between what should be taken term by term and where the student is with respect to grades received in courses. Milestones are noted on the map and serve as hints regarding what courses and/or activities must be completed that term. Please note that every term does not have a milestone. Prerequisites are also noted providing the student and his/her advisor a true indication of where the student falls within the curriculum. In this particular document, key prerequisites are listed that can prevent a student from moving along in the curriculum if not met. Also, note that the Department of Physics only considers the grade of "C" or higher as meeting the prerequisite. A grade of "C" or better is required in each course in physics taken for credit for a major or a minor in physics.

Students completing the physics program will be prepared for employment in the government sector, private industry, or graduate studies in physics. Physicists outside of academia work within the fields of astronomy and space exploration, climate study, medicine, national security, robotics, animated films, and finance. Students in this major must have a passion for understanding the laws of nature, thinking critically, and be extremely motivated and self-disciplined.

| Mathematical Sciences Curriculum Guide | | Milestone and/or Prerequisite |
|---|----------------|---|
| Term 1 | Credits | Term 1 Milestones and/or Prerequisites |
| ENC 1101 Freshman Communication Skills I | 3 | Student must have completed MAC 1105 and MAC 1114 |
| MAC 2311 Calculus I | 4 | Student must complete MAC 2311 |
| AMH 2091 African American History | 3 | Student must complete PHY 2048 and Lab |
| PHY 2048 General Physics I | 4 | |
| PHY 2048L General Physics I Lab | 1 | |
| <i>Total Term 1 Credits</i> | 15 | |
| Term 2 | Credits | Term 2 Milestones and/or Prerequisites |
| ENC 1102 Freshman Communications Skills II | 3 | Student must complete MAC 2312 |
| PHI 1100 Critical Inquiry | 3 | Student must complete PHY 2049 and Lab |
| MAC 2312 Calculus II | 4 | |
| PHY 2049 General Physics II | 4 | |
| PHY 2049L General Physics II Lab | 1 | |
| Humanities Elective | 3 | |
| <i>Total Term 2 Credits</i> | 18 | |
| Term 3 | Credits | Term 3 Milestones and/or Prerequisites |
| Differential Equations | 3 | Student must complete PHZ 3113 |
| CHM 1045 Chemistry I | 3 | |
| CHM 1045L Chemistry I Lab | 1 | |
| PHZ 3113 Math Methods for Physicists I | 3 | |
| Electives* (Humanities, CSI or Humanities) | 3 | *In consultation with advisor. |
| <i>Total Term 3 Credits</i> | 13 | |
| Term 4 | Credits | Term 4 Milestones and/or Prerequisites |
| BSC 1005 Biological Science | 3 | Student must complete PHZ 3114 |
| BSC 1005L Biological Science Lab | 1 | |
| CHM 1046L Chemistry I | 3 | |
| CHM 1046L Chemistry I Lab | 1 | |
| PHZ 3114 Math Methods for Physicists II | 3 | |
| Electives* (Humanities, CSI or Humanities) | 3 | *In consultation with advisor. |
| <i>Total Term 4 Credits</i> | 14 | |

| Term 5 | Credits | Term 5 Milestones and/or Prerequisites |
|---|----------------|---|
| PHY 3101 Modern Physics | 3 | |
| PHY 3101 Modern Physics Lab | 1 | |
| PHY 4221 Mechanics I | 3 | |
| PHY 4931 Physics Seminar I | 1 | |
| MAS 3105 Linear Algebra | 3 | |
| COP 2221 C Programming | 3 | |
| Electives* (Humanities/Social Sciences) | 3 | *In consultation with advisor. |
| <i>Total Term 5 Credits</i> | 17 | |
| Term 6 | Credits | Term 6 Milestones and/or Prerequisites |
| PHY 3424 Modern Optics | 4 | PHY 2049 and PHY 2049L |
| PHY 4222 Mechanics II | 3 | PHY 4221 |
| PHY4703 Physical Electronics or PHZ 3302 Radiation Physics | 4 | PHY 2049 and PHY 2049L PHY 3101 and PHY 3101L |
| PHY 4932 Physics Seminar II | 1 | |
| Electives* (Humanities/Social Sciences) | 3 | *In consultation with advisor. |
| <i>Total Term 6 Credits</i> | 15 | |
| Term 7 | Credits | Term 7 Milestones and/or Prerequisites |
| PHY 4323 Electromagnetism I | 3 | GRE should be taken in term 7 or 8. |
| PHY 4604 Quantum Mechanics I | 3 | Milestone course. PHY 4323 |
| PHY 4802 Advanced Lab | 2 | PHY 4604 |
| PHY 3503 Heat and Thermodynamics | 3 | |
| Electives* to satisfy unmet graduation criteria | 3 | *In consultation with advisor. |
| <i>Total Term 7 Credits</i> | 14 | |
| Term 8 | Credits | Term 8 Milestones and/or Prerequisites |
| PHY 4324 Electromagnetism II | 3 | GRE should be taken in term 7 or 8. |
| PHY 4605 Quantum Mechanics II | 3 | |
| PHY 4404 Condensed Matter Physics OR PHZ 4303 Nuclear Physics | 3 | PHY 4324 PHY 4604 |
| PHY 4936 Special Problems | 2 | Consent of instructor. |
| Electives* to satisfy unmet graduation criteria | 3 | *In consultation with advisor. |
| <i>Total Term 8 Credits</i> | 14 | |
| Total Credits | 120 | |