PHYSICS MAJOR (2016-2017)

**FOUNDATIONS OF WRITTEN COMMUNICATION**
(6 credit hours required – Writing Across the Curriculum - WAC)

<table>
<thead>
<tr>
<th>Course</th>
<th>Department or Program</th>
<th>Notes</th>
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<tbody>
<tr>
<td>ENC 1101</td>
<td>College Writing I (Required)</td>
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<tr>
<td>ENC 1102</td>
<td>College Writing II</td>
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**THE FOLLOWING COURSES BELOW MAY BE SUBSTITUTED FOR ENC 1102:**

**English Department**
- ENC 1930+ University Honors Seminar in Writing (Permit Only)
- ENC 1939+ Special Topic: College Writing
- ENC 2452+ Honors Composition for Science

**Anthropology Department**
- ANT 1471+ Cultural Difference in a Globalized Society

**History Department**
- HIS 2050+ Writing History

**Nursing Department (Departmental Permission Required)**
- NSP 1195+ Being Cared For: Reflections from Other Side of Bed
- ANT 1471+ Cultural Difference in a Globalized Society
- ENC 2452+ Honors Composition for Science
- ENC 1939+ Special Topic: College Writing
- ENC 1930+ University Honors Seminar in Writing (Permit Only)

**College Physics 1 (4 credits)**
- PHY 2048 & L
- PHY 2048 & L (REQUIRED)
- PHY 2053

**Anatomy & Physiology 1**
- BSC 1010 & L & D

**Foundations of Science & The Natural World**
(6 credit hours required - One of the courses must have a lab)

**Group A**
- For Non-Science Majors
  - Biology Department
    - BSC 1005 & L
    - Life Science (3 cr. incl. Lab)
    - BSC 2085 & L
    - Anatomy & Physiology 1 (4 cr. incl. Lab)
  - Chemistry Department
    - CHM 1020C
    - Contemporary Chemical Issues
  - Geosciences Department
    - ESC 2000 Blue Planet (online)
    - EVR 1001
    - Env. Science and Sustainability
  - Physics Department
    - AST 2002
    - Intro. to Astronomy (P/F)

**Group B**
- For Science Majors
  - Biology Department (see note)
    - BSC 1010 & L & D
    - Biological Principles (4 cr. incl. Lab & Dis)
  - Chemistry Department (see note)
    - CHM 2045 & L
    - General Chemistry 1 (4 cr. incl. Lab)
  - Physics Department
    - PHY 2048 & L (REQUIRED)
    - General Physics 1 (5 credits incl. Lab)

**Foundations of Mathematics & Quantitative Reasoning**
(6 credit hours required – Grade of “C” or higher is required)

- MGF 1105 College Algebra
- STA 2023 Introductory Statistics (not for this major)
- MAC 2311 Calculus with Analytic Geometry 1 (4 credits) (REQUIRED)
  or any mathematics course for which one of the above courses is the direct prerequisite

**History Department**
- AMH 2020 United States History Since 1877 (P/F)

**Anthropology Department**
- ANT 2000 Intro to Biological Anthropology (4 cr. Incl. Lab)

**Economics Department**
- ECO 2013 Macroeconomic Principles

**Political Science Department**
- POS 2041 Government of the United States

**Psychology Department**
- PSY 1012 Introduction to Psychology

**Sociology Department**
- SYG 1000 Sociological Perspectives

**History Department**
- AMH 2010 United States History to 1877 (P/F)

**Economics Department**
- ECO 2023 Microeconomic Principles
- ECP 2002 Contemporary Economic Issues

**Exceptional Student Education Department**
- EEX 2091 Disability and Society

**Geosciences Department**
- EVR 1001 Env. Science and Sustainability

**Public Administration Department**
- PAD 2258 Changing Environment of Soc., Bus., & Gov’t

**Sociology Department**
- SYD 2790 Race, Class, Gender, and Sexuality
- SYG 2010 Social Problems

**Urban & Regional Planning Department**
- URP 2051 Designing the City

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Must select either:
- BSC 1010 & BSC 1011 (with labs)
- CHM 2045 & CHM 2046 (with labs)
**Foundations in Global Citizenship**

(6 credit hours required)

Student must choose two (2) courses from among the following:

- **Anthropology Department**
  - ANT 2410: Culture and Society

- **Curriculum, Culture & Education Department**
  - EDF 2854: Educated Citizen in Global Context

- **Geosciences Department**
  - GEA 2000: World Geography

- **Political Science Department**
  - INR 2002: Introduction to World Politics

- **Languages, Linguistics, & Comparative Literature Department**
  - LIN 2607: Global Perspectives on Language (online course)

- **Sociology Department**
  - SYP 2450: Global Society

- **School of Communication & Multimedia Studies**
  - MUL 2100: History of Civilizations

- **History Department**
  - WOH 2012 & D: History of Civilization 1 (WAC) ++
  - WOH 2022: History of Civilization 2

- **Music Department**
  - MUL 2105: History of Music

- **Philosophy Department**
  - PHI 2010 & D: Introduction to Philosophy

- **Theatre & Dance Department**
  - THE 2000: Theatre Appreciation

- **Department of Philosophy**
  - PHI 2010 & D: Introduction to Philosophy

- **Interdisciplinary Studies**
  - INT 2000: Interdisciplinary Studies

- **Natural Science**
  - PHY 2048: General Physics 1 Lab
  - PHY 2049: General Physics 2 Lab

*Writing Across the Curriculum (WAC)/Gordon Rule*

Students must attain grades of “C” or higher. 12 credits of writing (WAC) and 6 credits of mathematics are required.

**Please note:**

Students must take four (4) WAC courses. Two (2) courses are to be taken from Foundations of Written Communication. We strongly recommend the two additional WAC courses come from these courses: PHI 2010, WOH 2012, LIT 2010, LIT 2030, LIT 2040 and LIT 2070. See advisor for additional details.

**Legend**

- +: ENC 1101 is a prerequisite.
- ++: Two Foundations of Written Communications classes are required before taking this course.
- §: Sophomore standing (30 credits earned) is a requirement to take this course.
- *: Nursing majors are required to take this course in their first semester.
- **: MAC 2311 is a prerequisite for this course. If a lab is needed, then take General Physics 1 Lab (PHY 2048 Lab).
- ***: MAC 2315 and MAC 1114 are prerequisites for this course. If a lab is needed, then take General Physics 1 Lab (PHY 2048 Lab).
- ‡: Co-requisite of College Algebra (MAC 1105) or a prerequisite of Introductory Chemistry (CHM 1025).

**WAC** - (WAC) Writing across the curriculum course.

**Elective Credits**

The number of elective credits allowed varies by major. Please consult with an academic advisor to determine the number of elective credits required for your major. Certain majors do not allow any electives.

**P/F**

Certain designated undergraduate courses may be taken for a letter grade of pass (P) or fail (F). Students must indicate the grade option when registering; otherwise, a letter grade will be given. The maximum credit available to any student on the P/F option is one course per term with a maximum of 12 credits during a student’s entire course of study. This option is not available for courses in the student’s major, for students on probation, or for Engineering majors.

**Go to MyFAU to:**

- Check e-mail
- See FAU Announcements
- FAU Self-Service:
  - Course schedules
  - Registration (drop/add classes) and withdrawals
  - Student records and financial aid
  - Tuition payments
  - The University Course Catalog

**http://myfau.fau.edu**

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**Students Assume Responsibility for Meeting All Graduation Requirements**

Course selections should be made in consultation with an academic advisor.
FOREIGN LANGUAGE (4 - 8 credits, 1 or more courses in the same language) - REQUIRED FOR MAJOR
Students with more than one year of a foreign language in high school should enroll in the second half of the beginners foreign language class (ARA/CHI/FRE/GER/HBR/ITA/JPN/LAT/SPN 1121) or a higher level course. Proficiency for a first-level course can be earned by successfully completing a second-level course. For questions related to this requirement, consult an academic advisor. CLEP exam credits meet this requirement: see the catalog.

❖ NOTE: Native Speakers of a foreign language must consult the Languages, Linguistics, and Comparative Literature Department regarding this requirement.

❖ NOTE: Honors Seminars SHALL BE ACCEPTED AS MEETING THE WAC/GRW REQUIREMENT. See the University Advising Services Office for details.

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<tr>
<th>BA</th>
<th>BS</th>
<th>Intellectual Foundations Program &amp; Foreign Language (Excluding Math &amp; Science)</th>
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<tbody>
<tr>
<td>32 credits</td>
<td>32 credits</td>
<td>Mathematics – Calculus (B.A. and B.S. Degree)</td>
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<tr>
<td>12 credits</td>
<td>12 credits</td>
<td>Physics Major</td>
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<tr>
<td>20 credits</td>
<td>4 credits</td>
<td>Upper Division Restricted Free Electives</td>
</tr>
<tr>
<td>22 credits</td>
<td>19 credits</td>
<td>Free Electives</td>
</tr>
<tr>
<td><strong>120 CREDITS</strong></td>
<td><strong>120 CREDITS</strong></td>
<td><strong>TOTAL</strong></td>
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NOTE: See the catalog for specific requirements, course descriptions, and additional information. The requirements for some Intellectual Foundations Program (IFP) courses & other courses may be satisfied by passing the appropriate AP or CLEP exam. Check with your advisor and college.

The Charles E. Schmidt College of Science has the following requirements:
(1) Any course work in the major field transferred from another institution must be approved by the major department;
(2) No major course may be taken pass/fail;
(3) The maximum amount of credit which may be earned through co-op is 10 credits; some departments allow some of these credits to substitute for major courses, check with department for specifics;
(4) A grade of “C” or better is required in all the physics, mathematics, and chemistry courses taken as part of the course requirements for a degree within the department.
MAJOR COURSES, COLLEGE REQUIREMENTS and ELECTIVES

BACHELOR OF SCIENCE (BS) DEGREE (53 credits total, 15 courses)

Introductory Physics Courses - (9 credits)
- PHY 2049 & L General Physics II & Lab – PHY 2048 with lab is a prerequisite (5 credits)
- PHZ 2106 General Physics III – MAC 2313 and PHY 2049 with lab are prerequisites (4 credits)

Additional Mathematics Introductory Course (3 credits)
- MAS 2103 Matrix Theory (3 credits)

Bachelor of Science Additional Intermediate Core Requirements (41 credits)
- PHY 3101C Survey of Modern Physics – PHY 2049 & lab & MAC 2313 are prereqs (5 credits)
- PHY 3221 Classical Mechanics – PHY 2048 with lab & MAC 2313 are prerequisites (4 credits)
- PHY 3323 Electromagnetism I – PHY 2049 with labs & MAC 2313 are prerequisites (4 credits)
- PHY 4324 Electromagnetism II – PHY 3323 is a prerequisite (4 credits)
- PHY 3503 Thermodynamics – MAC 2313 and PHY 2048 with lab is a prerequisite (4 credits)
- PHY 4523 Statistical Physics – PHY 3101C is a prerequisite (3 credits)
- PHY 4604 Quantum Mechanics I – PHY 3101C prereq and PHZ 3113 a coreq. (4 credits)
- PHY 4605 Quantum Mechanics II – PHY 4604 is a prerequisite (3 credits)
- PHY 3722C Physical Electronics – PHY 2049 is a prerequisite (4 credits)
- PHY 4811L Undergraduate Laboratory – PHY 3101C is a prerequisite (2 credits)
- PHZ 3113 Math. Methods for Physics – PHZ 2106 a prereq or instructor permission (3 credits)

BACHELOR OF ARTS (BA) DEGREE (34 credits total, 8 courses)

Introductory Physics Courses - (9 credits)
- PHY 2049 & L General Physics II & Lab – PHY 2048 with lab is a prerequisite (5 credits)
- PHZ 2106 General Physics III – MAC 2313 and PHY 2049 with lab are prerequisites (4 credits)

Additional Mathematics Introductory Course (3 credits)
- MAS 2103 Matrix Theory (3 credits)

Bachelor of Arts Additional Intermediate Core Requirements (22 credits)
- PHY 3101C Survey of Modern Physics – PHY 2049 & lab & MAC 2313 are prereqs (5 credits)
- PHY 3221 Classical Mechanics – PHY 2048 with lab & MAC 2313 are prerequisites (4 credits)
- PHY 3323 Electromagnetism I – PHY 2049 with lab & MAC 2313 are prerequisites (4 credits)
- PHY 4604 Quantum Mechanics I – PHY 3101C prereq and PHZ 3113 a coreq (4 credits)

Choose at least three (3) credits from the following list:
- PHY 3503 Thermodynamics – MAC 2313 and PHY 2048 with lab is a prerequisite (4 credits)
- PHY 4523 Statistical Physics – PHY 3101C is a prerequisite (3 credits)
- PHY 3722C Physical Electronics – PHY 2049 is a prerequisite (4 credits)

Optional Pre-professional Track (23 credits) - Required Courses

- BSC 1011 & L Biodiversity with lab (3 + 1 = 4 credits)
- BSC 1010 & L Biological Principles with lab (3 + 1 = 4 credits)
- CHM 2210 & D Organic Chemistry I with discussion (3 credits) – CHM 2045 & CHM 2046 with labs are prerequisites
- CHM 2211 Organic Chemistry II (3 credits)
- CHM 2211L Organic Chemistry II Lab (2 credits)
- PCB 3063 Genetics (4 credits) – BSC 1011 and BSC 1010 with labs are prerequisites
- BCH 3033 Biochemistry I (3 credits) – 8 credits of organic chemistry are the prerequisite