### PHYSICS MAJOR (2015-2016)

#### FOUNDATIONS OF WRITTEN COMMUNICATION
(6 credit hours required – Writing Across the Curriculum - WAC)
Grade of “C” or higher is required in each course
- ENC 1101 ….. College Writing I **(REQUIRED)**
- ENC 1102 ….. College Writing II+

#### THE FOLLOWING COURSES BELOW MAY BE SUBSTITUTED FOR ENC 1102:

- ENC 1930+ ….. University Honors Seminar in Writing **(Permit Only)**
- ENC 1939+ ….. Special Topic: College Writing
- ENC 2452+ ….. Honors Composition for Science
- ENC 1940+ ….. University Honors Seminar in English

#### English Department
- HIS 2050+ ….. Writing History: The American Revolution
- HIS 2099+ ….. Writing for History

#### History Department
- HIS 2050+ ….. Writing History: The American Revolution

#### Nursing Department **(Department Permission Required)**
- NSP 1195+ ….. Being Cared For: Reflections from Other Side of Bed

#### Anthropology Department
- ANT 1471+ ….. Cultural Difference in a Globalized Society

#### Philosophy Department
- PHI 2102 ….. Logic

#### Foundations of Mathematics & Quantitative Reasoning
(6 credit hours required – Grade of “C” or higher is required)
Student must take two of the following courses, one must be from group A. The second course may be from group A or group B.

**PRETEST IS REQUIRED BEFORE TAKING YOUR FIRST MATH COURSE**

#### Group A
- MGF 1106 ….. Math for Liberal Arts 1
- MGF 1107 ….. Math for Liberal Arts 2
- MAC 1105 ….. College Algebra
- STA 2023 ….. Introductory Statistics
- MAC 2311 ….. Calc. w/Analytic Geometry 1 (4 credits) **(REQUIRED)**

Any mathematics course for which one of the above courses is the direct prerequisite

#### Group B
- MAC 1140 ….. Precalculus Algebra
- MAC 1114 ….. Trigonometry
- MAC 1147 ….. Precalculus Algebra & Trigonometry (5 credits)
- MAC 2233 ….. Methods of Calculus
- MAC 2312 ….. Calc. w/Analytic Geometry 2 (4 credits) **(REQUIRED)**

#### Foundations of Science & the Natural World
(6 credit hours required – One of the courses must have a lab)
Student must take two of the following courses, one must be from group A. The second course may be from group A or group B.

- **Group A**
  - Biology Department
    - BSC 1005 & L ….. Life Science (3 credits including Lab)
    - BSC 1010 & L & D ….. Bio Principles (4 cr w/Lab & Dis) **(see note below)**
    - BSC 2085 & L ….. Anatomy & Physiology I (4 credits including Lab) *
  - Chemistry Department
    - CHM 1020C ….. Contemporary Chemical Issues
    - CHM 2045 & L ….. General Chem. 1 (4 cr w/Lab) **(see note below)**
  - Geosciences Department
    - ESC 2000 ….. Blue Planet **(online course)**
    - EVR 1001 ….. Environmental Science and Sustainability
  - Physics Department
    - AST 2002 ….. Introduction to Astronomy **(P/F)**
    -PHY 2048 & L ….. General Physics 1 (5 cr w/Lab) **(REQUIRED)**
    - PHY 2053 ….. College Physics 1 (4 credits) **(REQUIRED)**
  - Engineering Dean Department
    - ETG 2831 ….. Nature: Inter. of Sci., Eng., & the Humanities
  - Geosciences Department
    - GLY 2010C ….. Physical Geology (4 cr. including Lab)
    - GLY 2100 ….. History of Earth and Life
    - MET 2010 & D ….. Weather and Climate
  - Physics Department
    - PSC 2121 ….. Physical Science

**Students must select either:**
- BSC 1010 & BSC 1011 or CHM 2045 & CHM 2046 (with labs)

#### Foundations of Society & Human Behavior
(6 credit hours required)
Student must take two of the following courses, one must be from group A. The second course may be from group A or group B.

- **Group A**
  - History Department
    - AMH 2020 & D ….. United States History Since 1877 **(P/F)**
  - Anthropology Department
    - ANT 2000 ….. Introduction to Anthropology
  - 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
  - Philosophy Department
    - PHI 2102 ….. Logic

- **Group B**
  - History Department
    - AMH 2010 & D ….. 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
    - SYG 2010 ….. Social Problems
  - Public Administration Department
    - PAD 2258 ….. Changing Environment of Soc., Bus., & Gov’t
  - Sociology Department
    - SYD 2790 ….. Race, Class, Gender, and Sexuality
    - SYG 1010 ….. Social Problems
  - Urban & Regional Planning Department
    - URP 2051 ….. Designing the City

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**Note:**
- A grade of “C” or higher is required in each course
- A minimum of 18 credit hours is required
- At least one course with the prefix MAC or MGF is required

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**Course Prefixes:**
- **ANT** ….. Anthropology
- **BSC** ….. Biology
- **CHM** ….. Chemistry
- **EEX** ….. Exceptional Student Education
- **ECP** ….. Economics
- **ECO** ….. Economics
- **EVR** ….. Environmental Science
- **GLY** ….. Geology
- **HIS** ….. History
- **MAC** ….. Mathematics
- **MGF** ….. Mathematics for Liberal Arts
- **PHY** ….. Physics
- **PSY** ….. Psychology
- **POS** ….. Political Science
- **PRI** ….. Physical Education
- **SYG** ….. Sociology
- **URP** ….. Urban & Regional Planning

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**Notes:**
- **(P/F)**: Passed-Failed courses
- **(required)**: Courses required for graduation
- **(see note below)**: Information not specified

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**Required Courses:**
- **Mathematics & Quantitative Reasoning**
- **Foundations of Written Communication**
- **Foundations of Science & the Natural World**
- **Foundations of Society & Human Behavior**

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**Permit Only Courses:**
- **ENC 1930+** ….. University Honors Seminar in Writing
- **ENC 1939+** ….. Special Topic: College Writing
- **ENC 2452+** ….. Honors Composition for Science

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**Servicing Departments:**
- **Engineering Dean Department**
- **Geosciences Department**
- **History Department**
- **Nursing Department**
- **Anthropology Department**
- **Physics Department**
- **Philosophy Department**
- **Sociology Department**
- **Psychology Department**
- **Public Administration Department**
- **Urban & Regional Planning Department**

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**Additional Information:**
- Students must take four Writing-Across-the-Curriculum (WAC) courses, two of which must be taken from Foundations of Written Communication.

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**Bachelor of Arts (BA) or Bachelor of Science (BS)**

**Bachelor of Science (BS)**

- Charles E. Schmidt College of Science
- Bachelor of Arts (BA) or Bachelor of Science (BS)

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**FLORIDA ATLANTIC UNIVERSITY – INTELLECTUAL FOUNDATION PROGRAM 2015 – 2016**

All courses are three (3) credits unless otherwise indicated. Course selections should be made in consultation with an academic advisor.
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

§ - 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 1105 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.

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 preferred 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

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.
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.

- **HONORS NOTE:** Students can apply for the PSYCHOLOGY HONORS PROGRAM after completion of 60 credits, and before completion of 105 credits. Students must have a 3.2 overall & Psychology GPA to be admitted and retained in the Honors track.

<table>
<thead>
<tr>
<th>Credits</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>28 – 32</td>
<td>Intellectual Foundations Program &amp; Foreign Language (Excluding Math &amp; Science)</td>
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<tr>
<td>12</td>
<td>Mathematics – Calculus (B.A. and B.S. Degree)</td>
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<tr>
<td>25 – 44</td>
<td>Physics Major (44 credits for B.S. and 25 credits for B.A)</td>
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<tr>
<td>32 – 55</td>
<td>Free Electives</td>
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<tr>
<td>120</td>
<td>TOTAL</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

PHYSICS Core

Introduction to Physics Courses - (9 credits) - REQUIRED for both B.A. and B.S. Degree

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)

BACHELOR OF SCIENCE (BS) DEGREE (44 credits total, 13 courses)

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 (25 credits total, 6 courses)

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)

FREE ELECTIVES (32 – 55 credits)
Free electives are courses in any college, any department, including Physics, needed to meet the 120 credits required for graduation.

Optional Preprofessional 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 cr) – 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 is the prerequisite