PHYSICS MAJOR (2018–2019)

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

FLORIDA ATLANTIC UNIVERSITY – INTELLECTUAL FOUNDATION PROGRAM 2018 – 2019

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

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:

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

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

FOUNDATIONS OF MATHEMATICS & QUANTITATIVE REASONING
(6 credit hours required – Grade of “C” or higher is required)

Student must take 2 of the following courses; 1 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
____ MAC 1105......College Algebra
____ 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

Group B
____ MAC 1140......Precalculus Algebra
____ MAC 1114......Trigonometry
____ MAC 1147......Precalculus Algebra & Trigonometry (5 credits)
____ MAC 2233......Methods of Calculus
____ MAC 2312......Calculus with Analytic Geometry 2 (4 credits) (REQUIRED)

** Must select either both Biology courses or both Chemistry courses from below:
BSC 1010 & BSC 1011 (with labs) or CHM 2045 & CHM 2046 (with labs)
“CANNOT MIX BIOLOGY AND CHEMISTRY COURSE”

(D) = Discussion, (L) = Lab
Courses indicating a (D) or (L) are linked with a lecture, a lab, and/or a discussion. If you select one of these courses, you must register for the lecture, lab, and/or discussion. You must attend the lecture, lab, and/or discussion.
**STUDENTS ASSUME RESPONSIBILITY FOR MEETING ALL GRADUATION REQUIREMENTS**

Course selections should be made in consultation with an academic advisor.

### 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

- **Social Work Department**
  - ___ SOW 1005 .............. Global Perspectives of Social Services

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

### FOUNDATIONS OF HUMANITIES

(6 credit hours required)

Student must take 2 of the following courses; 1 must be from group A. The second course may be from group A or group B.

#### Group A

- **Visual Art & Art History Department**
  - ___ ARH 2000 .............. Art Appreciation (P/F)

- **Music Department**
  - ___ MUL 2010 .............. Music Appreciation

- **Philosophy Department**
  - ___ PHI 2010 & D........ Introduction to Philosophy (WAC) ++

- **Theatre & Dance Department**
  - ___ THE 2000 .............. Theatre Appreciation

#### Group B

- **Architecture Department**
  - ___ ARC 2208 .............. Culture & Architecture

- **Theatre & Dance Department**
  - ___ DAN 2100 .............. Appreciation of Dance

- **School of Communication & Multimedia Studies**
  - ___ FIL 2000 & D........ Film Appreciation

- **Languages, Linguistics, & Comparative Literature Department**
  - ___ LIT 2100 .............. Introduction to World Literature

- **English Department**
  - ___ LIT 2010 .............. Interpretation of Fiction (WAC) ++
  - ___ LIT 2030 .............. Interpretation of Poetry (WAC) ++
  - ___ LIT 2040 .............. Interpretation of Drama (WAC) ++
  - ___ LIT 2070 .............. Interpretation of Creative Nonfiction (WAC) ++

### 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, take General Physics 1 Lab (PHY 2048 Lab).
- *** - MAC 1105 and MAC 1114 are prerequisites for this course. If a lab is needed, 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.

### 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.

### 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.

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**Go to MyFAU to:**

- See FAU Announcements
- Check e-mail
- See Engineering majors

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

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**FAU Self-Service:**

- Course schedules
- Registration (drop/add classes) and withdrawals
- Student records and financial aid
- Tuition payments
- The University Course Catalog
**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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<th>BA</th>
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<tr>
<td>32 credits</td>
<td>32 credits</td>
<td>Intellectual Foundations Program &amp; Foreign Language (Excluding Math &amp; Science)</td>
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<tr>
<td>12 credits</td>
<td>12 credits</td>
<td>Mathematics – Calculus (B.A. and B.S. Degree)</td>
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<td>30 credits</td>
<td>47 credits</td>
<td>Physics Major</td>
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<tr>
<td>24 credits</td>
<td>10 credits</td>
<td>Upper Division Restricted Free Electives</td>
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<td>22 credits</td>
<td>19 credits</td>
<td>Free Electives</td>
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<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 (47 credits total, 14 courses)

Introductory Physics Courses - (6 credits)
PHY 1090  First-Year Physics Seminar (1 credit)
PHY 2049 & L  General Physics II & Lab – PHY 2048 with lab is a prerequisite (5 credits)

BACHELOR OF SCIENCE (BS) DEGREE (41 credits total, 12 courses)

Additional Mathematics Introductory Course (3 credits)
MAP 3305  Engineering Mathematics I (3 credits)

Bachelor of Science Additional Intermediate Core Requirements (38 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 3324  Electromagnetism II – PHY 3323 is a prerequisite (4 credits)
PHY 3932  Third-Year Physics Seminar – PHY 3101C is a prerequisite (1 credit)
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 3722C  Physical Electronics – PHY 2049 is a prerequisite (4 credits)
PHY 4811L  Undergraduate Laboratory – PHY 3101C is a prerequisite (2 credits)
PHY 3151C  Computational Physics – MAC 2313 is a prerequisite (4 credits)
PHZ 4113  Math. Methods for Physics – PHZ 2106 a prereq or instructor permission (3 credits)

BACHELOR OF ARTS (BA) DEGREE (30 credits total, 9 courses)

Introductory Physics Courses - (6 credits)
PHY 1090  First-Year Physics Seminar (1 credit)
PHY 2049 & L  General Physics II & Lab – PHY 2048 with lab is a prerequisite (5 credits)

Additional Mathematics Introductory Course (3 credits)
MAP 3305  Engineering Mathematics I (3 credits)

Bachelor of Arts Additional Intermediate Core Requirements (18 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 3932  Third-Year Physics Seminar – PHY 3101C is a prerequisite (1 credit)
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