FLORIDA ATLANTIC UNIVERSITY – INTELLECTUAL FOUNDATION PROGRAM 2017 – 2018
All courses are three (3) credits unless otherwise indicated. Course selections should be made in consultation with an academic advisor.

CHEMISTRY MAJOR (2017 – 2018)

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

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 SCIENCE & THE NATURAL WORLD
(6 credit hours required - One of the courses must have a lab)
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

Biology Department (BS major)
BSC 1010 & L & D
Biological Principles
(4 cr. Incl. Lab & Dis)

Chemistry Department
CHM 2045 & L (BA/BS major)
General Chemistry 1
(4 cr. Incl. Lab) $

Physics Department
PHY 2048 & L (BA/BS major)
General Physics 1
(5 credits incl. Lab) **
PHY 2053 (BA major only)
College Physics 1 (4 credits)

Group B

Biology Department
BSC 1011 & L & D
Biodiversity (4 cr. incl Lab & Dis)

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 (BA major only)
MAC 2311…….. Calc. w/Analytic Geometry 1 (4 cr) (Required for BS)

Group B

MAC 1140…….. Precalculus Algebra
MAC 1114…….. Trigonometry
MAC 1147…….. Precalculus Algebra & Trigonometry (5 credits)
MAC 2233…….. Methods of Calculus (BA major only)
MAC 2312…….. Calc. w/Analytic Geometry 2 (4 cr) (Required for BS)

FOUNDATIONS OF SOCIETY & HUMAN BEHAVIOR
(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

History Department
AMH 2020 & D.........United States History Since 1877 (P/F)

Anthropology Department
ANT 2000 & D ..........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 (highly recommended)

Sociology Department
SYG 1000 .................Sociological Perspectives (highly recommended)

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
EVR 2017 .................Environment and Society

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

(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.
## FOUNDATIONS IN GLOBAL CITIZENSHIP

(6 credit hours required)

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

<table>
<thead>
<tr>
<th>Department</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology Department</td>
<td>ANT 2410</td>
<td>Culture and Society</td>
</tr>
<tr>
<td>Curriculum, Culture &amp; Education Department</td>
<td>EDF 2854</td>
<td>Educated Citizen in Global Context</td>
</tr>
<tr>
<td>Geosciences Department</td>
<td>GEA 2000</td>
<td>World Geography</td>
</tr>
<tr>
<td>Political Science Department</td>
<td>INR 2002</td>
<td>Introduction to World Politics</td>
</tr>
<tr>
<td>Languages, Linguistics, &amp; Comparative Literature Department</td>
<td>LIN 2607</td>
<td>Global Perspectives on Language (online course)</td>
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<tr>
<td>Sociology Department</td>
<td>SYP 2450</td>
<td>Global Society</td>
</tr>
<tr>
<td>Social Work Department</td>
<td>SOW 1005</td>
<td>Global Perspectives of Social Services</td>
</tr>
<tr>
<td>History Department</td>
<td>WOH 2012 &amp; D</td>
<td>History of Civilization 1 (WAC) ++</td>
</tr>
<tr>
<td></td>
<td>WOH 2022</td>
<td>History of Civilization 2</td>
</tr>
</tbody>
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## 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**

<table>
<thead>
<tr>
<th>Department</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Art &amp; Art History Department</td>
<td>ARH 2000</td>
<td>Art Appreciation (P/F)</td>
</tr>
<tr>
<td>Music Department</td>
<td>MUL 2010</td>
<td>Music Appreciation</td>
</tr>
<tr>
<td>Philosophy Department</td>
<td>PHI 2010</td>
<td>Introduction to Philosophy (WAC) ++</td>
</tr>
<tr>
<td>Theatre &amp; Dance Department</td>
<td>THE 2000</td>
<td>Theatre Appreciation</td>
</tr>
</tbody>
</table>

**Group B**

<table>
<thead>
<tr>
<th>Department</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture Department</td>
<td>ARC 2208</td>
<td>Culture &amp; Architecture</td>
</tr>
<tr>
<td>Theatre &amp; Dance Department</td>
<td>DAN 2100</td>
<td>Appreciation of Dance</td>
</tr>
<tr>
<td>School of Communication &amp; Multimedia Studies</td>
<td>FIL 2000 &amp; D</td>
<td>Film Appreciation</td>
</tr>
<tr>
<td>Languages, Linguistics, &amp; Comparative Literature Department</td>
<td>LIT 2100</td>
<td>Introduction to World Literature</td>
</tr>
<tr>
<td>English Department</td>
<td>LIT 2010</td>
<td>Interpretation of Fiction (WAC) ++</td>
</tr>
<tr>
<td></td>
<td>LIT 2030</td>
<td>Interpretation of Poetry (WAC) ++</td>
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<tr>
<td></td>
<td>LIT 2040</td>
<td>Interpretation of Drama (WAC) ++</td>
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<tr>
<td></td>
<td>LIT 2070</td>
<td>Interpretation of Creative Nonfiction (WAC) ++</td>
</tr>
</tbody>
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## Students Assume Responsibility for Meeting All Graduation Requirements

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

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**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 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.

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**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.

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**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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**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.

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**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

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

<table>
<thead>
<tr>
<th>B.A.</th>
<th>38 credits</th>
<th>Intellectual Foundations Program &amp; Foreign Language (w/out Science)</th>
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<tbody>
<tr>
<td></td>
<td>33 credits</td>
<td>Chemistry (17 of which are upper division)</td>
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<tr>
<td></td>
<td>10 credits</td>
<td>College of Science (Physics)</td>
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<tr>
<td></td>
<td>28 credits</td>
<td>Upper Division Electives</td>
</tr>
<tr>
<td></td>
<td>11 credits</td>
<td>Other Electives</td>
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<tr>
<td></td>
<td>120 credits</td>
<td>TOTAL</td>
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</table>

<table>
<thead>
<tr>
<th>B.S.</th>
<th>Chemistry</th>
<th>ACS</th>
<th>Biochemistry</th>
<th>40 credits</th>
<th>40</th>
<th>40</th>
<th>Intellectual Foundations Program &amp; Foreign Language (w/out Science)</th>
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<tbody>
<tr>
<td></td>
<td>16</td>
<td>13</td>
<td>07</td>
<td>Upper Division Electives</td>
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<td></td>
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<td>09</td>
<td>09</td>
<td>08</td>
<td>Free Electives</td>
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<tr>
<td></td>
<td>55</td>
<td>58</td>
<td>65</td>
<td>Major Credits</td>
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</tr>
<tr>
<td></td>
<td>120 credits</td>
<td></td>
<td>TOTAL</td>
<td></td>
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</tr>
</tbody>
</table>

NOTE: See the catalog for specific requirements, course descriptions and additional information. The requirements for some Intellectual Foundations Program (I.F.P.) courses & other courses may be satisfied by passing the appropriate AP or CLEP exam. Check with your advisor and college.

The 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 dept.;
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 the department for specifics.
MAJOR COURSES, COLLEGE REQUIREMENTS and ELECTIVES

BACHELOR OF ARTS DEGREE (B.A.) IN CHEMISTRY

The Bachelor of Arts is a liberal arts degree intended for students planning professional careers in chemistry-related professions; ex. health professions (medicine, dentistry, & pharmacy), environmental consulting, technical sales and secondary school teaching. In addition to the University and Charles E. Schmidt College of Science requirements, students seeking a Bachelor of Arts (B.A.) degree in Chemistry must complete the following program:

**MATHEMATICS** (6 credits minimum, 2 courses) (Gordon Rule, **must get a “C” or better**)

**MUST TAKE A PLACEMENT TEST BEFORE registerING FOR MATH COURSES**

- MAC 1105  College Algebra (3 credits) – **REQUIRED for BA**
- MAC 2233  Methods of Calculus (3 credits) – **REQUIRED for BA**

**CHEMISTRY** (33 credits minimum, 9 or more courses plus labs)

- CHM 2046 & L  General Chemistry II and lab (3 + 1 = 4 credits)
- CHM 3120 & L  Quantitative Analysis - **CHM 2045 & 2046 w/labs are prerequisites** (2 + 2 = 4 credits)
- CHM 2210 & D  Organic Chemistry I with discussion - **CHM 2045 & 2046 w/labs are prerequisites** (3 credits)
- CHM 2211  Organic Chemistry II - **CHM 2210 is a prerequisite** (3 credits)
- CHM 2211 Lab  Organic Chemistry II Lab - **CHM 2210 is a prerequisite** (2 credits)
- BCH 3033  Biochemistry I - **CHM 2210 & 2211 w/lab is a prerequisite** (3 credits)
- BCH 3103 L  Biochemistry Laboratory **BCH 3034 is a co-requisite** (3 credits)
- CHM 3400  Introduction to Physical Chemistry - **8 credits of Gen Chem. are prerequisites** (3 credits)
- CHM 3609 & L  Inorganic Chemistry & Lab - **8 credits of Gen Chem. are prerequisites** (3 + 1 = 4 credits)

**PHYSICS** (10 credits, 2 lectures and 2 labs)

- PHY 2054  College Physics II (4 credits)
- and  PHY 2049 Lab  General Physics Lab II (1 credit)

**ELECTIVES** (39 credits) - needed to meet the 120 credit minimum required for the degree

- Upper Division Electives (28 credits)
- Other Electives - (11 credits) Elective courses decided upon by student, advisor and department.

BACHELOR OF SCIENCE (B.S.) WITH MAJOR IN CHEMISTRY: COMPREHENSIVE PROGRAM

The Bachelor of Science degree is designed for students planning professional careers as chemists in industry, government, or academic research. Students interested in advanced graduate studies in chemistry, biochemistry, or related fields should also follow one of the B.S. degree programs. In addition to the University and Charles E. Schmidt College of Science requirements, the Comprehensive B.S. degree program requires the following courses:

**MATHEMATICS** (8 credits 2 courses) (Gordon Rule, **must get a “C” or better**)

**MUST TAKE A PLACEMENT TEST BEFORE registering FOR MATH COURSES**

- MAC 1114  Trigonometry (3 credits) - **Recommended if not ready for MAC 2311**
- MAC 2311  Calculus with Analytical Geometry I (4 credits) – **REQUIRED for BS**
- MAC 2312  Calculus with Analytical Geometry II (4 credits) – **REQUIRED for BS**

**PHYSICS** (10 credits)

- PHY 2048 & L  General Physics I & Lab (4 + 1 = 5 credits) - **Prerequisite of a “C” in MAC 2311**
- PHY 2049 & L  General Physics I & Lab (4 + 1 = 5 credits)

**CHEMISTRY** (32 credits – 45 credits upper division in major with ACS certified & 13 credits upper division electives)

- CHM 2046 & L  General Chemistry II and lab (3 + 1 = 4 credits)
- CHM 3120 & L  Quantitative Analysis - **CHM 2045 & 2046 w/labs are prerequisites** (4 credits)
- CHM 2210 & D  Organic Chemistry I with discussion - **CHM 2045 & 2046 w/labs are prerequisites** (3 credits)
- CHM 2211  Organic Chemistry II - **CHM 2210 is a prerequisite** (3 credits)
- CHM 2211 Lab  Organic Chemistry II Lab - **CHM 2210 is a prerequisite** (2 credits)
- CHM 3060  Chemical Literature (1 credit)
- BCH 3033  Biochemistry I (3 credits)
- CHM 3609 & L  Inorganic Chemistry and lab (3 + 1 = 4 credits)
- CHM 3410 & L  Physical Chemistry I and lab (3 + 2 = 5 credits)
- CHM 3411 & L  Physical Chemistry II and lab (3 + 2 = 5 credits)
- CHM 4139 & L  Bioanalytical Instrumentation and lab (2 + 2 = 4 credits)
- CHM 4905  Directed Independent Study (3 credits)
BACHELOR OF SCIENCE (B.S.) WITH MAJOR IN CHEMISTRY: ACS Approved PROGRAM

The ACS-approved B.S. program offers similar rigorous training in all aspects of chemistry as the basic track, but includes some additional requirements corresponding with the certification guidelines of the Committee on Professional Training of the American Chemical Society (ACS). An ACS-certified degree can offer advantages in job placement and graduate school admission. The ACS approved program requires all courses in the Comprehensive program plus MAC 2313 or MAP 3305, and one of the following courses:

- BCH 3034  Biochemistry II (3 credits)
- CHM 4422  Advanced Physical Chemistry (3 credits)
- CHM 4220  Advanced Organic Chemistry (3 credits)
- CHM 4610  Advanced Inorganic Chemistry (3 credits)

BACHELOR OF SCIENCE DEGREE WITH MAJOR IN CHEMISTRY: BIOCHEMISTRY PROGRAM (B.S.)

The Biochemistry program is designed for students pursuing careers in biochemistry and related disciplines such as molecular biology, biophysics, and pharmacology. Additionally premedical students who wish to pursue a research-oriented curriculum might be interested in it. In addition to the University and Charles E. Schmidt College of Science requirements, the B.S. in Chemistry (Biochemistry) degree program requires the following courses:

**MATHEMATICS** (11 – 12 credits - 3 courses) Gordon Rule - must get a “C” or better

**MUST TAKE A PLACEMENT TEST BEFORE REGISTERING FOR MATH COURSES**

- MAC 1114  Trigonometry (3 credits) - Recommended if not ready for MAC 2311
- MAC 2311  Calculus with Analytical Geometry I (4 credits) – **REQUIRED for BS**
- MAC 2312  Calculus with Analytical geometry II (4 credits) – **REQUIRED for BS**
- MAC 2313  Calculus with Analytical geometry III (4 credits)
- MAP 3305  Engineering Mathematics I (3 credits)  \{ REQUIRED for BS (select one) \}

**BIOCHEMISTRY AND BIOLOGY COURSES** (20 credits)

- BSC 1010 & L  Biological Principles & Lab (4 credits)
- BCH 3033  Biochemistry I (3 credits)
- BCH 3034  Biochemistry II (3 credits)
- BCH 3103L  Biochemistry Lab (3 credits)
- BCH 4035  Advanced Biochemistry (3 credits)
- CHM 4139 & L  Bioanalytical Instrumentation & lab (2 + 2 = 4 credits)

**PHYSICS** (10 credits)

- PHY 2048 & L  General Physics I & Lab (5 credits) - Prerequisite of a “C” in MAC 2311
- PHY 2049 & L  General Physics II & Lab (5 credits)

**CHEMISTRY** (34 credits)

- CHM 2045 & L  General Chemistry I & Lab (4 credits)
- CHM 2046 & L  General Chemistry II & Lab (4 credits)
- CHM 3120 & L  Quantitative Analysis I & Lab (4 credits)
- CHM 2210 & D  Organic Chemistry I with discussion (3 credits)
- CHM 2211  Organic Chemistry II - CHM 2210 is a prerequisite (3 credits)
- CHM 2211 Lab  Organic Chemistry II Lab - CHM 2210 is a prerequisite (2 credits)
- CHM 3060  Chemical Literature (1 credit)
- CHM 3410 & L  Physical Chemistry I & Lab (5 credits)
- CHM 3411 & L  Physical Chemistry II & Lab (5 credits)
- CHM 4905  Directed Independent Study (3 credits or approved substitute)

**Biology/Biochemistry Elective - Choose one (1) of the following courses** (3 credits).

- MCB 3020  General Microbiology (3 credits)
- PCB 4023  Cell Biology (3 credits)
- BCH 5415  Biochemistry of the Gene (3 credits)

**PREMEDICAL/PREPROFESSIONAL COURSES FOR CHEMISTRY MAJORS**

- BSC 1011 & L  Biodiversity & Lab (4 credits)
- BSC 1010 & L  Biological Principles (4 credits)
- BCH 3034  Biochemistry II (3 credits)
- MCB 3020 & L  General Microbiology & Lab (3 credits)

**And ONE of the following:**

- ZOO 4690  Comparative Vertebrate Morphogenesis (3 credits)
- PCB 3063  Genetics (4 credits)