# **Bachelor of Arts in Chemistry**

## University Requirements:

**FIU** Arts, Sciences & Education

- □ University Core Curriculum (UCC)\*
- Gordon Rule with Writing (GRW) (Two courses; 6 credits total)
- □ Foreign Language requirement (FLENT/FLEX)\*
- □ Summer Enrollment (9 credits)
- □ Global Learning (GL) requirement (For class options: goglobal.fiu.edu/courses)\*
- □ Civics Literacy requirement\*
- □ Minimum of a 2.0 GPA
- □ 120 credit hours required for graduation

**College of Arts, Sciences, and Education Requirements:** 

□ 45 credits of Upper Division hours (3000-4000 level)

**Chemistry BA Lower Division Prerequisite Coursework: Complete all of the following courses with a "C" or better:** Course Availability: This is when courses are typically offered and is subject to change: F (Fall), S (Spring), SS (Summer)

| General     |  | Credits |
|-------------|--|---------|
| Chemistry   |  |         |
|             | General Chemistry I- Prerequisites: MAC1105 or MAC1114 or MAC1140 or MAC1147 or any          |         |
| CHM 1045    | calculus course; or CHM1025 or adequate placement test score (465 MPS, 50 Aleks).            | 3       |
|             | Prerequisite or Corequisite: CHM1045L (F,S,SS)   |         |
| CHM 1045L   | General Chemistry Lab I- Prerequisite or Corequisite: CHM1045) (F,S,SS)                      | 1       |
| CHM 1046    | General Chemistry II- Prerequisites: CHM1045, CHM1045L. (F,S,SS)                             | 3       |
| CHM 1046L   | General Chemistry Lab II- Prerequisite or Corequisite: CHM1046. (F,S,SS)                     | 1       |
| Organic     |  |         |
| Chemistry   |  |         |
| CHM 2210    | Organic Chemistry I- Prerequisites: CHM1046, CHM1046L. Prerequisite or Corequisite:          | 4       |
|             | CHM2210L. (F,S,SS)   | 4       |
| CHM 2210L   | Organic Chemistry Lab I- Prerequisite or Corequisite: CHM2210 (F,S,SS)                       | 1       |
| CHM 2211    | Organic Chemistry II- Prerequisites: CHM2210, CHM2210L. Prerequisite or Corequisite:         | 3       |
|             | CHM2211L. (F,S,SS)   | 5       |
| CHM 2211L   | Organic Chemistry Lab II- Prerequisite or Corequisite: CHM2211 (F,S,SS)                      | 1       |
| Chemistry   |  |         |
| Math        |  |         |
| MAC 2311    | Calculus I- Prerequisites: MAC1147 or MAC1140 and MAC1114 or appropriate score on            | 4       |
| IVIAC 2511  | placement exam (505 MPS, 75 Aleks) (F,S,SS)  | 4       |
| MAC 2312    | Calculus II- Prerequisite: MAC2311 (F,S,SS)  | 4       |
| Physics     |  |         |
| PHY 2048 or | Physics W/Calculus I or Physics Without Calculus I- Prerequisite or Corequisite: MAC2311 or  | 4       |
| PHY 2053    | equivalent (F,S,SS)  | 4       |
| PHY 2048L   | General Physics Lab I- Prerequisite or Corequisite: PHY2053 or PHY2048 (F,S,SS)              | 1       |
| PHY 2049 or | Physics W/Calculus II or Physics Without Calculus II- Prerequisite: PHY2048 (for PHY2049) or | 4       |
| PHY 2054    | PHY2053 (for PHY2054); Prerequisite or Corequisite: MAC2312 (F,S,SS)                         | 4       |
| PHY 2049L   | General Physics Lab II- Prerequisite or Corequisite: PHY2054 or PHY2049 (F,S,SS)             | 1       |
| General     |  |         |
| Biology     |  |         |
| BSC 2010    | General Biology I- Prerequisite or Corequisite: BSC2010L (F,S,SS)                            | 3       |
| BSC 2010L   | General Biology I Lab- Prerequisite or Corequisite: BSC2010 (F,S,SS)                         | 1       |

## Chemistry BA Upper Division Core: Complete all of the following courses with a grade of "C" or better

| Course    | Description  | Credits |
|-----------|--|---------|
| CHM 3120  | Intro Analytical Chemistry- Pre-Requisites: CHM1046 and CHM1046L (F,S,SS)            | 3       |
| CHM 3120L | Intro Analytical Chemistry Lab- Prerequisite or Corequisite: CHM3120 (F,S,SS)        | 1       |
|           | Fundamentals of Physical Chemistry 1- CHM3120, CHM3120L, MAC2311, MAC2312,           |         |
| CHM 3400  | PHY2049 or PHY2054, PHY2049L. Co-requisite: CHM 3410L (F,S)                          | 3       |
|           | (Students can also take CHM 3410: Physical Chemistry I instead; same pre-requisites) |         |
|           | Fundamentals of Physical Chemistry Lab- Prerequisite or Corequisite: CHM3400         | 1       |
| CHM 3400L | (If student takes CHM 3410- they should take CHM 3410L) (F,S)                        | 1       |
| CHM 4304  | Biological Chemistry I- Prerequisites: CHM 2211 and CHM 2211L (F,S,SS)               | 3       |
| CHM 4304L | Biological Chemistry I Lab- Prerequisite or Corequisite: CHM4304 (F,S,SS)            | 1       |

## Chemistry BA Cognate Area: Choose 1 course from the following: (3 credits). Some concentrations may require a lab\*

| Course    | Description  | Credits |
|-----------|--|---------|
| BSC 2011  | General Biology II- Prerequisite or Corequisite: BSC2011L (F,S,SS)   | 3       |
| BSC 2011L | General Biology II Lab- Prerequisite or Corequisite: BSC2011 (F,S,SS)  | 1       |
| CCJ 2020  | Intro Criminal Justice (F,S,SS)  | 3       |
| EVR 3011  | Environmental Resources and Pollution- Prerequisites: MAC1105 or equivalent and an introductory science course (S)                   | 3       |
| EVR 3013  | Ecology of South Florida (F,S)   | 3       |
| EVR 3013L | Ecology of South Florida Lab- Prerequisite or Corequisite: EVR3013 (F,S)   | 1       |
| EVR 4211  | Water Resources- Prerequisites: CHM1045, CHM1046, BSC2010 (F)  | 3       |
| EVR 4211L | Water Resources Lab- Prerequisites or Corequisite: EVR 4211 (F)  | 1       |
| EVR 4231  | Air Resources  | 3       |
| EVR 4310  | Energy Resources- Prerequisites: EVR3010 or PHY2023 or equivalent  | 3       |
| EVR 4592  | Soils & Ecosystems- Prerequisites: BSC2010 & CHM1045 (S)   | 3       |
| EVR 4592L | Soils & Ecosystems Lab- Prerequisites or Corequisite: EVR4592 (S)  | 1       |
| GLY 3202  | Earth Materials- Prerequisites: ESC1000 or GLY1010 or GLY3039 or permission of the instructor and CHM1045; Corequisite: GLY3202L (F) | 3       |
| GLY 3202L | Earth Materials Lab- Prerequisites or Corequisite: GLY3202 (F)   | 1       |
| GLY 4822  | Intro to Hydrogeology- Prerequisites: PHY2048 or PHY2053, CHM1045, MAC2311, or permission of the instructor (S)                      | 3       |
| OCE 3014  | Oceanography- GL (F,S,SS)  | 3       |

# Chemistry Restricted Electives: Choose 2 lectures from the following: (6 credits) and 1 lab corresponding to the lectures selected (1 credit)

| Course    | Description  | Credits |
|-----------|--|---------|
| CHM 4220  | Advanced Organic Chemistry- Prerequisites: CHM2211 and CHM2211L. (F)   | 3       |
| CHM 4230L | Structure Determination Lab- Prerequisite: CHM2211, CHM2211L. (F,S)  | 1       |
| CHM 4300  | Bio-Organic Chemistry- Prerequisites: CHM2211 and CHM2211L. (S)  | 3       |
| CHM 4230L | Structure Determination Lab- Prerequisite: CHM2211, CHM2211L. (F,S)  | 1       |
| CHM 4307  | Biological Chemistry II- Prerequisites: CHM4304 (F,S,SS)   | 3       |
| CHM 4307L | Biological Chemistry II Lab- Prerequisite or Corequisite: CHM4304 (F,S,SS)   | 1       |
| CHM 4130  | Instrumental Analysis- Prerequisites: CHM3120, CHM3120L, CHM2211, CHM2211L, CHM3410 or CHM3400, PHY2048, PHY2048L, PHY2049, PHY2049L or PHY2053, PHY2048L, PHY2054, PHY2049L (F,S) | 3       |
| CHM 4130L | Instrumental Analysis Lab- Prerequisite or corequisite: CHM4130 (F,S)  | 1       |
| CHM 3411  | Physical Chemistry II- Prerequisite: CHM3410, CHM3410L (F,S)   | 4       |
| CHM 3411L | Physical Chemistry II Lab- Prerequisite or Corequisite: CHM3411 (F,S)  | 1       |
| CHS 4430  | Intro Chemical Toxicology- Prerequisites: CHM4304 or BCH3033 (F)   | 3       |

| CHS 4600  | Marine Chemistry- Prerequisites: CHM2210 and CHM2210L, or CHM 2200 and CHM 2200L;<br>CHM3120, CHM3120L (S) | 3 |
|-----------|--|---|
| CHM 3610  | Fundamentals of Inorganic Chemistry- Prerequisites: CHM2211 and CHM2211L (S)                               | 3 |
| CHM 3610L | Fundamentals of Inorganic Chemistry- Prerequisite: CHM 3610 (SS,F)   | 1 |

#### **Senior Chemistry Lecture Elective**

| Course   | Description   | Credits |
|----------|---|---------|
| CHM or   | 4000 level Chemistry Lecture (Refer to Panther Degree Audit for list of class options.) | 2       |
| CHS 4XXX | CHM 4910L or CHM 4911L may not be used to satisfy this requirement.                     | 5       |

#### **Chemistry Senior Seminar**

| Course   | Description  | Credits |
|----------|--|---------|
| CHM 4930 | Senior Seminar (Pre-Requisite: Senior standing in <b>last term of enrollment</b> . Advisor permission required. Please message advisor or schedule an appointment requesting permission.) (F,S,SS) | 1       |

#### **Chemistry Graduation Exam**

| Description   |
|---|
| Students are required to take a nationally normed chemistry examination in their last semester before graduation. |
| Please contact the Chemistry Department for more information: 305.348.2606, CP 304.                               |

\*Chemistry BA Concentrations: Students may choose to follow the "Standard BA in Chemistry Concentration" or choose a specific area of emphasis:

- Biochemistry concentration:
  - Cognate Area Course: Choose BSC2011 & BSC 2011L
  - Restrictive Electives: Choose CHM 4300 & CHM 4230L or CHM 4307 & CHM 4307L and one other lecture course
  - Senior level chemistry elective (CHM4XXX/CHM5XXX)\* must be biomedically related

#### • Forensic Chemistry Concentration

- o Cognate Area Course: CCJ 2020
- o Restricted Electives: CHM 4130/4130L and one other lecture course
- Senior Level chemistry elective (CHM4XXX/CHM5XXX)\* must have forensic emphasis
- Environmental Chemistry Concentration
  - o Cognate Area Courses: An environmentally related course
  - Restricted Electives: CHM 4130/4130L and one other lecture course
  - Senior level chemistry elective (CHM4XXX/CHM5XXX)\* must be environmentally related.

**Pre-Health Interest:** Choose BSC 2011 and BSC 2011L from Cognate Area. Interested students should consult a Pre-Health Advisor (DM 337; 305-348-0515; preprofc@fiu.edu) for arranging a curriculum to enhance their potential to gain admission to these professional schools.

**Interested in Teaching?** Students interested in Secondary Teacher Certification should contact the College of Arts, Sciences & Education Center for Advising & Student Success at (305) 348-2978

#### University Core Curriculum

Students transferring with an AA degree or General Education requirements met from a Florida public college or university, or a bachelor's degree from a regionally accredited institution, automatically satisfy the UCC. All others require course-by-course evaluations.

#### **Enrollment Status**

Full Time= 12 credit hours or more

#### Summer Enrollment

Students transferring to FIU with **less than 60 credits** are required to earn at least 9 credits during one or more summer terms at FIU or any other university in the State University System of Florida. Courses may be completed in person or online.

# FLENT/FLEX: State-mandated foreign language requirement Students Satisfy FLENT/FLEX as follows:

- Two terms of the same language at the introductory level (levels 1 & 2) OR One term of an intermediate or advanced level course
- International evaluation or high school transcript noting studies were completed in a country where English is not an official language
- Passing scores on CLEP exam (Spanish, French, German)
- Passing scores on BYU FLATS (nearly 60 languages offered)
- Two years of the same foreign language in high school
- A previously earned bachelor's degree from a regionally accredited institution
- An AA degree earned at a Florida public college or university prior to 1989
- Passing TOEFL or IELTS scores required for FIU admission

#### **Civics Literacy Requirement**

The Civic Literacy requirement is a statewide mandate that applies to undergraduate students *initially* entering a Florida State University System (SUS) and/or Florida College System (FCS) institution in the 2018-19 academic year and thereafter. Please see your academic advisor to learn about your options to complete this requirement.

#### **Global Learning**

The Global Learning for Global Citizenship (GL) requirement is unique to FIU, and therefore, students may not use transfer credits to satisfy it. GL courses, activities, and programs enhance students' understanding of global issues and engagement as global citizens.

Freshmen starting Summer B 2010 or later must take:

- 1 Global Learning Foundations (University Core Curriculum) course
- 1 Global Learning Discipline-Specific course

Transfers and Re-admitted students starting Fall 2011 or later:

- Those who enter FIU with 60 or more credits and/or who meet UCC requirements prior to entering FIU (e.g. those with an AA from a Florida public institution) must take:
- 2 Global Learning Courses, at least one of which must be a Discipline-Specific course.

Those who enter FIU with fewer than 60 credits and do not meet UCC requirements prior to entering FIU must take:

- 1 Global Learning Foundations (University Core Curriculum) course
- 1 Global Learning Discipline-Specific course

#### **Transfer Students**

FIU accepts transfer credits from regionally accredited institutions and nationally accredited institutions that participate in Florida's Statewide Course Numbering System (SCNS).

60 = Maximum number of lower-division credits applied toward the bachelor's degree.

30 = Maximum number of upper-division credits applied toward the bachelor's degree.

#### Academic Advising

You should see your advisor at least once a semester. To make an appointment with your advisor, log in to your MyFIU to use the Panther Success Network.