Chemistry (B.S.)
College of Sciences
Department of Chemistry,
Physical Sciences, Room: 255
http://chemistry.cos.ucf.edu/
Email: pedro.patino@ucf.edu
Dr. Pedro Patino
Phone: 407-823-2246

Admission Requirements
■ None

Degree Requirements
■ Students who change degree programs and select this major must adopt the most current catalog.
■ Co-op or internship credit cannot be used in the major
■ Students should consult with a departmental advisor
■ Departmental Residency Requirement consists of at least 30 semester hours of regularly scheduled 3000-4000 level courses taken from the UCF Department of Chemistry
■ Chemistry majors are discouraged from taking courses as a transient student at a Florida College System institution, except in situations where one semester of a two semester sequence has already been taken at the Florida College System institution
■ All prerequisites of courses taught within the College of Sciences will be enforced.
■ Courses designated in 2 (Common Program Prerequisites) are usually completed in the first 60 hours.
■ AA transfer students are expected to have completed the following courses before enrolling as a Chemistry major.
These classes are prerequisites for advanced science classes and students entering without these classes will be unable to register for most of the advanced courses.

Select either:
CHM 2045C Chemistry Fundamentals I 4 hrs
- or 6 hrs
CHM 2040 Chemistry Fundamentals IA and 3 hrs
CHM 2041 Chemistry Fundamentals IB 3 hrs

- and complete all the following
CHM 2046 Chemistry Fundamentals II 3 hrs
CHM 2046L Chemistry Fundamentals Laboratory 1 hr
CHM 2210 Organic Chemistry I 3 hrs
CHM 2211 Organic Chemistry II 3 hrs
CHM 2211L Organic Laboratory Techniques I 2 hrs
MAC 2311C Calculus with Analytic Geometry I GEP 2 hrs
MAC 2312 Calculus with Analytic Geometry II GEP 4 hrs
PHY 2048C General Physics Using Calculus I GEP 4 hrs
PHY 2049C General Physics Using Calculus II GEP 4 hrs

3. Core Requirements: Basic Level (4 hrs)
■ All courses specifically identified in the preceding Common Program Prerequisites section of this catalog are also required in the Basic Core, and must be taken.

Basic Core: Required, satisfies the CPP
Select either:
CHM 2045C Chemistry Fundamentals I CPP
- or
CHM 2040 Chemistry Fundamentals IA and CPP
CHM 2041 Chemistry Fundamentals IB CPP

- and
CHM 2046 Chemistry Fundamentals II and CPP
CHM 2046L Chemistry Fundamentals Laboratory and CPP
CHM 2210 Organic Chemistry I and CPP
CHM 2211 Organic Chemistry II and CPP
CHM 2211L Organic Laboratory Techniques I and CPP
MAC 2311C Calculus with Analytic Geometry I and CPP 4 hrs
MAC 2312 Calculus with Analytic Geometry II and CPP 4 hrs
PHY 2048C General Physics Using Calculus I and CPP 4 hrs
PHY 2049C General Physics Using Calculus II and CPP 4 hrs

Core: Additional requirements 4 hrs
BSC 2010C Biology I and GEP 4 hrs
MAC 2313 Calculus with Analytic Geometry III and GEP 4 hrs
STA 2023 Statistical Methods I GEP

4. Core Requirements: Advanced Level (34 hrs)
BCH 4053 Biochemistry I 3 hrs
CHM 3120 Analytical Chemistry 3 hrs
CHM 3120L Analytical Chemistry Laboratory 1 hr
CHM 3215L Organic Laboratory Techniques I 2 hrs
CHM 3411 Physical Chemistry I 3 hrs
CHM 3411L Physical Chemistry Laboratory 2 hrs
CHM 4610 Inorganic Chemistry 3 hrs
CHM 4610L Inorganic Chemistry Laboratory 2 hrs
CHM 4130 Advanced Analytical Laboratory Technique 3 hrs
CHM 4130L Advanced Analytical Chemistry Laboratory 2 hrs
CHM 4912 Directed Independent Research 4 hrs
CHM 4930 Chemistry Seminar I 1 hr
CHM 4931 Chemistry Seminar II 1 hr

5. Restricted Electives (6 hrs)
Select from the following courses:
BCH 4054 Biochemistry II 3 hrs
CHM 4220 Organic Chemistry III 3 hrs
CHM 4227 Electrochemistry 3 hrs
CHM 5225 Advanced Organic Chemistry 3 hrs
CHM 5235 Applied Molecular Spectroscopy 3 hrs
CHM 5450 Polymer Chemistry 3 hrs
CHM 5451C Techniques in Polymer Science 3 hrs
CHM 5580 Advanced Physical Chemistry 3 hrs
CHS 4615 Environmental Chemistry 3 hrs

Directed Electives 3 hrs
■ Course will be selected with the aid of a departmental advisor and approved in advance by the department chair.
Course will be selected from the physical, biological, mathematical sciences and/or related disciplines and normally will be at the 3000/4000 level. Co-op courses cannot be used in the major.

UNIVERSITY OF CENTRAL FLORIDA
6. Capstone Requirements
- None

7. Foreign Language Requirements
Admissions
- Two years high school, or one year college language (or equivalent proficiency exam) prior to graduation.

Graduation
- None

8. Electives
- Select primarily from upper level courses after meeting with a departmental advisor. Courses may be outside the department.

9. Additional Requirements
- Complete a minimum of 30 Chemistry credits from the UCF Chemistry Department.
- Students must earn at least a “C” (2.0) or better in each UCF Chemistry course used to satisfy the major.
- Students must maintain a minimum cumulative GPA of 2.0 in all UCF Chemistry courses.
- Students must maintain a minimum cumulative GPA of 2.0 in all Chemistry courses.
- For both cumulative GPA calculations, all attempts of courses that could meet requirements are included, with the exception of CHM4912, CHM4930, and CHM4931. Additional courses that could meet requirements but are taken beyond the minimum required (e.g., additional restricted electives taken beyond the required 10 hours) and a “C” (2.0) or better is earned, are also included in the major GPA calculations.
- The last 30 credit hours of regularly scheduled courses that satisfy degree requirements must be taken in Residence at UCF.

10. Required Minors
- None

11. Departmental Exit Requirements
- Students are required to take a nationally normed test in chemistry during their last semester. The exam will be given in the Fall and Spring semesters. Students who plan to graduate in the Summer must take the exam in the Spring. The student must achieve a satisfactory score on the exam.
- Students are required to submit an undergraduate research report for evaluation no later than the date posted by the Department in the semester they intend to graduate. The report must meet or exceed departmental requirements established for the report.

12. University Minimum Exit Requirements
- A 2.0 UCF GPA
- 60 semester hours earned after CLEP awarded
- 48 semester hours of upper division credit completed
- 30 of the last 39 hours of course work must be completed in residency at UCF.
- A maximum of 45 hours of extension, correspondence, CLEP, Credit by Exam, and Armed Forces credits permitted.
- Complete the General Education Program, the Gordon Rule, and nine hours of Summer credit.

Total Semester Hours Required
- 120

Honors In Major
- None

Related Programs
- Forensic Science - Analytical Track
- Forensic Science - Biochemistry Track
- Biomedical Sciences
- Science Education - Chemistry
- Chemistry - Biochemistry Track

Certificates
- None

Related Minors
- Chemistry
- Biomedical Sciences
- Biology
- Physics

Advising Notes
- Students must satisfy each course’s prerequisites before enrolling in the class.

Transfer Notes
- Lower division courses do not substitute for upper division courses.
- Courses transferred from private and out-of-state schools must be evaluated for equivalency credit. The student must provide all supporting information.

Acceptable Substitutes for Transfer Courses
- Acceptable Substitutes for common program prerequisites if taken prior to transferring to UCF:
  - CHM 2045C: may use CHM X040C plus CHM X041C.
  - Physics & Lab: Although the CPP allows substitution by other physics courses, they will not satisfy the major; thus the specified physics courses will still have to be taken.
  - Physics: Although the CPP allows substitution by Organic Chemistry, both the specified Physics and Organic Chemistry classes are required in the major and will still have to be taken.

Plan of Study
- One of numerous possible plans of study. See program description for all requirements. Consult a departmental advisor for alternate, new or more appropriate selections.
- Before registering for Chemistry, you must take the Chemistry Placement Test at http://knightsource.sdes.ucf.edu/placement
- Before registering for Math, you must take Math Placement Test at http://knightsource.sdes.ucf.edu/placement
- Although all classes are listed as being taken during the academic year, you may be required to complete 9 hours of them during the Summer. Consult with an advisor to determine if you are exempt.

Freshman Year - Fall
- CHM 2045C Chemistry Fundamentals I 4 hrs
- MAC 2311C Calculus with Analytic Geometry I 4 hrs
- BSC 2010C Biology I 4 hrs
- ENC 1101 Composition I 3 hrs

Freshman Year - Spring
- CHM 2046 Chemistry Fundamentals II 3 hrs
- CHM 2046L Chemistry Fundamentals Laboratory 1 hr
- Lab may be taken in a later term if seats are not available.
- MAC 2312 Calculus with Analytic Geometry II 4 hrs
- ENC 1102 Composition II 3 hrs
- GEP 3 hrs

Sophomore Year - Fall
- CHM 2210 Organic Chemistry I 3 hrs
- PHY 2048C General Physics Using Calculus I 4 hrs
- MAC 2313 Calculus with Analytic Geometry III 4 hrs
- Statistics 3 hrs

Sophomore Year - Spring
- CHM 2211 Organic Chemistry II 3 hrs
- CHM 2211L Organic Laboratory Techniques I 2 hrs
- Lab may be taken in a later term if seats are not available.
- PHY 2049C General Physics Using Calculus II 4 hrs
- GEP 3 hrs
- Free Elective 2 hrs

Junior Year - Fall
- BCH 4053 Biochemistry I 3 hrs
- CHM 3120 Analytical Chemistry 3 hrs
- CHM 3120L Analytical Chemistry Laboratory 1 hr
- CHM 3215L Organic Laboratory Techniques II 2 hrs
- CHM 3410 Physical Chemistry I 4 hrs
- GEP 3 hrs

Junior Year - Spring
- CHM 3411 Physical Chemistry II 3 hrs
- CHM 3411L Physical Chemistry Laboratory 2 hrs
- CHM 4130 Advanced Analytical Laboratory Technique 3 hrs
- CHM 4610 Inorganic Chemistry 3 hrs
- CHM 4130L Advanced Analytical Chemistry Laboratory 2 hrs
- Restricted Elective 3 hrs
### Senior Year - Fall

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<td>CHM 4912</td>
<td>Directed Independent Research</td>
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### Senior Year - Spring

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**Program Academic Learning Compacts**

- Program Academic Learning Compacts (student learning outcomes) for undergraduate programs are located at: [http://www.oelas.ucf.edu/alc/academic_learning_compacts.htm](http://www.oelas.ucf.edu/alc/academic_learning_compacts.htm)

**Equipment Fees**

- Part-Time Student: $45 per term
- Full-Time Student: $90 per term