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 these 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.
- Note: Certain courses must be selected in the GEP for this major, which brings the GEP hours above 36

1. UCF General Education Program (GEP) (39 hrs)
- Required  BSC 2010C  Biology I  4 hrs
- Required  MAC 2311C  Calculus with Analytic Geometry I  4 hrs
- STA 1063C  Basic Statistics Using Microsoft Excel or GEP  3 hrs

2. Common Program Prerequisites (CPP) (24 hrs)
- See “Common Prerequisites” in the Transfer and Transitions Services section for more information.
- Prior to enrolling in Chemistry, you must take the Chemistry Placement Test – http://knightsource.sdes.ucf.edu/placement

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

- and complete all the following
- 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 and  6 hrs
- MAC 2312  Calculus with Analytic Geometry II  4 hrs
- PHY 2048C  Physics for Engineers & Scientists I and  6 hrs
- PHY 2049C  Physics for Engineers and Scientists II  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  4 hrs
- CHM 2040  Chemistry Fundamentals I and  6 hrs
- CHM 2041  Chemistry Fundamentals IB and  3 hrs

4. Core Requirements: Advanced Level (34 hrs)

BCH 4053  Biochemistry I  3 hrs
BCH 4120  Analytical Chemistry  3 hrs
BCH 4120L  Biochemistry Laboratory  1 hr
BCH 4251L  Organic Laboratory Techniques I  2 hrs
BCH 4310  Physical Chemistry I  4 hrs
BCH 4311  Physical Chemistry II  3 hrs
BCH 4311L  Physical Chemistry Laboratory  2 hrs
BCH 4610  Inorganic Chemistry  3 hrs
BCH 4610L  Inorganic Chemistry Laboratory  2 hrs
BCH 4630  Advanced Analytical Laboratory Technique  3 hrs
BCH 4630L  Advanced Analytical Chemistry Laboratory  2 hrs
BCH 4912  Directed Independent Research  4 hrs
BCH 4930  Chemistry Seminar I  1 hr
BCH 4931  Chemistry Seminar II  1 hr

5. Restricted Electives (6 hrs)
Select from the following courses: 6 hrs
- BCH 4054  Biochemistry II  3 hrs
- BCH 4220  Organic Chemistry III  3 hrs
- BCH 5225  Advanced Organic Chemistry  3 hrs
- BCH 5225  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
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.
- Achieve at least a “C” (2.0) grade in each UCF Chemistry course used to satisfy the major.
- The last 30 credit hours of regularly scheduled courses that satisfy degree requirements must be taken in Residence at UCF.
- Grades earned in the following will not be applied in the determination of the Chemistry GPA:
  - CHM 4912 Directed Independent Research 4 hrs
  - CHM 4930 Chemistry Seminar I 1 hr
  - CHM 4931 Chemistry Seminar II 1 hr

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 - Analysis 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: 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.

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 ~ http://knightsource.sdes.ucf.edu/placement
- Before registering for Math, you must take Math Placement Test ~ 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 15 hrs
- 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 14 hrs
- CHM 2046 Chemistry Fundamentals II 3 hrs
- CHM 2046L Chemistry Fundamentals Laboratory 1 hr
- MAC 2312L Calculus with Analytic Geometry II Lab may be taken in a later term if seats are not available.
- ENC 1102 Composition II 3 hrs
- GEP 3 hrs

Sophomore Year - Fall 14 hrs
- CHM 2210 Organic Chemistry I 3 hrs
- PHY 2048C Physics for Engineers & Scientists I 4 hrs
- MAC 2313 Calculus with Analytic Geometry III Statistics 4 hrs
- GEP 3 hrs

Sophomore Year - Spring 14 hrs
- CHM 2211 Organic Chemistry II 3 hrs
- CHM 2211L Organic Laboratory Techniques I 2 hrs
- PHY 2049C Physics for Engineers and Scientists II Lab may be taken in a later term if seats are not available.
- GEP 3 hrs
- Free Elective 2 hrs

Junior Year - Fall 16 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 II 2 hrs
- CHM 3410 Physical Chemistry I 4 hrs
- GEP 3 hrs

Junior Year - Spring 16 hrs
- 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
### UCF Degree Programs

#### Senior Year - Fall

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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.oias.ucf.edu/academiclearningcompacts.html](http://www.oias.ucf.edu/academiclearningcompacts.html)

### Equipment Fees
- Part-Time Student: $45 per term
- Full-Time Student: $90 per term