**Chemistry PROGRAM**

**Doctor of Philosophy (Ph.D.) Degree**

**DEGREE INFORMATION**

**Program Admission Deadlines:**

**Fall:** February 15

**Spring:** October 1

**Minimum Total Hours:** 72

**Program Level:** Doctoral

**CIP Code:** 40.0501

**Dept. Code:** CHM

**Program (Major/College):** CHM AS

**Approved:** 1971

**CONTACT INFORMATION**

**College:** Arts and Sciences

**Department:** Chemistry

**Contact Information:** [www.grad.usf.edu](http://www.grad.usf.edu)

**PROGRAM INFORMATION**

The Department of Chemistry offers Doctor of Philosophy, Master of Science, and Non-thesis Master of Arts degrees. The Chemistry graduate faculty is comprised of full-time senior faculty members, all holding the Ph.D. degree. The combination of a large and strong faculty with a wide variety of courses and electives provides students with programs of study that can be tailored to fit individual needs, while maintaining a sound background in all general aspects of Chemistry. The excellent research facilities and very low student-faculty ratio combine to afford unique opportunities for advanced study in Chemistry.

**Accreditation:**

Accredited by the Commission on Colleges of the Southern Association of College and Schools.

**Major Research Areas:**

Research opportunities are available in such interdisciplinary and specialized areas as Analytical Chemistry, Chemical Education, Computer Modeling and Computational Chemistry, Drug Discovery and Delivery, Bioorganic and Bioinorganic Chemistry, Biophysical Chemistry, Electrochemistry, Environmental Chemistry, Enzymology, Inorganic Chemistry, Marine Chemistry, Medicinal Chemistry, Metal-Organic Framework Chemistry, Nanomaterials, Natural Products, Nucleic Acid Chemistry, Nuclear Magnetic Resonance, Organic Chemistry, Organocatalysis, Photochemistry, Physical Chemistry, Polymers, Spectroscopy, and Synthetic Organic Chemistry.

**ADMISSION INFORMATION**

Must meet University requirements (see Graduate Admissions) as well as requirements listed below.

**Program Admission Requirements**

Applicants must have earned a B.A. or BS degree in Chemistry. Applicants with other degrees will be considered on a case by case basis. In addition, applicants must have

* a baccalaureate degree in Chemistry or a closely related discipline.
* a preferred minimum score of 149 V (430/800, 47th percentile)and 147 Q (470/800, 28th percentile) on the GRE (the Chemistry subject exam is not required, but recommended) a preferred minimum of a 3.00 grade point average (based on a 4.00 scale) in all undergraduate coursework, as verified by an official transcript from the applicant’s undergraduate institution
* at least three letters of recommendation from people familiar with the student’s academic background

**DEGREE PROGRAM REQUIREMENTS**

**Total Minimum Program Hours – 72 credit hours (Post-Baccalaureate) 42 credit hours (post-masters)**

*Core requirements – 9 credit hours minimum*

*Additional Coursework - 61 (post-Baccalaureate) or 31 (post-masters) hours minimum*

*Dissertation - 2 credit hours minimum*

**Core Requirements - 9 credit hours minimum**

CHM 6935 6 Graduate Seminars in Chemistry

CHM 6978 3 Advanced Research in Chemistry

**Additional Course Requirements-** 61 (Post-Baccalaureate) or 31 (post-masters)

Students may select from the following list of 5000 or 6000 level courses in the Chemistry

Department and/or related departments, such as Public Health, Education, Chemical Engineering, Physics, Biology, and Mathematics, with advisement of the student’s Supervisory Committee.

[BCH5045](http://ugs.usf.edu/course-inventory/?output=detail&subj=BCH&num=5045) 3 [Biochemistry Core Course](http://ugs.usf.edu/course-inventory/?output=detail&subj=BCH&num=5045)

[BCH5105](http://ugs.usf.edu/course-inventory/?output=detail&subj=BCH&num=5105) 1-3 [Biochemistry Laboratory Rotations](http://ugs.usf.edu/course-inventory/?output=detail&subj=BCH&num=5105)

[CHM5225](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=5225) 3 [Intermediate Organic Chemistry I](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=5225)

[CHM5226](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=5226) 3 [Intermediate Organic Chemistry II](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=5226)

[CHM5452](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=5452) 3 [Polymer Chemistry](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=5452)

[CHM5621](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=5621) 3 [Principles of Inorganic Chemistry](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=5621)

[CHM5931](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=5931) 1-3 [Selected Topics in Chemistry](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=5931)

[CHM6036](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6036) 3 [Chemical Biology](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6036)

[CHM6150](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6150) 3 [Advanced Analytical Chemistry](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6150)

[CHM6235](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6235) 3 [Spectroscopic Analysis of Organic Compounds](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6235)

[CHM6250](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6250) 3 [Advanced Organic Chemistry I: Synthesis](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6250)

[CHM6263](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6263) 3 [Advanced Organic Chemistry II: Physical-Organic](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6263)

[CHM6279](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6279) 3 [Introduction to Drug Discovery](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6279)

[CHM6936](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6936) 1 [Chemistry Colloquium](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6936)

[CHM6938](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6938) 1-3 [Selected Topics in Chemistry](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6938)

[CHM6945](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6945) 3 [Investigating Chemical Education Research in the United States](http://ugs.usf.edu/course-inventory/?output=detail&subj=CHM&num=6945)

CHM 7820 varies Directed Research

**Qualifying Exam**

Students must successfully pass at least three of the five ACS undergraduate Chemistry proficiency exams in the subject areas of Analytical Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry, and Physical Chemistry. A student may attempt each area exam three times and must score above the national norms.

**Promotion to Candidacy**

Before the end of the third academic semester (not counting the summer), the student should present to the Supervisory Committee a written document outlining the student’s research progress and future plans. This research summary is also to be presented orally to the committee, and a successful defense results in the student being promoted to candidacy for the Ph.D. degree.

**Original Research Proposal (ORP) Examination**

An original research proposal must be written and defended by the end of the student’s fifth semester (excluding summers), and after the student has already obtained Ph.D. candidacy.

**Research Data Presentation**

The student must give a research data presentation to his or her Dissertation Committee preferably by the end of the fourth year (eight semesters, excluding summers), and at least one semester prior to the final oral thesis defense.

**Publication and Presentation Requirements**

The student must publish at least one peer-reviewed manuscript on his or her doctoral research topic, and make at least two presentations at a scientific meeting.

**Oral Defense of the Ph.D. Dissertation**

Upon completing all the research and other program requirements, the student will schedule a final oral defense of the written dissertation. This presentation is open to the public and will serve as the final comprehensive examination required by the *USF Office of Graduate Studies*.

**Dissertation (2 Credit Hours minimum)**

CHM 7980 2 credits *Dissertation*

*Students who take more dissertation hours may apply these toward the additional course requirements.*