Department of Chemistry

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Faculty

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Mission

The Department of Chemistry at the University of Tennessee at Martin has a three-fold teaching mission: first, to provide basic instruction to all students at the university in the concepts and methods of this central experimental science within the framework of a traditional liberal education designed to prepare the individual for productive citizenship in the modern world; second, to provide further instruction in basic science as a foundation for those students wishing to pursue professional studies in medicine and the related health sciences; and, third, to provide broadly based opportunities for advanced training for students who wish to pursue careers in chemistry or related professions either upon completion of a bachelor's degree or following additional advanced study. Faculty are committed to mentoring students and to advancing the professions of chemistry and education through a full range of scholarly activities and service to both the campus and community.

The traditional Bachelor of Science degree with a major in chemistry and a minor in a second area (biology, mathematics, physics, geosciences, psychology, etc.) provides an excellent background for students planning careers in medicine or one of the other health sciences, in the emerging field of environmental sciences, or in virtually any technically based area. The Bachelor of Science in Chemistry degree, designed to follow the guidelines and recommendations set forth by the American Chemical Society for a professional degree program in chemistry at the undergraduate level and fully accredited by the ACS, allows students to concentrate their studies in chemistry and mathematics. It is recommended primarily for students with a career interest in chemistry or for students who plan to pursue graduate study in science. Both programs provide a balance between theory and laboratory experience. The department is well equipped with modern chemical instrumentation. Beginning in the sophomore year, students have direct access to and obtain considerable first-hand experience in the use of all of the instrumentation within the department. Research participation by undergraduates is encouraged.

Student Organizations

The University of Tennessee at Martin chapter of the Student Affiliates of the American Chemical Society offers students a varied program of projects, seminars, plant tours, films, and other activities. In each year since 1977 the UT Martin SAACS chapter has been designated an "Outstanding Chapter" by the American Chemical Society, a record unmatched by any other chapter among the over 800 nationwide.

Cooperative Education Program in Chemistry

The five-year Cooperative Education Program, available to students pursuing either degree program in chemistry, offers the student valuable professional experience as preparation for a permanent position or for admission to graduate school as well as a source of income to help finance college expenses. Qualified students admitted to the program alternate semesters at the university with semesters of work. Application for admission should be made during the freshman year. Further information may be obtained by contacting the Department of Chemistry or Employment Information Services.

Chemistry Major

B.S. (6310) Curriculum. Chemistry 121-122 and Chemistry 320 are prerequisites to a major which consists of the following courses: Chemistry 341, 342, 351 or 352, 359, and eight additional hours of upper-division chemistry or biochemistry. Mathematics 251-252 and Physics 211-212 or Physics 220-221 are also required. Majors in chemistry must complete a minor or a second major and all general education requirements for the B.S. degree. (See "Undergraduate Degrees and Specialized Programs" section of catalog.)

B.S. in Chemistry (6320) Curriculum (ACS approved major). This curriculum is designed to follow the guidelines and recommendations set forth by the American Chemical Society for a professional degree program in chemistry at the undergraduate level. The program is fully accredited by the American Chemical Society. Specific course requirements are outlined below. Students fulfilling these requirements will also satisfy the university-wide general education requirements. No minor is required.

General Education (30-35 hours)

I. English 111-112, Communications 230, Computer Science 201.....12
II. Completion of one course chosen from Political Science 210, Psychology 120, Sociology 201.....3
III. A. Completion of two courses chosen from English 250, 251, 260, 261, 270, 271; History 121, 122, 201, 202.....6
B. Completion of 122 or a higher numbered course in any foreign language.....3-8
C. Completion of one course chosen from Art 110; Music 111, 112.....3
D. Philosophy 160.....3

Chemistry (43 hours)

Chemistry 121, 122, 320, 341, 342, 351, 352, 359, 410, 420, 460; Biochemistry 411 and one other course in chemistry or biochemistry numbered 400 or above.

Physics (8 hours)

Physics 220, 221

Mathematics (18 hours)

Mathematics 251, 252, 310, 320, 330

A total of 130 hours are required for the degree. A maximum of 50 hours of chemistry may be counted toward the 130 hours required for the degree.

Chemistry Minor

Chemistry 121, 122 and Chemistry 320 are prerequisites to a minor, which consists of an additional 11 hours of upper-division chemistry or biochemistry.

Courses Offered by Department of Chemistry

Biochemistry 411 (611) Cellular and Comparative Biochemistry (F)
Biochemistry 412 (612) Cellular and Comparative Biochemistry (Sp)
Biochemistry 419 (619) Biochemistry Laboratory (F)
Chemistry 100 Basic Concepts of Chemistry (F)
Chemistry 121-122 General Chemistry (F, Sp)
Chemistry 310 Chemistry (F)
Chemistry 312 Food Chemistry (as needed)
Chemistry 319 Organic and Biochemistry Laboratory (F)
Chemistry 320 (520) Quantitative Analysis (F, Sp)
Chemistry 341-342 (541-542) Organic Chemistry (F, Sp)
Chemistry 350 Organic Chemistry of Drugs (F--even)
Chemistry 351 (551) Physical Chemistry (F)
Chemistry 352 (552) Physical Chemistry (Sp)
Chemistry 359 (559) Physical Chemistry Laboratory (Sp)
Chemistry 390 Internship in Chemistry (as needed)
Chemistry 410 (610) Physical Inorganic Chemistry (F)
Chemistry 420 (620) Analytical Methods (Sp)
Chemistry 430 (630) Spectrometric Methods (Sp--odd)
Chemistry 440 (640) Polymer Chemistry (F--odd)
Chemistry 450 (650) Advanced Physical Chemistry (as needed)
Chemistry 455 (655) Applied Nuclear Chemistry (Sp--even)
Chemistry 460 (660) Advanced Synthesis (Sp--even)
Chemistry 480 Special Topics (as needed)
Chemistry 490 Research in Chemistry (as needed)
Chemistry 700 Directed Studies in Chemistry (as needed)
Chemistry 710 Selected Topics in Chemistry (as needed)

Complete course descriptions can be found in the Course Description section of the catalog.