

Degree Requirements

Bachelor of Arts, Bachelor of Science, and Bachelor of Fine Arts

Teacher Certification

Students may seek secondary or broad field teaching certification with a degree in art in consultation with art education and School of Education advisers. Art education and professional education courses needed for certification may be taken as electives. Students pursuing the bachelor of fine arts with certification will exceed the 124-hour degree requirements.

Degree Requirements

Bachelor of Science

Art Education

General Education Requirements	42-44
(Students seeking teacher certification must take specific general education requirements. See the secondary education section of this catalog.)	
Requirements for Major in Art	69-72
ART 112a,b,c,d	12
ART 202a,b,c,d,e, f, g, h	15
ART Studio 300/400 level	15
ART Education ART 289,300b,364, 365 (K-12 certification)	9-12
ART History ART 225a,b	6
ART History Elective	6
Art Electives	6
Professional Education	23
CI 200	2
EPFR 315	3
EPFR 320	3
SPE 400	3
CI 451B	6
CI 352	6
Completion of Senior Assignment*	
Total	134-139

* Students should consult the department adviser regarding the senior assignment.

Minor Requirements

Students desiring a minor in art should take the following courses: Basic Studio, ART 112 (12); Foundation Studio, ART 202 (9); and History of World Art, ART 225a,b (6). Students seeking a minor in art history should take the following courses: History of World Art, ART 225 a,b (6) plus 12 additional hours from 400-level art history courses listed under the Degree Requirements for Bachelor of Arts, Art, Specialization in Art History.

Fees

Fees are assessed for all studio courses. Fees are billed at the beginning of the semester and should be paid at the Office of the Bursar. Students who drop classes after the second week of the semester are not eligible for a refund of studio fees.

Biological Sciences

Professors: Axtell, R. W.; Bolyard, M.; Brugam, R.B.; Kitz, D.J.; Smith, M.; Wanda, P.E.

Associate Professors: AbuSharbain, E.; Brunkow, P.; Eder, D.J.; Esselman, E.; Krajniak, K.; McCommas, S. (Chair); Retzlaff, W; Schulz, K.

Assistant Professors: Duvernell, D; Essner, R.I.; Fowler, T.J.; Lin, Z-Q; Kohn, L.A.P.; Minchin, P.R.; Sawyer, S.J.; Theodorakis, C.W.

Biology includes the whole domain of living things: patterns of cellular structure; the underlying biochemical pathways; anatomy and function of whole organisms; the mathematical predictability and molecular basis of inheritance; the flow of energy and matter through living systems; the regulation and interaction of basic life processes; the universality of adaptation; and the interdependence of the biosphere. Like all sciences, biology is both cumulative and open-ended in its discoveries. It teaches the wonders of life, the excitement of discovery, and the challenge of the unknown. Students who are curious about living things how they function and how they relate to the environment may want to study biology.

The Department of Biological Sciences operates four tissue culture facilities, warm and cold rooms, computer laboratories, a greenhouse, and a photographic laboratory. Preparative ultracentrifuges, scintillation counters, fraction collectors, automated DNA sequencers, spectrophotometers and gel electrophoresis equipment facilitate research in enzymes, proteins and genetic engineering. A comprehensive collection of instruments is available to conduct research in plant physiological ecology: oxygen electrode system with fluorescence probe, infrared gas analyzer for measurement of CO₂ uptake, pressure chamber and thermocouple psychrometer for measuring water potential, and data loggers with a variety of sensors to measure environmental variables. The department maintains substantial collections of insects, fish, amphibians, reptiles, birds, mammals, and plants. The 2,660-acre campus, with its wooded areas, lakes, and ponds, provides easily accessible habitats for ecological and other field work.

Career Opportunities

Many careers are available for people with basic or advanced training in biology. There are opportunities in botany, dentistry, ecology, environmental biology, fisheries biology, genetic engineering, horticulture, immunology, medicine, medical technology, microbiology, molecular biology, parasitology, physiology, wildlife management, forestry, and zoology. Technical and supervisory positions are available in

federal, state, industrial and university laboratories. Environment and health-related occupations, almost always, require sound basic training in biology. Most students entering schools of medicine, dentistry, optometry, osteopathy, veterinary science, chiropractic and podiatry are biology majors. Basic training in biology is essential for careers in allied health sciences, including nutrition, pharmacy, occupational therapy, and physical therapy.

Specializations in Biological Sciences

The Department of Biological Sciences offers six specializations or options for a bachelor of arts or science degree in biological sciences. These are:

- 1 integrative biology
- 2 ecology, evolution and environment
- 3 medical sciences
- 4 genetic engineering
- 5 secondary education
- 6 medical technology

Brief descriptions of these specializations and the academic requirements for each follow. Programs are flexible enough to allow students to change specializations should their goals or interests change.

Admission

High school students who plan to major in one of the degree programs in biological sciences should complete at least three years of college preparatory mathematics (two years of algebra and one year of geometry), and one year each of chemistry and biology before entering the University. A fourth year of college preparatory mathematics (to include trigonometry) is strongly recommended.

Admission to a degree program in biological sciences requires an application for a major and acceptance by the department. Once admitted, students are formally affiliated with the department and assigned a faculty adviser. Advisement is mandatory. Majors are permitted to register each term only after their Course Request Forms have been approved by the departmental adviser. Students are encouraged to select their major field of study early in their academic careers to ensure orderly progress toward meeting degree requirements. To be admitted, students already enrolled in the University must have a minimum grade point average of 2.0 in completed science and mathematics courses, as well as a cumulative grade point average of 2.0 or higher in all courses taken at SIUE. Transfer students should have a 2.0 grade point average in science and mathematics courses taken at other colleges and universities.

Academic Status

- 1 Students should show satisfactory academic progress to be retained in a degree program. Students may be dropped from the biology major for any of the following reasons:
 - a grade point average of 1.0 or below in any term
 - b cumulative grade point average of lower than 2.0 in the major at any time
 - c any combination of withdrawal, incomplete, and failing grades in 50% or more of the courses for which the student is registered during two successive terms
 - d any combination of three withdrawal, incomplete, or failing grades in any single required course in Biology.
- 2 For re-admission, students must meet the same admission requirements as students entering the program for the first time.

Graduation Requirements

The following requirements must be met in order to obtain a degree in biological sciences:

- 1 Earn a minimum of 124 hours of acceptable credit with a cumulative grade point average of 2.0 or higher;
- 2 Complete the minimum number of credit hours required for a particular degree;
- 3 Complete at least 12 hours of SIUE credit in major courses numbered above 319 with a cumulative grade point average of 2.0 or above;
- 4 Earn a GPA of 2.0 or above in all Biology courses numbered above 319;
- 5 Complete at least 6 hours of credit in biology courses numbered above 319 earned at SIUE within 2 years preceding graduation.

Duplicate credit hours earned (through proficiency, transfer, CLEP, or from a course) after credit has been received for similar or more advanced course work in the same subject at SIUE or elsewhere are not applicable toward graduation requirements.

Advisement

Students interested in majoring in one of the options in biology are advised to apply for a major as early as possible and to consult with a biology adviser without delay. Students must complete all required academic development and high school deficiency courses before

declaring a biology major. Students are informed in writing of advisement procedures and assigned a faculty adviser at the time of declaration. Students are required by the University to consult an adviser prior to registration each term. Enrollment in biology major courses above 121 requires approval of a biology adviser. Biology — particularly specializations in medical sciences, secondary education, and medical technology — requires strict course sequencing if requirements are to be completed in four years. An appointment for advisement may be made by calling the Department of Biological Sciences at (618) 650-3927. The adviser will be pleased to help students prepare a program of study in biological sciences in any one of the six specializations.

Academic Requirements

A Academic Standards

All students pursuing a major in the biological sciences must adhere to the following academic standards in addition to those listed above.

- 1 A grade of C or better is required in each of the major core courses (120, 121, 220, 319) before proceeding to the next core course and as prerequisite to courses numbered above 319.
- 2 No more than 4 hours of D may be counted in the 36 hours required for a major in the biological sciences.
- 3 The GPA in the major is based on all courses attempted in the major.
- 4 Any student who receives four grades of D, F, or WF in biology courses numbered 319 or lower is no longer permitted to enroll in biology classes for credit toward a biology major.

B Residency and other requirements

Majors in biological sciences must complete at least 18 of the required hours in biology at SIUE. At least two 400-level courses must be included in the 18 hours. Students may take as many as 8 hours of 491 and 493 together as electives, but these will not fulfill the 400-level course requirements. For graduation, all specializations require 28 hours in biology beyond the introductory level. Credit for a biology major will be awarded for courses cross-listed with the biology curriculum. One year of a foreign language is required for the bachelor of arts degree in all specializations.

Students seeking a minor in biological sciences must complete at least 9 of the 19 hours of biology at SIUE and obtain a GPA of 2.0 or better in all biology courses attempted at SIUE. Students seeking a minor in biology and other students whose program requirements do not include chemistry 121 may substitute chemistry 120 for enrollment in any biology course for which chemistry 121

is listed as a prerequisite. All biology options require Chemistry 121.

Bachelor of Science/ Master of Science Curriculum

Undergraduates with exceptional academic credentials may be able to earn the bachelor's degree and the master's degree in biology in five years of study. Admission to this program is based on departmental recommendation to and approval by the Graduate School. Students who are interested in this program option should seek advice from their faculty advisers early in their junior year.

Degree Requirements Biological Sciences

The curriculum in this program is designed to provide a firm basis in biological sciences for students with a variety of goals. It is an attractive major for students planning to enter graduate school or for students pursuing careers in biological research or in applied work in areas such as agriculture, conservation, and wildlife management. Students in this program may elect to concentrate in such specific disciplines as botany, microbiology, physiology, cellular and molecular biology, genetics, and zoology by completing their electives through courses in these areas. Some disciplines require chemistry courses beyond the minimum requirements. Courses available in each discipline are listed at the end of this section.

Degree Requirements Bachelor of Arts or Bachelor of Science Integrative Biology

General Education Requirements	42-44
The general education curriculum requires 42-44 hours of general education credit. The supporting mathematics and science courses required for this major satisfy 12 hours of the GE area natural sciences and mathematics requirements and the 3 hours skills requirement in statistics/computer programming. For the bachelor of arts degree, skills option B (8 hours of foreign language) is required.	
Biology Requirements	36
120, 121, 220, 319	16
One course from the area of Ecology, Evolution, and Behavior: (327, 365, 422, 461, 468, 469, 479, 471, 480, 488)	3-4
One course from the area of Biological Diversity: (350, 371, 380, 471, 474, 485, 486, 488)	3-4
One course from the area of Morphology, Physiology, and Development: (337, 340, 389, 461, 467, 472, 473)	3-4
One course from the area of Cellular and Molecular Biology: (332, 335, 415, 418, 421, 430, 432, 452)	3-4
Senior Assignment: One senior assignment course	2
(492a and c, 492b and d, or 497)	
Biological Sciences Electives	2-6
Two lecture courses must be taken at the 400 level, and two courses above 319 must have a laboratory requirement. No course may be used for credit in more than one area.	

Chemistry Requirements	16-18
121a,b; 125a,b; 241a,b; 245	18
or 121a,b; 125a,b; 241a, BIOL 332	16
Mathematics/Physics Requirements	11-13
MATH 150 and PHYS 111	8
or PHYS 206a,b (or 211a,b and 212a,b)	10
STAT 244	4
Electives	13-19
Total	124

Discipline Electives

Plant Sciences: electives available include Ecology, 365; Plants and Civilization, 371; Plants and Environment, 461; Biogeography, 462; Applied Ecology, 464; Aquatic Ecosystems, 465; Terrestrial Ecosystems, 466; Pollution Ecology, 468; Field Biology, 470; Plant Systematics and Taxonomy, 471; Topics in Plant Physiology, 472; Plant Anatomy, 473

Microbiology: electives available include Immunology, 335; Microbiology, 350; Diagnostic Microbiology, 351; Microbial Pathogenesis, 451; Virology, 455

Physiology: electives available include Physiology, 340; Advanced Physiology, 441; Neurophysiology, 444a; Animal Physiological Ecology, 467; Topics in Plant Physiology, 472

Cellular and Molecular Biology and Genetics: electives available include Basic Biochemistry, 332; Immunology, 335; Microbiology, 350; Molecular Biology Laboratory, 414; Techniques in Cell and Tissue Culture, 415; Recombinant DNA, 418; Human Genetics, 421; Population Genetics, 422; Biochemistry and Molecular Biology, 430; Cellular and Molecular Bases of Medicine, 431; Biomembranes, 433; Molecular Genetics, 452; Virology, 455

Zoology: electives available include Embryology, 325; Animal Histology, 337; Invertebrate Biology, 380; Biogeography, 462; Animal Physiological Ecology, 467; Field Biology, 470; Animal Behavior, 480; Entomology, 483; Ichthyology, 485; Herpetology, 486; Mammology, 488

Ecology, Evolution, and Environment Specialization

Recent rapid advances in technology combined with a growing awareness of the impact of human activity on the environment have resulted in the development of broad opportunities in environmental biology.

Ecology is the study of interactions between living organisms and their environment. Evolution provides the theoretical basis that binds all of biology together. These areas combine to help us understand human impacts on natural systems. These areas have both academic and practical importance because they stimulate intellectual curiosity about the natural world and provide a scientific basis for the solution of modern environmental problems.

The ecology, evolution, and environment specialization within the biological sciences bachelor's degree program prepares students for positions that require the application of ecological principles to the solution of environmental problems. The specialization also prepares students for advanced study in all areas of biology, including wildlife ecology and forestry.

Students selecting this specialization will take a planned sequence of courses that includes basic biological sciences, ecology, evolution, and environmental science. This study may include laboratory and field research. A variety of elective courses is available to allow students to pursue special interests such as plant or animal ecology, environmental management, and evolutionary biology at either the organismal or cellular level. Students should consult their adviser to devise a course schedule to fit their specific talents and interests.

Degree Requirements

Bachelor of Arts or Bachelor of Science Biological Sciences Specialization in Ecology, Evolution and Environment

General Education Requirements	42-44
The general education curriculum requires 42-44 hours of general education credit. The supporting mathematics and science courses required for this major satisfy 12 hours of the GE area natural sciences and mathematics requirements and the 3 hour skills requirement in statistics/computer programming. For the bachelor of arts degree, skills option B (8 hours of foreign language) is required.	
Biology Requirements	36
120, 121, 220, 319	16
327 and BIOL 365	7
*492a and b	2
Electives (Two 400-level courses, one in a field course, are required.)	11
Chemistry Requirements	18
121a,b; 125a,b; 241a,b; 245	18
Mathematics/Physics Requirements	14-16
MATH 150 and PHYS 111	8-10
or PHYS 206a,b (or 211a,b and 212a,b)	
STAT 244	4
CS 108 or CMIS 108	3
Electives	10-16
Total	124

* 492 is a Senior Assignment course.

Medical Sciences Specialization

The medical sciences specialization, a pre-health professions curriculum, will prepare students for entry into medical, dental, pharmacy, veterinary, optometry, osteopathy, chiropractic, and podiatry schools, as well as into many other allied health programs.

Students considering a health-related profession should demonstrate above-average ability in the natural sciences.

Students also should exhibit traits commonly associated with health practitioners, e.g., persistence, curiosity, good judgment, initiative, emotional maturity, attention to details, and good interpersonal skills. Pre-dental students should also have or develop good manual skills and the ability to make acute judgments on space and shapes.

The biological sciences program described below is designed to provide students with a rigorous course of study that will satisfy the entrance requirements of professional schools, as well as to award students a bachelor of science degree either at the end of the four-year program, or in the case of early admission, at the end of the first year of professional school (see below).

Students requesting acceptance for the medical science specialization will be advised by a biology/medical science adviser with regard to their academic curriculum. Because professional schools adhere rigidly to their entrance requirements and because there is strict course sequencing for completion of these requirements, students in this specialization should seek advisement early to ensure satisfactory progress.

The chief health professions adviser maintains a centralized evaluation service to aid students seeking entry into professional schools during the application process. The adviser is available in the Department of Biological Sciences to help and advise such students regarding application procedures.

Degree Requirements
Bachelor of Arts or Bachelor of Science
Biological Sciences Specialization in Medical
Science

General Education Requirements	42-44
The general education curriculum requires 42-44 hours of general education credit. The supporting mathematics and science courses required for this major satisfy 12 hours of the GE area natural sciences and mathematics requirements. For the bachelor of arts degree, skills option B (8 hours of foreign language) is required.	
Biology Requirements	36
120, 121, 220, 319	16
340	4
BIOL 430a,b or CHEM 451a,b	6
BIOL 497 or equivalent	2
Electives (Electives must include one 400-level elective course.)	8
Chemistry Requirements	18
121a,b; 125a,b; 241a,b; 245	18
Mathematics/Physics Requirements	19
MATH 150	5
PHYS 206a,b (or 211a,b; and 212a,b)	10
STAT 244	4
Electives	7-9
Total	124

Students admitted to professional school at the end of the junior year may substitute transfer credit earned during the first year of professional school for any 36 hours of

biology or general electives. In such cases, students earn degrees at the end of the first year of professional school after they apply for graduation and the University receives their transcripts for the first year.

Medical Technology Specialization

This degree specialization is designed for students who wish to become medical technologists certified by the American Society of Clinical Pathologists. Medical technologists should have a firm understanding of the theory behind the diagnostic tests they perform in the clinical laboratory. Their responsibilities encompass all clinical laboratory disciplines, such as clinical chemistry, urinalysis, hematology, serology, immunology, blood and organ banking, microbiology, parasitology, and nuclear medicine. As self-motivated, inquisitive scientists, medical technologists contribute to the development of new methods and laboratory instrumentation that aid the physician in preventing and curing disease. Most medical technologists are employed in hospitals, but private laboratories, physicians' offices, government agencies, industrial and pharmaceutical laboratories, and university research programs offer growing opportunities for employment advancements.

The American Medical Association's Council on Medical Education, the American Society of Clinical Pathologists, and the American Society of Medical Technology collaborate in determining minimum standards for educational programs for medical technologists. The first three years of the program take place on the SIUE campus. During this time, students fulfill general education requirements and master fundamental knowledge and skills in biology, chemistry, physics, and mathematics. The fourth year of clinical/professional study takes place in a clinical laboratory setting at one of the University's affiliated hospital schools of medical technology. Acceptance to this last year of study is on a competitive basis and is not guaranteed to individual students in the program. Students enroll at SIUE for 36 hours of credit during the clinical year. The credits are earned through courses in blood banking, chemistry, coagulation, hematology, microbiology, mycology, parasitology, serology, urinalysis and other subjects as specified in the agreement with each hospital affiliate. Students are awarded the bachelor of science in biology/medical technology degree by SIUE upon successful completion of four years in the program. At this time students are eligible to apply for examination by the Board of Registry of the American Society of Clinical Pathologists, and if successful, are certified as medical technologists.

Students in this program should seek advisement early in their academic careers from the biology/medical technology adviser because there is strict course sequencing for the completion of requirements. Careful scheduling is essential to completion in three years of the on-campus academic portion of the program.

Degree Requirements
Bachelor of Arts or Bachelor of Science
Biological Sciences Specialization in Medical
Technology

General Education Requirements	42-44
The general education curriculum requires 42-44 hours of general education credit. The supporting mathematics and science courses required for this major satisfy 12 hours of the GE area natural sciences and mathematics requirements and the three hour skills requirement in statistics/computer programming. For the bachelor of arts degree, skills option B (8 hours of foreign language) is required.	
Biology Requirements	30
120, 121, 220, 319	16
332, 335, 340, 350	14
Chemistry Requirements	18
121a,b; 125a,b; 241a,b; 245	18
Mathematics/Physics Requirements	9
MATH 120	3
PHYS 111	3
STAT 107	3
Hospital Rotation	36
Total	135-137

Senior Assignment for Medical Technology Students

As biology majors, students in the medical technology curriculum take three years of prescribed course work at SIUE, then complete a fourth year of clinical/professional study in the clinical laboratory at one of SIUE's affiliated hospitals. These students are not in residence on the SIUE campus during their senior year. Intern students move to the vicinity of the hospitals in St. Louis or Springfield. The department views the senior assignment for medical technology students in two ways: (1) successful completion of the hospital calendar year education program, and (2) achieving eligibility to apply for examination by the Board of Registry of the American Society of Clinical Pathologists, the certifying professional body in the United States. An outcome assessment also is provided by the scores received on the registry examination, which compares SIUE students' performance with other students in the United States who take the examination at the same time.

Genetic Engineering Specialization

Genetic engineering is a rapidly expanding field in biology. Genetic engineering is a defined method for producing genetic changes in a variety of organisms in the laboratory. A large number of industrial companies and many research laboratories use genetic engineering in their work. Job opportunities are numerous and growing in number. Students with training in genetic engineering may be employed in diverse laboratory settings including plant breeding, insecticide development and the production of pharmaceuticals.

Degree Requirements
Bachelor of Arts or Bachelor of Science
Biological Sciences Specialization in Genetic
Engineering

General Education Requirements	42-44
The general education curriculum requires 42-44 hours of general education credits. The supporting mathematics and science courses required for this major satisfy 12 hours of the GE area natural science and mathematics requirements and the three hour (3) skills requirement in statistics/computer programming. For the bachelor of arts degree, skills option B (8 hours of foreign languages) is required.	
Biology Requirements	36
120, 121, 220, 319	16
418a,b; 452, 492c,d*	11
BIOL 430a,b or CHEM 451a,b	6
BIOL Electives	3
Chemistry Requirements	16
121a,b; 125a,b; 241a,b; 245	16
Mathematics/Physics Requirements	19
MATH 150	5
STAT 244	4
PHYS 206a,b (or 211a,b and 212 a,b)	10
Electives	10-12
Total	124

* 492 is a Senior Assignment course.

Degree Requirements
Bachelor of Science
Biological Sciences Secondary Education Teacher
Certification

General Education Requirements	43
The general education program requires 43 hours of general education credit, of which 13 credits satisfy the general education area natural science and mathematics requirement. These include a course in statistics. An overall grade point average of 2.5 is required for admission to the School of Education Teacher Certification Program. See the secondary education section of this catalog.	
Biology Requirements	34
120,121,220,319	16
327, 340, 494	10
365, Ecology	4
Elective: 400-level course with a laboratory	4
Chemistry Requirements	18
CHEM 121a,b; 125a,b; 241a,b, 245	18
Mathematics/Statistics Requirements	7
MATH 120 or 125	3
STAT 244 (meets general education statistics requirement)	4
Physics Requirements	13
PHYS 206a,b (or 211a,b and 212a,b)	10
PHYS 356, Astronomy	3
Science Requirement	3
SCI 451, Integrated Science	3
Geography Requirement	3
GEOG 210, Physical Geography	3
Professional Education Requirements	28
(See Secondary Education)	
Total	136

Minor Requirements in Biological Sciences

Students wishing to complete a minor in biological sciences must take a minimum of 19 hours of biology courses, at least 9 of which must be completed at SIUE, with a grade point average of 2.0 or higher in all biology courses attempted at SIUE. Due to the sequencing of courses, students are advised that it will normally take at least two years to complete the minor.

Courses must include the following:

- 1 BIOL 120, 121, 220, 319
- 2 The remaining hours may be completed with any course in biological sciences except 111, 491, 493 or 494.

All the courses in this group have a chemistry prerequisite. Please consult the biology adviser for details.

Combined Bachelor of Science and Master of Science Program (3+2 Program)

Juniors with a grade point average of 3.0 or better, with approval of the graduate committee in biology and the dean of the Graduate School, may pursue graduate work while completing the baccalaureate degree. Both degrees could be completed within five years under this arrangement. Please consult with the biology adviser for more details about this program.

Combined Bachelor of Science and Doctor of Dental Medicine Program (3+4)

A combined arts and sciences dental curriculum that leads to the degrees of bachelor of science and doctor of dental medicine (B.S./D.M.D.) is available for students interested in attending Southern Illinois University Edwardsville for their undergraduate degree. The pre-professional part of the curriculum is completed in just three years on the Edwardsville campus, and the four-year professional portion at the SIU School of Dental Medicine in Alton, Illinois.

Students interested in the dental program or the combined baccalaureate in biology/doctorate in dentistry (B.S./D.M.D) program should write to the Office of Admissions and Records, Southern Illinois University School of Dental Medicine, 2800 College Avenue, Alton, IL 62002, or phone (618) 474-7170.

Chemistry

Distinguished Research Professor: Patrick, T.B.

Professors: Eilers, J.E.; Hahs, S.K. (Provost and Vice Chancellor for Academic Affairs); Khzaeli, S.; O'Brien, L.C.; Vandegrift, V. (Chancellor)

Associate Professors: Dixon, R.P. (Chair); Johnson, K.A.; McClure, J.R.; Shabangi, M.; Shaw, M.J.; Voss, E.J.

Assistant Professors: DeMeo, C.; Lu, Y.; Malina, E.G.; Shabestary, N.; Wei, C.; Wiediger, S.D.

Students who want to major in chemistry should visit or call the Department of Chemistry (Science Laboratory Building, room 2339, telephone [618] 650-2042) as soon as possible. They will be referred to a faculty adviser who will help them plan an academic program. Early advisement will enable students to complete their programs with minimum conflicts and within the shortest possible time.

The Department of Chemistry offers several degree programs and active research opportunities in all the major disciplines of chemistry and biochemistry to satisfy diverse career goals of students. The department has well-equipped laboratories; students in each degree program can expect to gain experience in Fourier-transform nuclear magnetic resonance spectrometry, Fourier-transform infrared spectroscopy, high pressure liquid chromatography, atomic absorption spectrometry, mass spectrometry, and ultraviolet/visible spectroscopy. Through advanced course work, students can gain experience in laser spectroscopy, vacuum line manipulations, high pressure syntheses and high temperature syntheses. Through the department's research programs, students may gain experience in the most current techniques in each discipline of chemistry and biochemistry.

Career Opportunities

The undergraduate chemistry and biochemistry curricula prepare students for a variety of careers. Many chemistry majors begin careers in industry or choose to continue their studies with graduate work in chemistry or biochemistry. Others enter schools of medicine, dentistry, veterinary medicine, or pharmacy.

Opportunities to make significant contributions to society are available to chemistry graduates who have additional training in fields such as computer science, environmental science, economics, education, law, library science, marketing, mathematics, and technical writing.

Degrees and Curricula

The Department of Chemistry offers bachelor of science and bachelor of arts degrees. Four curricula leading to the bachelor of science degree include the following: (a) a curriculum that meets the guidelines of the American Chemical Society for the training of professional chemists; (all graduates will be certified by the American Chemical Society as having completed an approved curriculum); (b) a basic curriculum that offers greater flexibility in the selection of required chemistry courses and electives; (c) a curriculum that leads to certification