COLLEGE OF SCIENCE

The College of Science offers baccalaureate programs in subjects ranging from mathematics to the physical sciences to the life sciences. World class faculty provide outstanding experiences in classrooms, research labs, and in the field. These degree programs prepare students for graduate study in many disciplines, professional schools, teaching careers, and a variety of industry and government science, technology and mathematics positions. Numerous options and emphasis areas allow students to tailor their curricula to their specific interests. Additional information is available at www.clemson.edu/science.

Modern Language Requirement

A number of Clemson University degree programs require the completion of a modern language through a specific course level. Modern languages taught at Clemson University or accepted for transfer credit include American Sign Language, Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian and Spanish. While many degree programs accept any of these modern languages for the requirement, certain programs may have specific modern language requirements. Students should consult their program’s curriculum map for details.

BIOCHEMISTRY

Bachelor of Science

Biochemistry is the study of the molecular basis of life. To comprehend current biochemical information and make future contributions to our molecular understanding of life processes, students must obtain a broad background in biology and a firm foundation in chemistry, mathematics, and physics. This is the basis of the biochemistry curriculum.

The program provides an excellent educational background for professional school (medicine, dentistry, or veterinary medicine) and graduate school in biochemistry, molecular biology, or another biological science discipline. Graduates will find employment opportunities in the research and service programs of universities, medical schools, hospitals, research institutes, and industrial and government laboratories.

Freshman Year

First Semester
1 - BCHM 1030 Careers in Biochem. and Genetics
3 - BIOL 1100 Principles of Biology I
4 - CH 1270 Organic Chemistry Lab.
1 - PHYS 1240 Physics Lab. I
3 - Advanced Mathematics Requirement
16-17

Second Semester
1 - BCHM 3010 Molecular Biochemistry
3 - CH 2240 Organic Chemistry
1 - CH 2280 Organic Chemistry Lab.
3 - COMM 1500 Intro. to Human Comm. or COMM 2500 Public Speaking
3 - PHYS 2210 Physics with Calculus II
1 - PHYS 2230 Physics Lab. II
3 - Arts and Humanities (Literature) Requirement
17

Junior Year

First Semester
3 - BCHM 4310 Physical Approach to Biochem.
2 - BCHM 4330 Physical Approach to Biochem. Lab
3 - CH 3300 Introduction to Physical Chemistry
3 - Science Requirement
2 - Social Science Requirement
2 - Elective
16

Second Semester
3 - BCHM 4320 Biochemistry of Metabolism
2 - BCHM 4340 Biochemistry of Metabolism Lab
3 - BCHM 4360 Molecular Biology: Genes to Proteins
3 - PHIL 3260 Science and Values
3 - Social Science Requirement
14

Senior Year

First Semester
3 - BIOL 4610 Cell Biology
3 - GEN (BCHM) 4400 Bioinformatics
3 - Science Requirement
4 - Elective
13

Second Semester
2 - BCHM 4930 Senior Seminar
3 - Science Requirement
9 - Elective
14

120–121 Total Semester Hours

Notes:
1. A student is allowed to enroll in science and mathematics courses only when all prerequisites have been passed with a grade of C or higher.
2. A minimum grade of C is required in all science and mathematics courses. No student may exceed a maximum of two attempts, excluding W, to complete successfully any science or mathematics course.

BIOLOGICAL SCIENCES

Biology encompasses the broad spectrum of the modern life sciences, including the study of all aspects of life from the structure and function of the whole organism down to the subcellular levels and up through the interactions of organisms to the integrated existence of life on the entire planet. Descriptive, structural, functional, and evolutionary-ary questions are explored through the hierarchy of the organization of life. Applications of current advances to the health and well-being of man and society, to nature and the continuation of earth as a balanced ecosystem, and to an appreciation of the place of natural science in our cultural heritage receive emphasis. Majors in Biological Sciences receive classroom, laboratory, and field training in biology with an emphasis on chemistry, mathematics, and physics as necessary tools.

Bachelor of Arts

The Bachelor of Arts in Biological Sciences provides a strong foundation in biology and is ideal for students desiring a liberal education emphasizing an interdisciplinary approach to a thorough understanding of the life sciences.

Freshman Year

First Semester
1 - BIOL 1010 Frontiers in Biology I
3 - BIOL 1100 Principles of Biology I
4 - CH 1010 General Chemistry
4 - MATH 1060 Calculus of One Variable I
3 - Oral Communications Requirement
17

Second Semester
5 - BIOL 1100 Principles of Biology II
4 - CH 1020 General Chemistry
3 - ENGL 1030 Composition and Rhetoric
3 - Mathematical Sciences Requirement
15

Sophomore Year

First Semester
3 - CH 2230 Organic Chemistry
3 - GEN (BCHM) 4400 Bioinformatics
3 - Science Requirement
4 - Elective
13

Second Semester
2 - BCHM 4930 Senior Seminar
3 - Science Requirement
9 - Elective
14

120-121 Total Semester Hours

Notes:
1. A student is allowed to enroll in science and mathematics courses only when all prerequisites have been passed with a grade of C or higher.
2. A minimum grade of C is required in all science and mathematics courses. No student may exceed a maximum of two attempts, excluding W, to complete successfully any science or mathematics course.

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