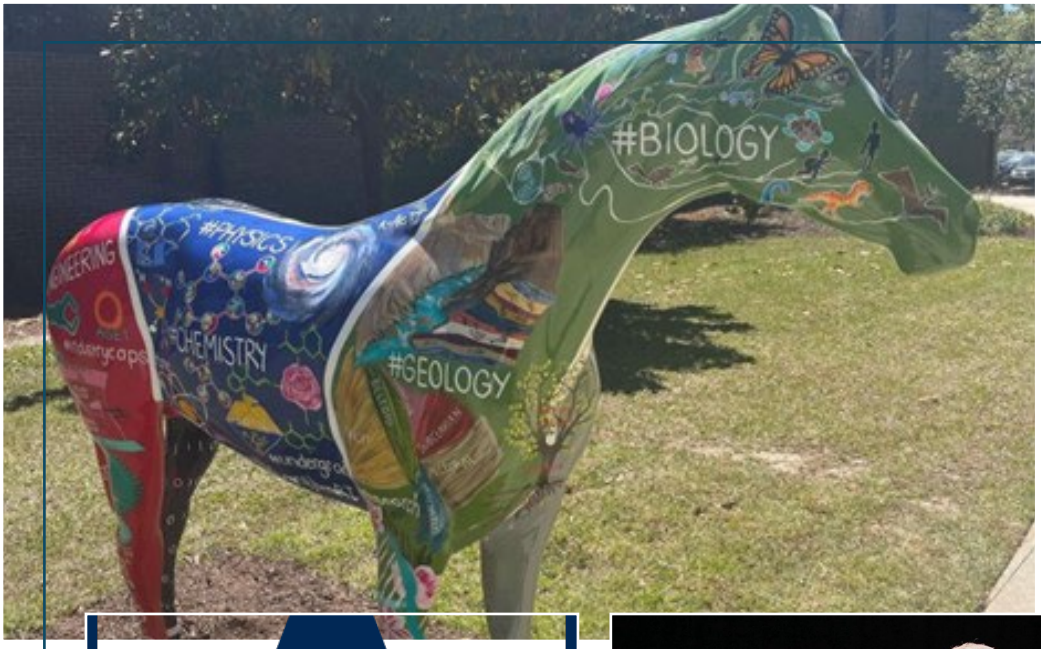
Department of Biological, Environmental, and Earth Science

Student Handbook



REVISED 2024

DEPARTMENT OF BIOLOGICAL, ENVIROMENTAL, AND EARTH SCIENCES

Student Handbook

The University of South Carolina Aiken, South Carolina

CONTENTS PAGE

DEPARTMENT OF BIOLOGICAL, ENVIROMENTAL, AND EARTH SCIENCES

Student Handbook

Please keep this Handbook for reference throughout your
career at the University of South Carolina Aiken.
Graduation requirements may change in the future,
but you will need to meet only those in effect at the time you first enroll.

This Handbook does not replace the official requirements
listed in the Bulletin under which you entered.

Website: https://www.usca.edu/academics/departments/sciences-engineering/biological-environmental-earth-sciences/

Mission Statement

The mission of the Department of Biological, Environmental, and Earth Science is to provide an engaging learning environment through excellence in teaching and active faculty and student scholarship. Our main purpose is to develop in our students an understanding of the importance and application of the Scientific Method as it pertains to both the biological and geological sciences. This is accomplished through faculty/student interactions that reinforce the tenets of the Scientific Method and expose students to a diversity of discipline-specific problems and the means by which those problems are addressed.

Biological, Environmental, and Earth Sciences Department Goals

Students of Biological, Environmental, and Earth Science at USC Aiken are provided the opportunity to understand concepts, conduct research, communicate ideas, and accept responsibilities in scientific settings. Majors and non-majors study the history, laws, principles, and theories of the Biological and/or Geological sciences. By graduation, students of Biology and Geology will have:

1. Developed critical thinking skills
2. Applied the Scientific Method
3. Developed research skills
4. Demonstrated an understanding of the history, terminology, principles, and unifying theories of the Biological and/or Geological sciences

Degree Programs

Bachelor of Art in Biology
Bachelor of Science in Biology
- **Concentration in Molecular Biology**
- **Concentration in Environmental Remediation and Restoration**

Bachelor of Science in Clinical Lab Science
Bachelor of Science in Earth System Science
Bachelor of Science in Public Health
- **Concentration in Science**
- **Concentration in Community Health**

UNDERGRADUATE RESEARCH OPPORTUNITIES

One of the unique opportunities available for our majors is the opportunity to participate in the research process. All majors (biology or geology) must complete a minimum of one semester conducting a research project. However, those interested in more in-depth research experiences may do so through our research-designated courses. We offer three research courses that allow students to obtain either elective credit (BIOL 199 and 299 Biological Research I and II; GEOL 199 and 299 Geological Research I and II) or major credit (BIOL 399 Biological Research III; GEOL 399 Geological Research III) towards their respective degree in biology or Earth Systems Science. USC Aiken Biology faculty members have expertise in a wide range of areas that include behavioral biology, botany, environmental toxicology, immunology, microbiology, molecular

biology, parasitology, virology, and wetland/upland ecology. USC Aiken Geology faculty members have expertise in mountain building processes, heavy mineral sand deposits, sedimentology, marine science, and geomorphology.

Students wishing to participate in undergraduate research at any level may do so at any time during their college career. However, this process is of critical importance to seniors who wait until the last moment to plan for their senior research. In many cases, those who fail to take time to plan for their senior research experience are disappointed in the results.

The following guide may be useful in planning the undergraduate research experience:

PROCEDURE	PATHWAY TO SUCCESS
Determine the general area of biology or geology that most interests you. Ask yourself "What in biology most interests me?	The answer to this question will help you determine the right research experience for you. Often the answer to this question comes from coursework you have completed. You may also initiate this conversation with your academic advisor.
Determine which member(s) of the faculty have research interests most aligned with your interests.	This information can be found by reading the research posters hanging in the Science Building, talking to other students or teachers, or by perusing the department's web page (http://web.usca.edu/biology/research/). Use this information to find the best matches for you.
Make an appointment to speak with the specific faculty member(s) whose research you find interesting.	This is your opportunity to talk directly about your interests and get a feel for the projects available in the respective faculty member's lab. As you discuss re- search projects, be aware that there will be few projects that exactly fit your initial ideas. Instead, examine the proposed options broadly to determine those that best fit your interests.
Limited laboratory space or broad personal interests may require you to meet with multiple faculty members.	The earlier you begin this process, the more likely you are to be successful in obtaining a project with the faculty member of your choice.
Once you have been given a project, it is incumbent on you to ensure that all of the proper paperwork has been completed.	Research courses require a completed Independent Study contract. The contract must be completed by the research mentor and signed by the student, research mentor, academic advisor, and department chair. The completed form must be taken to the Registrar's Office to complete the registration process.
Those who successfully complete this process should be able to answer the following questions: • What are my long-terms goals and how does working in Dr._____s' laboratory prepare me for this goal? • What are the most interesting reasons to work in Dr._____'s laboratory? • What can I expect to gain from completing a research project with Dr._____?	

BIOLOGY ADVANCEMENT TRACKS

The Department offers a Bachelor of Science degree and a Bachelor of Arts degree with **advisement tracks in Molecular/Cellular Biology, Environmental Science, Pre-Medicine, Pre-Dentistry, Pre-Veterinary Medicine, and General Biology**. Graduates with a major in Biology are prepared to enter graduate or professional school or to gain employment that requires a high-quality education in a liberal arts and sciences setting. Typical careers chosen by our graduates are those related to medicine and health, the environment, teaching, marine or wildlife resources, and industry.

Students pursuing a traditional biology degree, either B.A. or B.S., may use these advisement tracks to develop a program of study. However, you should refer to your Academic Bulletin for other specific requirements of the Biology major.

Biology advising tracks beyond the core curriculum

General Biology	Environmental Science/Ecology	Pre-Veterinary	Pre-Medical and Dental	Cellular and Molecular Biology
One 300-level	BIOL A316	BIOL A314	BIOL A315	BIOL A302
	BIOL A320	BIOL A330	BIOL A330	BIOL A314
	BIOL A335	BIOL A340	BIOL A340	BIOL A325
Two 500-level	BIOL A336	BIOL A360	BIOL A360	BIOL A330
	BIOL A390	BIOL A365	BIOL A367	BIOL A340
	BIOL A 525	BIOL A366	BIOL A502	BIOL A360
Two 300-level or	BIOL A528	BIOL A502	BIOL A550	BIOL A502
500-level	BIOL A576	BIOL A542		BIOL A541
		BIOL A550		BIOL A542
				BIOL A550

Students pursuing a B.S. Biology degree with a concentration Environmental Remediation and Restoration (ERR) or Molecular Biology must follow the specific guidelines for the degree. Concentration requirements are shown starting on page12 and should be discussed with your academic advisor.

The Department of Biology is affiliated with research facilities at the Highlands Biological Field Station in Highlands, NC. Our library resources for Biology are updated yearly and currently hold approximately 40 journal subscriptions and hundreds of books on a wide variety of Biology-related topics. The addition of numerous electronic databases has greatly increased the research journals available for both faculty and students.

MINOR IN BIOLOGY

Non-Biology majors can choose to support their major by completing a minor in Biology. Prerequisites for courses used toward the minor in Biology are Biological Science I and II. The Biology minor consists of a minimum of 15 hours at or above the 300 level. We suggest that students seek advice of the Department of Biology and Geology Chairperson regarding specific courses best suited for their major. *All courses in the minor must be passed with a C or better.*

At least 16 credit hours of the Biology major must be complete at USCA, and the last 25 percent of their coursework on the USCA campus. No transfer credits may be used on the last 25 percent of coursework before graduation without prior special permission.

WRITING INTENSIVE REQUIREMENT

Student participation in the Inter-Curricular enrichment (ICE) program is among the requirements for graduation from USC Aiken. Students are required to attend approved events that include lectures, performances, films, concerts, and exhibits. The inter-Curricular enrichment (ICE) program is designed to support USC Aiken's goal to produce "engaged learners and principled citizens" by broadening students' cultural and intellectual perspectives.

Specific provisions of the program are as follows:

- Undergraduate students admitted are required to complete 10 ICE events in order to graduate.
- Transfer students will complete 2 ICE events for each academic semester remaining before graduation.
- Part-time students will complete 2 ICE events for every 15 hours of completed course credit.
- Freshman Convocation will constitute the first ICE event for entering freshmen.
- The calendar of ICE events is available online.
- Students may not miss regularly scheduled classes to participate in an ICE event.
- Expectations for student behavior are the same at ICE events as in the classroom.

Writing Intensive Requirement

Satisfactory completion of three courses designated as Writing intensive, at least one of which is in the student's major.

Environmental Earth Systems Science Program General Information

COGNATE IN EARTH SYSTEM SCIENCE

Those students wishing to complete a cognate in geology should choose from the following: Geology 301, 303, 305, 311, 315, 325, 331, 335, 336, 363, 398, 401, 405, 425, 431, 500, 570, 571, and 598. Geology 103 (Environmental Earth Science) is the prerequisite for these courses.

MINOR IN EARTH SYSTEM SCIENCE

Majors in other disciplines may choose to support their major by completing a minor in geology. Geology 101 (Physical Geology) or Geology 103 (Environmental Earth Science) are the prerequisites for courses used toward a minor in geology. The Geology Minor consists of a minimum of 15 hours drawn from the following:

GEOL A301	Oceanography
GEOL A303	Meteorology
GEOL A305	Earth Systems through Time
GEOL A311	Paleontology
GEOL A315	The Anthropocene
GEOL A325	Sedimentology and Stratigraphy
GEOL A331	Structural Geology
GEOL A335	Igneous and Metamorphic Environments
GEOL A336	Introduction to Geophysics
GEOL A363	GIS in the Sciences
GEOL A398	Topics in Geology
GEOL A401	Environmental Geomorphology
GEOL A405	Global Biogeochemical Cycles
GEOL A425	Coastal Field Geology
GEOL A431	Southern Appalachian Geology
GEOL A500	Field Geology
GEOL A570	Environmental Hydrogeology
GEOL A571	Environmental Hydrogeology Laboratory
GEOL A598	Advanced Topics in Geology

All courses in the minor must be passed with a grade of C or better.

Assessment of the Biology Program at USC Aiken

The South Carolina Commission on Higher Education and the Southern Association of Colleges and Schools (that accredits USCA) requires USCA through the Department of Biology and Geology to assess the Biology degree program. Assessment is tied to departmental goals and mission. Departmental faculty affect this assessment comprehensively and systematically. The departmental assessment plan is reviewed by the Faculty Assembly Assessment Committee and the USCA Office of Institutional Research and Assessment.

Here are some ways that Biology students participate in this assessment program:

1) Student assessment is administered in: Biological Science I, Biological Science II, and Senior Seminar. Incoming freshmen are assessed during their initial fall semester in Biological Science I and II using a biology pretest and posttest. The final program assessment occurs in the senior year, during which students complete the Biology Assessment Exam.

2) Research skills and the use of the Scientific Method are assessed as part of the Senior Research experience. Upon completion of their research experience, each student is required to present the results of their work at a regularly scheduled departmental seminar and author a brief scientific report that describes some experimental component of their project. The department's assessment committee evaluates written reports. The student's research mentor and members of the department's assessment committee evaluate each oral presentation.

The results of assessment are incorporated in the annual program review and referenced in the narrative/budget requests for the coming year, your participation is important to highlight strengths of the biology program as well as areas where we have an opportunity to improve our program.

Biological, Environmental, and Earth Science Faculty

April DeLaurier, Ph.D. (2003) in Biochemistry, University College London. Dr. DeLaurier is a developmental biologist who studies skeletal formation in zebrafish. Her research uses genetic manipulation and live cell imaging to understand the genes and cellular mechanisms that pattern the craniofacial skeleton. She teaches 121 Biological Science I and 315 Comparative Vertebrate Anatomy.

Allen Dennis, Ph.D. (1989) in Geology, University of South Carolina. Holder of the SCANA Professorship Chair of Physical Sciences. Dr. Dennis conducts research on mountain building processes. He teaches 101 Physical Geology, 102 Historical Geology and 431 Southern Appalachian Geology. Advises geology students.

Andrew Dyer, Ph.D. (1996) in Plant Ecology, University of California, Davis. Dr. Dyer's research interests are in population and community ecology, invasive species ecology, and habitat restoration. His current research focuses on population biology of invasive grasses, including competitive ability and germination traits. He teaches 122 Biological Science II, 320 Botany, 370 Ecology and Evolution, and 570 Principles of Ecology. Advises Biology students interested in ecology.

Kelly Gibson, Ph.D. (2012) in Marine Geology and Geophysics, University of Miami. Dr. Gibson's research interests are in reconstruction of abrupt changes in climate and the nutrient and hydrologic cycles from marine sediments and isotope geochemistry and the role of the tropics in the global climate system. She teaches 103 Environmental Earth Science and 201 Integrated Earth Science.

C. Nathan Hancock, Ph.D. (2005) in Biochemistry, University of Missouri-Columbia. Dr. Hancock is a plant biologist interested in the genes that control agronomic traits. His research focuses on using a transposable element from rice to discover gene functions. He teaches 121 Biological Science, 325 Plant Physiology and 541 Biochemistry. Advises biology majors.

Michele H a r m o n , Ph.D. (2003) in Environmental Health Sciences, University of South Carolina. Dr. Harmon's research interests include aquatic toxicology, environmental fate and transport of metals, and wetland biochemistry. She teaches 106 Environmental Life Science, 390 Environmental Science and Human Health, 576 Topics in Environmental Science.Directs the Environmental Restoration and Remediation program.

William Jackson (Department Chair), Ph.D. (1995) in Immunology, Medical College of Georgia. Dr. Jackson's experience is in the use of viral vectors as delivery vehicles of therapeutic genes. His research involves development of retroviral/lentiviral vectors and genetic mechanisms by which to control HIV gene expression and inhibit viral infection. He teaches 340 Virology, 350 Genetics, 550 Immunology, and 502 Advanced Cell/Molecular Biology. Advises Biology and pre-medicine majors.

Suchreet Mander, Ph.D. (2013) in Cellular Biology and Anatomy, Georgia Regents University. Dr. Mander teaches BIOL 243 and 244 Anatomy & Physiology I and II.

Mary Katherine Mills, **Ph.D. (2017)** in **Biology, Kansas State University.** Dr. Mills teaches BIOL 121 Biological Science, BIOL 330 Fundamentals of Microbiology, and BIOL 499 Applied Biology Research Design.

Kristina Ramstad, Ph.D. (2006) in Organismal Biology and Ecology, University of Montana, Missoula. Dr. Ramstad's work draws on genomic sequencing and field based ecological studies to address fundamental questions in the evolution, ecology and demography of at-risk species. She is particularly interested in the impacts of genetic bottleneck effects and inbreeding on population persistence, the effects of mating system on genetic variation, and applied conservation management, and has worked with a broad array of taxa, including salmon, tuatara, and kiwi. She teaches 122 Biological Sciences II and 316 Vertebrate Zoology.

Bradley Reinhart, M.S. (2003) in Environmental Toxicology, University of Georgia. Mr. Reinhart serves as the department's lab manager and teaches labs for 106 Environmental Life Science and 121 and 122 Biological Science. Advises Biology majors.

Virginia Shervette, Ph.D. (2006) in Wildlife and Fisheries Sciences, Texas A&M University. Research in the Fish/ Fisheries Conservation Lab examines ecosystem, community, and species responses to anthropogenic impacts in aquatic systems along the watershed gradient including freshwater, estuarine, and marine environments. We also investigate issues relating to human dimensions of fisheries management including benefits and risks associated with fish and other seafood consumption. Dr. Shervette teaches 122 Biological Science II, 336 Biology of Fishes, and 576 Topics in Environmental Science. Advises students in the Environmental Restoration and Remediation program.

Jessica Sullivan, Ph.D. (2015) in Geological Science, University of South Carolina. Dr. Sullivan's research focuses on understanding process-form feedback that shapes terrestrial rivers, floodplains and coastal wetland ecosystems. She teaches 103 Environmental Earth Science, 363 GIS in the Sciences, and 401 Environmental Geomorphology.

Michelle Vieyra, Ph.D. (2006) in Biology, University of South Carolina. Dr. Vieyra's research interests include olfaction, olfactory receptor genes, herpetology, brain anatomy/physiology, animal behavior, sensory systems. She teaches 232 Anatomy, 242 Physiology, 365 Animal Nutrition, 366 Animal Behavior, and 367 Neurobiology. Advises Biology majors.

Derek Zelmer, Ph.D. (1998) in Biology, Wake Forest University. Dr. Zelmer's research is in among-scale interactions of population and community processes in aquatic systems, determinants of parasite community structure in aquatic vertebrates, and transmission dynamics of parasites in lotic ecosystems. He teaches 122 Biological Science, 370 Ecology and Evolution, 531 Parasitology, and 560 Aquatic Biology. Advises Biology majors.

Adjunct Faculty

Elizabeth Burgess, Ph.D. in Microbiology
Teaches-BIOL A250 Microbiology
Pam Steen, PhD in Biology
Teaches-BIOL A243 and A244 Anatomy and Physiology
Frank Syms, PhD in Geology
Teaches- GEOL A201Integrated Earth Geology
Bob Van Pelt, PhD in Geology
Teaches-GEOL A103 Environmental Earth Science

Emeritus Faculty

Hugh Hanlin, Ph.D. (1980) in Zoology, Oregon State University. Distinguished professor emeritus

William Pirkle, Ph.D. (1972) in Geology, University of North Carolina. Director, Office of Sponsored Research. Distinguished Professor Emeritus

Harry E. Shealy, Ph.D. (1972) in Biology, University of South Carolina. Distinguished Professor Emeritus.

Garriet Smith, Ph.D. (1981) in Microbiology, Clemson University. Distinguished Professor Emeritus.

John Spooner, Ph.D. (1964) in Entomology, University of Florida. Distinguished Professor Emeritus.

John Westbrook, Ph.D. (1972) in Zoology, University of Georgia. Distinguished Professor Emeritus.

Karin Willoughby, M.A. (1975) in Geology, Virginia Polytechnic and State University. Sr. Instructor Emerita.

James Yates, Ph.D. (1988) in Molecular Biology, State University of New York at Albany. Professor Emeritus.

Standard Operating Procedures-Biology

General Procedures

A. Meet and talk with your advisor.

B. Begin English and Mathematics requirements during first semester. Be aware of and plan to complete General Education requirements in the first 60 hours.

C. Biology 121, 122, should be completed by the end of your sophomore year, typically after your freshman year. *When arranging your schedule each semester, schedule lab classes, pre-requisite classes and classes offered less frequently than every semester (see D) first.*

D. Course rotation

FALL COURSES	SPRING COURSES
BIOL 302	
BIOL 314	BIOL 330
BIOL 320	BIOL 335
BIOL 352	BIOL 336
BIOL 360	BIOL 350
BIOL 370	BIOL 370
BIOL 390	BIOL 405
BIOL 405	BIOL 498
BIOL 441	BIOL 510
BIOL 502	BIOL 577
BIOL 541	
BIOL 578	
BIOL 579	

	ODD SPRING
	BIOL 340
	BIOL 365
ODD FALL	BIOL 366
BIOL 531	BIOL 525
	BIOL 540

EVEN FALL
BIOL 560

MAYMESTER	EVEN SPRING
BIOL 520	BIOL 316
BIOL 528	BIOL 325
	BIOL 360
	BIOL 367
	BIOL 410
	BIOL 525
	BIOL 550

E. Biology 199, 299, 399, and 499 are courses designed to develop your skills in analytical review scientific literature, design and conduct research projects and present results in both thinking, decision making, leadership and responsibility. These courses will require you to written and oral forms. Your project must be planned with your advisor and have departmental approval before you can register for these courses.

***Note ALL rotations are tentative and for planning purposes only. The scheduling of particular courses depends on staffing, student interest and enrollment considerations.**

Standard Operating Procedures-Clinical Laboratory Science

General Procedures

A. Meet and talk with your advisor.

B. Begin English and Mathematics requirements during first semester. Be aware of and plan to complete General Education requirements in the first 60 hours.

C. Biology 121, 122, CHEM 111 and 112 should be completed by the end of your sophomore year, typically after your freshman year. *When arranging your schedule each semester, schedule lab classes, pre-requisite classes and classes offered less frequently than every semester (see D) first.*

D. Course rotation

FALL COURSES	SPRING COURSES
BIOL 243	BIOL 243
BIOL 244	BIOL 244
BIOL 360	BIOL 330
BIOL 405	BIOL 405
BIOL 441	
BIOL 501	ODD SPRING
BIOL 541	BIOL340
CHEM 331	
CHEM 331 Lab	EVEN SPRING
	BIOL 550

E. The professional clinical component of this program is offered in collaboration with the University Health Care System (UHCS) in Augusta, Georgia.

FALL COURSES	SPRING COURSES
BIOL 442	BIOL 451
BIOL 443	BIOL 452
BIOL 444	BIOL 453
BIOL 445	

SUMMER
Clinical Practicum

***Note ALL rotations are tentative and for planning purposes only. The scheduling of particular courses depends on staffing, student interest and enrollment considerations.**

Standard Operating Procedures-Earth Systems Science

General Procedures

A. Meet and talk with your advisor.

B. Begin English and Mathematics requirements during first semester. Be aware of and plan to complete General Education requirements in the first 60 hours.

C. Biology 121, Chemistry 111, Geology 101 and 103, should be completed by the end of your sophomore year, typically after your freshman year. *When arranging your schedule each semester, schedule lab classes, pre-requisite classes and classes offered less frequently than every semester (see D) first.*

D. Course rotation

FALL COURSES	SPRING COURSES
GEOL 101	GEOL 101
GEOL 103	GEOL 103
ODD FALL	ODD SPRING
GEOL 315	GEOL 431
GEOL 325	GEOL 401
GEOL 363	
EVEN FALL	EVEN SPRING
GEOL 301	GEOL 331
GEOL 303	GEOL 405

MAYMESTER
GEOL 425

E. Geology 199 and 299 are courses designed to develop your skills in analytical review scientific literature, design and conduct research projects and present results in both thinking, decision making, leadership and responsibility. These courses will require you to written and oral forms. Your project must be planned with your advisor and have departmental approval before you can register for these courses.

***Note ALL rotations are tentative and for planning purposes only. The scheduling of particular courses depends on staffing, student interest and enrollment considerations.**

Standard Operating Procedures-Earth Systems Science

General Procedures

A. Meet and talk with your advisor.

B. Begin English and Mathematics requirements during first semester. Be aware of and plan to complete General Education requirements in the first 60 hours.

C. Biology 121, Chemistry 111, Geology 101 and 103, should be completed by the end of your sophomore year, typically after your freshman year. *When arranging your schedule each semester, schedule lab classes, pre-requisite classes and classes offered less frequently than every semester (see D) first.*

D. Course rotation

FALL COURSES	SPRING COURSES
GEOL 101	GEOL 101
GEOL 103	GEOL 103
ODD FALL	ODD SPRING
GEOL 315	GEOL 431
GEOL 325	GEOL 401
GEOL 363	
EVEN FALL	EVEN SPRING
GEOL 301	GEOL 331
GEOL 303	GEOL 405

MAYMESTER
GEOL 425

E. Geology 199 and 299 are courses designed to develop your skills in analytical review scientific literature, design and conduct research projects and present results in both thinking, decision making, leadership and responsibility. These courses will require you to written and oral forms. Your project must be planned with your advisor and have departmental approval before you can register for these courses.

***Note ALL rotations are tentative and for planning purposes only. The scheduling of particular courses depends on staffing, student interest and enrollment considerations.**

Post-Graduate Opportunities

EMPLOYMENT

As a student you can gain valuable work experience and enhance your academic curriculum by involvement in the college work-study program, the Co-op program, research projects, or volunteer to work with faculty members.

Potential employers for biology and geology majors, before and after you graduate, include City, State, and Federal Agencies. The CSRA also has a number of industries that employ biologists. You should visit the USCA Placement Office where biology and geology job and career opportunities are listed. **Seek the advice and knowledge of faculty members**, they often can suggest potential employers and help you prepare a resume or serve as references.

We also encourage biology/geology students to consider entering the teaching profession at the elementary, secondary or higher education level.

PRE-DENTAL, PRE-MEDICAL AND PRE-VETERINARY STUDENTS

Admission to medical, dental, or veterinary schools normally requires a baccalaureate degree. Students interested in these health professions should contact a "pre-med", "pre-vet", or "pre-dent" advisor in their freshman year. Dr. William Jackson advises premedical students. Dr. Michelle Vieyra advises pre-veterinary. Dr. April DeLaurier advises pre-dentistry. Students need to become aware of the professional school admissions process, including entry aptitude tests and the content of these tests, early in their undergraduate careers. Mathematics, Physics, Organic Chemistry, and Biology are the normal key ingredients for success in Medical School.

GRADUATE SCHOOL PREPARATION

As a Biology major, you may seek employment with the B.S. or B.A. degree or attend graduate school to obtain a Masters or Doctorate (Ph.D.) degree.
Information about graduate schools and admission requirements may be obtained from faculty members, the library, the graduate school, department bulletin boards or the Career Services Office.
Planning for graduate school should begin early, preferably in the Freshman and Sophomore years to incorporate the Math, Chemistry, and Physics normally needed as an undergraduate. Independent Study (BIOL 199, 299, and 399) and Undergraduate Research (BIOL 499) are excellent courses to prepare you for pursuing an advanced research degree and a career as a professional biologist.

ALLIED HEALTH PROGRAMS

USCA offers science-oriented students the opportunity of completing one of several two-year pre-professional programs including: medical technology, physical therapy, occupational therapy, cytotechnology, dental hygiene, medical records administration, respiratory therapy, and radiologic technology. each pre-professional allied health program is determined by the intended transfer institution (e.g., MCG or MUSC), therefore you should coordinate closely with the institution to which you plan to apply. Dr. Suchreet Mander advises students interested in allied health sciences.

Opportunities for Development of Leadership and Responsibility

Many careers call for leadership and responsibility in a scientific setting. The Biology or Geology Program can assist your growth and development in these areas by offering opportunities in:

Co-op program. Allows the student to work for a local employer and study at USCA in a prescribed program. See Corey Feraldi in Career Services.

Work-Study Financial Aid. Students may work for the Biology and Geology Department assisting in lab preparations, or other duties and receive financial aid. See the Financial Aid Office.

Independent Study (BIOL 199, 299, 399, and 499). These courses allow you to gain experience in scientific literature review, experimental design, and conducting research as an undergraduate. These courses provide field and/or lab experience that employers and graduate schools view as valuable. Contact any faculty member for information.

Research Assistant Volunteer. Students interested in helping on research projects should contact the professor for information about ongoing projects.

Teaching-related activities. See the Dean of the School of Education about science education opportunities.

Biology and Geology lab assistants. Students may be employed by the department as lab assistants, research assistants, or office assistants. See the Departmental Administrative Assistant to apply.

USCA Students for a Sustainable Campus is working to promote environmental sustainability and awareness within USCA and the surrounding community through education and practice. Our goal is to help USCA become an example of a sustainable institution. Students from all majors are welcome to join.

The Horticulture Club provides students an opportunity to gain knowledge and educate others about plants and plant science through hands on experiences and networking. The club maintains a sustainable garden on campus, grows and sells plants, and goes on field trips. Students from all majors are welcome to join.

The Animal Health Club serves to mentor pre-veterinary students at USCA, participate in volunteer projects, and help local animal rescue and control efforts. Any USCA student interested in animal health or welfare is encouraged to participate.

TriBeta Biological Honor Society

The Department of Biology and Geology instituted a new chapter of Tri Beta, a national biological honor society, in 2012 with a charter group of nineteen biology majors. Beta Beta Beta (TriBeta) is dedicated to improving the understanding and appreciation of biological study and extending boundaries of human knowledge through scientific research. Research grants are available by application from the National Office, and the local chapter undertakes appropriate service activities on campus and in the community. members receive copies of the quarterly journal BIOS, published by the Beta Beta Beta Biological Society in the interests of the Society and for the presentation of articles of general interest to biologists. For further information, contact faculty advisor Dr. Andy Dyer. New members are initiated in the Spring of each year.

Pacer Pre-Health Organization

The College of Sciences and Engineering and the School of Nursing have partnered to create Pacer Pre-health, a dynamic and supportive organization for students pursuing careers in health sciences. Pacer Pre-health hosts monthly meetings focused on program preparation, important application dates, and goal setting tailored to each academic year. Members benefit from advisement meetings held before class registration, individual consultations, and mock exams for tests such as the GRE and MCAT. The organization also serves as a hub for health-science information, sharing job opportunities, open houses, and scholarship opportunities to members. The Pacer Pre-health organization works to provide comprehensive academic and career support and an engaged community for students interested in health sciences. For more information, contact Dr. Mary (MK) Mills (Department of Biological, Environmental, and Earth Sciences), Dr. Susan Glenn (Department of Chemistry), and Mary Kennedy MSN, RN (School of Nursing).

Library Resources

The USC Aiken Library directly subscribes to the journals and databases below in the areas of biology, Geology, and general sciences. In addition, USCA students and faculty have electronic access to over 30,000 journals including 2,026 biology and geology related journals in Elsevier's Science Direct, GeoScience World, Springer Link and Wiley Interscience.

PROGRAMS OF STUDY

Bachelor of Science, Biology-General Concentration

The following maybe useful to track your program completion (see next page)

For those students interested in the natural world, the Bachelor of Science in Biology requires students to complete a cognate or minor. The biology degree culminates with a research-oriented capstone experience that provides students with a comprehensive overview of the methodologies of scientific research.

Biology and Geology
University of South Carolina Aiken

Name:	Degree / Major: **BS or BA / BIOLOGY**
VIP ID:	Option: **BIOLOGY (GENERAL)**
Banner ID:	Date of Entry: Catalog year:
Phone:	Advisor:

RECORD OF COMPLETION OF DEGREE REQUIREMENTS

		COURSE		SEMESTER	GRADE	HRS	COMMENTS
Univ. General ED TIER I	**GENERAL EDUCATION (31 HOURS)**						
	I.ENGLISH	ENGL	A101			3	
		ENGL	A102			3	
	II. GLOBAL CULTURES (HIST A101 or A102)	HIST				3	
	III. MATHEMATICS (MATH A122 or A141 ARE REQUIRED FOR THE DEGREE PROGAM)	MATH				3	
	III. NATURAL SCIENCES	CHEM	A111			4	
	IV. HUMANITIES (SEE DEGREEWORKS or SSC)					3	
						3	
	V. COMMUNICATIONS (COMM A201 or A241)	COMM				3	
	VI. AMERICAN POLITICAL INSTITUTIONS *ONE OF THE FOLLOWING.; POLI A201, HIST A201, OR HIST A202					3	
	VII. SOCIAL & BEHAVIORAL SCIENCES *ONE OF THE FOLLOWING; PSY, SOC, ECON A221/A222, OR GEOG.					3	
College General ED TIER II	**VIII. COLLEGE OF SCIENCE AND ENGINEERING (15-16 Hours)** *CHOOSE ADDITIONAL MATH IF NEEDED TO SATIFY DEGREE REQUIREMENT OF MATH A122 or A141 . **CHOOSE FROM ANY OF FOLLOWING AREAS TO COMPLETE TEIR II; HUMANITIES, FINE ARTS, MATH/STATS/LOGIC,NATURAL SCIENCE , SOCIAL/BEHAVIORAL SCIENCE OR FOREIGN LANGUAGE.	CHEM	A112			4	REQ
						3-4	
						3-4	
						3-4	
						3-4	
	IX. FREE ELECTIVES (11-18 Hours) *CHOOSE ADDITIONAL COURSES FROM ANY AREA.						

MAJOR REQUIREMENTS: 44-50 Hours (C or better required in all)	COURSE		SEMESTER	GRADE	HRS	COMMENTS
INTRODUCTORY BIOLOGY SEQUENCE						
BIOLOGICAL SCIENCE I	BIOL	A121			4	
BIOLOGICAL SCIENCE II	BIOL	A122			4	
GENETICS: BIOL A350 OR A352	BIOL	A			3-4	
ECOLOGY: BIOL A335 OR A370	BIOL	A			3-4	
EVOLUTION: BIOL A318 OR A375	BIOL	A			3	
BIOSTATATISTICS	BIOL	A405			3	
INTEGRATED SYSTEMS: CHOOSE ONE OF THE FOLLOWING BIOL A312, A360, A365, A366, OR A390	BIOL	A			3-4	
ORGANISMAL BIOLOGY: CHOOSE ONE OF THE FOLLOWING BIOL A312, A316, A320, A330, OR A336	BIOL	A			4	
CELLULAR/MOLECULAR BIOLOGY: CHOOSE ONE OF THE FOLLOWING BIOL A302,A325,A340, OR A367	BIOL	A			4	
MAJOR ELECTIVES (8)	BIOL	A3			3-4	
	BIOL	A5			3-4	
	BIOL	A5			3-4	
BIOLOGY CAPSTONE (4)	BIOL	A490			1	
	BIOL	A499			3	
	or BIOL	A498			4	
COGNATE OR MINOR (12-18)						
TOTAL HOURS : 120	Reviewed (initials & date):					

☐NON-WESTERN REQUIREMENT _____ WRITING INTENSIVE CRS. _____

☐ICE REQUIRMENT COMPLETED _____

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Effective F2023

PROGRAMS OF STUDY

Bachelor of Science, Biology-Molecular Concentration

The following maybe useful to track your program completion (see next page)

Molecular Biology concentration is designed for students who are interested in completing a curriculum that is focused on the molecular interactions that drive cellular/organism function. This degree program is designed to provide students with the background necessary to continue their education at the graduate level, or to pursue a career related to the particular area.

Biology and Geology
University of South Carolina Aiken

Name:	Degree / Major: **BS or BA / BIOLOGY**
VIP ID:	Option: **BIOLOGY (Molecular)**
Banner ID:	Date of Entry: Catalog year:
Phone:	Advisor:

RECORD OF COMPLETION OF DEGREE REQUIREMENTS

		COURSE		SEMESTER	GRADE	HRS	COMMENTS
Univ. General ED TIER I	**GENERAL EDUCATION (31 HOURS)**						
	I.ENGLISH	ENGL	A101			3	
		ENGL	A102			3	
	II. GLOBAL CULTURES (HIST A101 or A102)	HIST				3	
	III. MATHEMATICS (MATH A122 or A141 ARE REQUIRED FOR THE DEGREE PROGAM)	MATH				3	
	III. NATURAL SCIENCES	CHEM	A111			4	
	IV. HUMANITIES (SEE DEGREEWORKS or SSC)					3	
						3	
	V. COMMUNICATIONS (COMM A201 or A241)	COMM				3	
	VI. AMERICAN POLITICAL INSTITUTIONS *ONE OF THE FOLLOWING.; POLI A201, HIST A201, OR HIST A202					3	
	VII. SOCIAL & BEHAVIORAL SCIENCES *ONE OF THE FOLLOWING; PSY, SOC, ECON A221/A222, OR GEOG.					3	
College General ED TIER II	**VIII. COLLEGE OF SCIENCE AND ENGINEERING (15-16 Hours)** *CHOOSE ADDITIONAL MATH IF NEEDED TO SATIFY DEGREE REQUIREMENT OF MATH A122 or A141 . **CHOOSE FROM ANY OF FOLLOWING AREAS TO COMPLETE TEIR II; HUMANITIES, FINE ARTS, MATH/STATS/LOGIC,NATURAL SCIENCE , SOCIAL/BEHAVIORAL SCIENCE OR FOREIGN LANGUAGE.	CHEM	A112			4	REQ
						3-4	
						3-4	
						3-4	
						3-4	
	IX. FREE ELECTIVES (6-18 Hours) *CHOOSE ADDITIONAL COURSES FROM ANY AREA.						

MAJOR REQUIREMENTS: 44-50 Hours (C or better required in all)	COURSE		SEMESTER	GRADE	HRS	COMMENTS
INTRODUCTORY BIOLOGY SEQUENCE						
BIOLOGICAL SCIENCE I	BIOL	A121			4	
BIOLOGICAL SCIENCE II	BIOL	A122			4	
GENETICS: BIOL A350 OR A352	BIOL	A			3-4	
ECOLOGY: BIOL A335 OR A370	BIOL	A			3-4	
EVOLUTION: BIOL A318 OR A375	BIOL	A			3	
BIOSTATATISTICS	BIOL	A405			3	
INTEGRATED SYSTEMS: CHOOSE ONE OF THE FOLLOWING BIOL A325, A360, A365, A366, OR A390	BIOL	A			3-4	
ORGANISMAL BIOLOGY: CHOOSE ONE OF THE FOLLOWING BIOL A312, A316, A320, A330, OR A336	BIOL	A			4	
MOLECULAR CONCENTRATION: (12-16) CHOOSE TWO OF THE FOLLOWING COURSES; BIOL A302, A325, A340, A367, A412.	BIOL	A			4	
	BIOL	A			3-4	
CHOOSE TWO AT THE 500 LEVEL; BIOL A502, A510, A541, 0R A550	BIOL	A5			3-4	
	BIOL	A5			3-4	
BIOLOGY CAPSTONE (4)	BIOL	A490			1	
	BIOL	A499			3	
	or BIOL	A498			4	
COGNATE OR MINOR (12-18)						
TOTAL HOURS : 120	Reviewed (initials & date):					

☐ NON-WESTERN REQUIREMENT _____ WRITING INTENSIVE CRS. _____

☐ ICE REQUIRMENT COMPLETED _____

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Effective F2023

PROGRAMS OF STUDY

Bachelor of Science, Biology-Environmental Remediation and Restoration Concentration

The following maybe useful to track your program completion (see next page)

The Environmental Remediation and Restoration concentration is designed for students who are interested in completing a curriculum with an environmental science focus. This degree program is designed to provide students with the background necessary to continue their education at the graduate level, or to pursue a career related to the particular area.

Biology and Geology
University of South Carolina Aiken

Name:	Degree / Major: **BS or BA / BIOLOGY**
VIP ID:	Option: **ENV. REMIDATION AND RESTORATION**
Banner ID:	Date of Entry: Catalog year:
Phone:	Advisor:

RECORD OF COMPLETION OF DEGREE REQUIREMENTS

	GENERAL EDUCATION (31 HOURS)	**COURSE**		**SEMESTER**	**GRADE**	**HRS**	**COMMENTS**
Univ. General ED TIER I	**I.ENGLISH**	ENGL	A101			3	
		ENGL	A102			3	
	II. GLOBAL CULTURES (HIST A101 or A102)	HIST				3	
	III. MATHEMATICS (MATH A122 or A141 ARE REQUIRED FOR THE DEGREE PROGAM)	MATH				3	
	III. NATURAL SCIENCES	CHEM	A111			4	
	IV. HUMANITIES (SEE DEGREEWORKS or SSC)					3	
						3	
	V. COMMUNICATIONS (COMM A201 or A241)	COMM				3	
	VI. AMERICAN POLITICAL INSTITUTIONS *ONE OF THE FOLLOWING.; POLI A201, HIST A201, OR HIST A202					3	
	VII. SOCIAL & BEHAVIORAL SCIENCES *ONE OF THE FOLLOWING; PSY, SOC, ECON A221/A222, OR GEOG.					3	
College General ED TIER II	**VIII. COLLEGE OF SCIENCE AND ENGINEERING (15-16 Hours)** *CHOOSE ADDITIONAL MATH IF NEEDED TO SATIFY DEGREE REQUIREMENT OF MATH A122 or A141 . **CHOOSE FROM ANY OF FOLLOWING AREAS TO COMPLETE TEIR II; HUMANITIES, FINE ARTS, MATH/STATS/LOGIC,NATURAL SCIENCE , SOCIAL/BEHAVIORAL SCIENCE OR FOREIGN LANGUAGE.	CHEM	A112			4	REQ
						3-4	
						3-4	
						3-4	
						3-4	
	IX. FREE ELECTIVES (6-18 Hours) *CHOOSE ADDITIONAL COURSES FROM ANY AREA.						

MAJOR REQUIREMENTS: 44-50 Hours (C or better required in all)	COURSE		SEMESTER	GRADE	HRS	COMMENTS
INTRODUCTORY BIOLOGY SEQUENCE						
BIOLOGICAL SCIENCE I	BIOL	A121			4	
BIOLOGICAL SCIENCE II	BIOL	A122			4	
GENETICS: BIOL A350 OR A352	BIOL	A			3-4	
ECOLOGY: BIOL A335 OR A370	BIOL	A			3-4	
EVOLUTION: BIOL A318 OR A375	BIOL	A			3	
BIOSTATATISTICS	BIOL	A405			3	
INTEGRATED SYSTEMS: CHOOSE ONE OF THE FOLLOWING BIOL A325, A360, A365, A366, OR A390	BIOL	A			3-4	
ORGANISMAL BIOLOGY: CHOOSE ONE OF THE FOLLOWING BIOL A312, A316, A320, A330, OR A336	BIOL	A			4	
CELLULAR/MOLECULAR BIOLOGY: CHOOSE ONE OF THE FOLLOWING BIOL A302,A325,A340, OR A367	BIOL	A			4	
ENV REMIDATION & RESTORATION CONCENTRATION (12-13) CHOOSE TWO FROM BIOL A577, A578, OR 579.	BIOL	A390			3	
	BIOL	A5			3	
	BIOL	A5			3	
TAKE A BIOL 300 OR ABOVE COURSE OR TAKE A GEOL 100 LEVEL COURSE.					3-4	
BIOLOGY CAPSTONE (4)	BIOL	A490			1	
	BIOL	A499			3	
	or BIOL	A498			4	
COGNATE OR MINOR (12-18)						
TOTAL HOURS : 120	Reviewed (initials & date):					

☐ NON-WESTERN REQUIREMENT _____ WRITING INTENSIVE CRS. _____

☐ ICE REQUIRMENT COMPLETED _____

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Effective F2023

PROGRAMS OF STUDY

Bachelor of Science, Clinical Lab Science

The following maybe useful to track your program completion (see next page)

Clinical Laboratory Science is designed to prepare students for a career in a medical laboratory setting. Students choosing this degree program will complete coursework that satisfies both general education and major requirements. The major requirements will prepare the student for specific training in the clinical laboratory setting. Admission to the clinical component of the program is required and consists of didactic and clinical training internships offered in collaboration with the Piedmont Health in Augusta, GA. Students completing this degree will be prepared to sit for national certification examinations administered by the National Certifying Agency for Medical Laboratory Personnel (NCA) and the American Society of Clinical Pathologists (ASCP).

Biology and Geology
University of South Carolina Aiken

Name:	Degree / Major: **Clinical Lab Science**
VIP ID:	Option: **BIOLOGY**
Banner ID:	Date of Entry: Catalog year:
Phone:	Advisor:

RECORD OF COMPLETION OF DEGREE REQUIREMENTS

GENERAL EDUCATION (31 HOURS)	**COURSE**		**SEMESTER**	**GRADE**	**HRS**	**COMMENTS**
Univ. General ED TIER I						
I.ENGLISH	ENGL	A101			3	
	ENGL	A102			3	
II. GLOBAL CULTURES (HIST A101 or A102)	HIST				3	
III. MATHEMATICS (MATH A122 or A141 ARE REQUIRED FOR THE DEGREE PROGAM)	MATH				3	
III. NATURAL SCIENCES	BIOL	A243			4	REQ
IV. HUMANITIES (SEE DEGREEWORKS or SSC)					3	
					3	
V. COMMUNICATIONS (COMM A201 or A241)	COMM				3	
VI. AMERICAN POLITICAL INSTITUTIONS *ONE OF THE FOLLOWING.; POLI A201, HIST A201, OR HIST A202					3	
VII. SOCIAL & BEHAVIORAL SCIENCES *ONE OF THE FOLLOWING; PSY, SOC, ECON A221/A222, OR GEOG.					3	
College General ED TIER II						
VIII. COLLEGE OF SCIENCE AND ENGINEERING (15-16 Hours) *CHOOSE ADDITIONAL MATH IF NEEDED TO SATIFY DEGREE REQUIREMENT OF MATH A122 or A141 . **CHOOSE FROM ANY OF FOLLOWING AREAS TO COMPLETE TEIR II; HUMANITIES, FINE ARTS, MATH/STATS/LOGIC,NATURAL SCIENCE , SOCIAL/BEHAVIORAL SCIENCE OR FOREIGN LANGUAGE.	BIOL	A244			4	REQ
					3-4	
					3-4	
					3-4	
					3-4	
IX. FREE ELECTIVES (6-8 Hours) *CHOOSE ADDITIONAL COURSES FROM ANY AREA.						

MAJOR REQUIREMENTS: 66-68 Hours (C or better required in all)	COURSE		SEMESTER	GRADE	HRS	COMMENTS
REQUIRED CORE (25-27 Hrs)						
BIOLOGICAL SCIENCE I	BIOL	A121			4	
BIOLOGICAL SCIENCE II	BIOL	A122			4	
FUNDAMENTAL GENTICS	BIOL	A350			3	
IMMUNOLOGY	BIOL	A550			3-4	
FUNDAMENTALS OF MICROBIOLOGY	BIOL	A330			3	
BIOSTATATISTICS	BIOL	A405			3	
INTRO TO CLINICAL LAB SCIENCE	BIOL	A441			1	
CELLULAR/MOLECULAR BIOLOGY: CHOOSE ONE OF THE FOLLOWING BIOL A302,A340, OR A502	BIOL	A			3-4	
CHEMISTRY AND BIOCHEMISTRY (16Hrs)						
GENERAL CHEMISTRY I	CHEM	A111			4	
GENERAL CHEMISTRY II	CHEM	A112			4	
ORGANIC CHEMISTRY	CHEM	A331/331L			4	
BIOCHEMISTRY	BIOL	A541			4	
CLINICAL TRAINING (25Hrs)						
CLINICAL IMMUNOLOGY	BIOL	A442			3	
CLINICAL HEMATOLOGY	BIOL	A443			4	
CLINICAL IMMUNOHEMATOLOGY	BIOL	A444			4	
URINALYSIS	BIOL	A445			2	
CLINICAL LAB OPERATION	BIOL	A451			2	
CLINICAL CHEMISTRY	BIOL	A452			4	
CLINICAL MICROBIOLOGY	BIOL	A453			6	
CLINICAL PRACTICUM	**DATE**		**COMMENTS**			
HOURS COMPLETED						
TOTAL HOURS: 120	Reviewed (initials & date):					

☐ NON-WESTERN REQUIREMENT _____ WRITING INTENSIVE CRS. _____

☐ ICE REQUIRMENT COMPLETED _____

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Effective F2023

PROGRAMS OF STUDY

Bachelor of Art, Biology

The following maybe useful to track your program completion (see next page)

For those students interested in the natural world, the Bachelor of Art in Biology requires students to complete a cognate or minor.

Biology and Geology
University of South Carolina Aiken

Name:	Degree / Major: **BS or BA / BIOLOGY**
VIP ID:	Option: **BIOLOGY (GENERAL)**
Banner ID:	Date of Entry: Catalog year:
Phone:	Advisor:

RECORD OF COMPLETION OF DEGREE REQUIREMENTS

		COURSE		SEMESTER	GRADE	HRS	COMMENTS
Univ. General ED TIER I	**GENERAL EDUCATION (31 HOURS)**						
	I.ENGLISH	ENGL	A101			3	
		ENGL	A102			3	
	II. GLOBAL CULTURES (HIST A101 or A102)	HIST				3	
	III. MATHEMATICS (MATH A122 or A141 ARE REQUIRED FOR THE DEGREE PROGAM)	MATH				3	
	III. NATURAL SCIENCES	CHEM	A111			4	
	IV. HUMANITIES (SEE DEGREEWORKS or SSC)					3	
						3	
	V. COMMUNICATIONS (COMM A201 or A241)	COMM				3	
	VI. AMERICAN POLITICAL INSTITUTIONS *ONE OF THE FOLLOWING.; POLI A201, HIST A201, OR HIST A202					3	
	VII. SOCIAL & BEHAVIORAL SCIENCES *ONE OF THE FOLLOWING; PSY, SOC, ECON A221/A222, OR GEOG.					3	
College General ED TIER II	**VIII. COLLEGE OF SCIENCE AND ENGINEERING (15-16 Hours)** *CHOOSE ADDITIONAL MATH IF NEEDED TO SATIFY DEGREE REQUIREMENT OF MATH A122 or A141 . **CHOOSE FROM ANY OF FOLLOWING AREAS TO COMPLETE TEIR II; HUMANITIES, FINE ARTS, MATH/STATS/LOGIC,NATURAL SCIENCE , SOCIAL/BEHAVIORAL SCIENCE OR FOREIGN LANGUAGE.	CHEM	A112			4	REQ
						3-4	
						3-4	
						3-4	
						3-4	
	IX. FREE ELECTIVES (11-18 Hours) *CHOOSE ADDITIONAL COURSES FROM ANY AREA.						

MAJOR REQUIREMENTS: 44-50 Hours (C or better required in all)	COURSE		SEMESTER	GRADE	HRS	COMMENTS
INTRODUCTORY BIOLOGY SEQUENCE						
BIOLOGICAL SCIENCE I	BIOL	A121			4	
BIOLOGICAL SCIENCE II	BIOL	A122			4	
GENETICS: BIOL A350 OR A352	BIOL	A			3-4	
ECOLOGY: BIOL A335 OR A370	BIOL	A			3-4	
EVOLUTION: BIOL A318 OR A375	BIOL	A			3	
BIOSTATATISTICS	BIOL	A405			3	
INTEGRATED SYSTEMS: CHOOSE ONE OF THE FOLLOWING BIOL A312, A360, A365, A366, OR A390	BIOL	A			3-4	
ORGANISMAL BIOLOGY: CHOOSE ONE OF THE FOLLOWING BIOL A312, A316, A320, A330, OR A336	BIOL	A			4	
CELLULAR/MOLECULAR BIOLOGY: CHOOSE ONE OF THE FOLLOWING BIOL A302,A325,A340, OR A367	BIOL	A			4	
MAJOR ELECTIVES (8)	BIOL	A3			3-4	
	BIOL	A5			3-4	
	BIOL	A5			3-4	
BIOLOGY CAPSTONE (4)	BIOL	A490			1	
	BIOL	A499			3	
	or BIOL	A498			4	
COGNATE OR MINOR (12-18)						
TOTAL HOURS : 120	Reviewed (initials & date):					

☐NON-WESTERN REQUIREMENT _____ WRITING INTENSIVE CRS. _____

☐ICE REQUIRMENT COMPLETED _____

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Effective F2023

PROGRAMS OF STUDY

Bachelor of Science, Environmental Earth Systems Science

The following maybe useful to track your program completion (see next page)

Earth Systems Science provides students with an integrated overview of the processes and interactions of the atmosphere, biosphere, hydrosphere, and lithosphere, and their interplay with human society. Core courses provide students with foundational knowledge that is expanded upon with upper-level courses exploring topics such as meteorology, oceanography, GIS, earth history, structural and regional geology, and climate change. Students gain an additional level of professional preparedness by participating in independent study projects with our ESS faculty.

Biology and Geology

University of South Carolina Aiken

Name:	Degree / Major: **BS IN ENVIROMENTAL EARTH SYSTEMS**
VIP ID:	Option: **GEOLOGY(GENERAL)**
Banner ID:	Date of Entry: Catalog year:
Phone:	Advisor:

RECORD OF COMPLETION OF DEGREE REQUIREMENTS

	COURSE		SEMESTER	GRADE	HRS	COMMENTS
Univ. General ED TIER I						
GENERAL EDUCATION (31 HOURS)						
I.ENGLISH	ENGL	A101			3	
	ENGL	A102			3	
II. GLOBAL CULTURES (HIST A101 or A102)	HIST				3	
III. MATHEMATICS (MATH A122 or A141 ARE REQUIRED FOR THE DEGREE PROGAM)	MATH				3	
III. NATURAL SCIENCES (BIOL 121 OR CHEM A111)					4	
IV. HUMANITIES (SEE DEGREEWORKS or SSC)					3	
					3	
V. COMMUNICATIONS (COMM A201 or A241)	COMM				3	
VI. AMERICAN POLITICAL INSTITUTIONS *ONE OF THE FOLLOWING.; POLI A201, HIST A201, OR HIST A202					3	
VII. SOCIAL & BEHAVIORAL SCIENCES *ONE OF THE FOLLOWING; PSY, SOC, ECON A221/A222, OR GEOG.					3	
College General ED TIER II						
VIII. COLLEGE OF SCIENCE AND ENGINEERING (15-16 Hours) (BIOL 121 AND CHEM A111 REQUIRED) *CHOOSE ADDITIONAL MATH IF NEEDED TO SATIFY DEGREE REQUIREMENT OF MATH A122 or A141. **CHOOSE FROM ANY OF FOLLOWING AREAS TO COMPLETE TEIR II; HUMANITIES, FINE ARTS, MATH/STATS/ LOGIC,NATURAL SCIENCE , SOCIAL/BEHAVIORAL SCIENCE OR FOREIGN LANGUAGE.					4	
					3-4	
					3-4	
					3-4	
					3-4	
IX. FREE ELECTIVES (6-18 Hours) *CHOOSE ADDITIONAL COURSES FROM ANY AREA.						

MAJOR REQUIREMENTS: 44 HOURS (C or better required in all)	COURSE		SEMESTER	GRADE	HRS	COMMENTS
INTRODUCTORY SEQUENCE						
PHYSICAL GEOLOGY	GEOL	A101			4	
ENVIRONMENTAL EARTH SCIENCE	GEOL	A103			4	
BIOLOGICAL SCIENC II	BIOL	A122			4	
LITHOSPHER SERIES: CHOOSE ONE OF THE FOLLOWING GELO A305, A325, A331, A401, A405 or A431	GEOL	A			4	
HYDROSPHERE SERIES: CHOOSE ONE OF THE FOLLOWING GEOL A301, A305, A399, A401 or A405	GEOL	A			4	
ATMOSPHERE SERIES: CHOOSE ONE OF THE FOLLOWING GEOL A303, A305 or A405	GEOL	A			4	
BIOSHPERE SERIES: CHOOSE ONE OF THE FOLLOWING GEOL A305, A311 or A405	GEOL	A			4	
ACQUISITION & DATA ANALYSIS SERIES: CHOOSE ONE OF THE FOLLOWING GEOL A301, A305, A331, A363, A399, A425 or A413	GEOL	A			4	
MAJOR ELECTIVES (9-11)	GEOL	A			4	
	GEOL	A			4	
GEOLOGY CAPSTONE (4)	GEOL	A490			1	
	GEOL	A499			3	
COGNATE OR MINOR (12-18)						
TOTAL HOURS : 120	Reviewed (initials & date):					

☐ NON-WESTERN REQUIREMENT _____ WRITING INTENSIVE CRS. _____

☐ ICE REQUIRMENT COMPLETED _____

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Effective F2023

PROGRAMS OF STUDY

Bachelor of Science, Public Health-Science

The following maybe useful to track your program completion (see next page)

This degree program is designed for individuals passionate about making a difference in their communities without pursuing traditional medical or nursing careers, our program offers a comprehensive exploration of public health principles, practices, and policies.

Biology and Geology
University of South Carolina Aiken

Name:	Degree / Major: **BS Public Health**
VIP ID:	Option: **Science**
Banner ID:	Date of Entry: Catalog year:
Phone:	Advisor:

RECORD OF COMPLETION OF DEGREE REQUIREMENTS

	GENERAL EDUCATION (31 HOURS)	**COURSE**		**SEMESTER**	**GRADE**	**HRS**	**COMMENTS**
Univ. General ED TIER I	**I.ENGLISH**	ENGL	A101			3	
		ENGL	A102			3	
	II. GLOBAL CULTURES (HIST A101 or A102)	HIST				3	A101 or 102
	III. MATHEMATICS (MATH A108 or STAT A201 ARE REQUIRED FOR THE DEGREE PROGAM)	MATH	A108			3	required
	III. NATURAL SCIENCES	CHEM				4	A101 or 111
	IV. HUMANITIES (SEE DEGREEWORKS or SSC)					3	
						3	
	V. COMMUNICATIONS (COMM A201 or A241)	COMM				3	
	VI. AMERICAN POLITICAL INSTITUTIONS *ONE OF THE FOLLOWING.; POLI A201, HIST A201, OR HIST A202					3	
	VII. SOCIAL & BEHAVIORAL SCIENCES (PSYC A101 or SOCY A101)	PSYC	A101			3	required
College General ED TIER II	**VIII. COLLEGE OF SCIENCE AND ENGINEERING (15-16 Hours)** *CHOOSE ADDITIONAL MATH IF NEEDED TO SATIFY DEGREE REQUIREMENT OF MATH A108 or STAT A201 ARE REQUIRED . **CHOOSE FROM ANY OF FOLLOWING AREAS TO COMPLETE TEIR II; HUMANITIES, FINE ARTS, MATH/STATS/LOGIC,NATURAL SCIENCE , SOCIAL/BEHAVIORAL SCIENCE OR FOREIGN LANGUAGE.	STAT	A201			3	required
		SOCY	A101			3	required
		BIOL	A121			4	required
		BIOL	A122			4	required
	IX. FREE ELECTIVES (10-12 Hours) *CHOOSE ADDITIONAL COURSES FROM ANY AREA.						

MAJOR REQUIREMENTS: 48 Hours (C or better required in all)	COURSE		SEMESTER	GRADE	HRS	COMMENTS
INTRODUCTORY CORE SEQUENCE						
ANATOMY & PHYSIOLOGY I	BIOL	A243			4	
ANATOMY & PHYSIOLOGY II	BIOL	A244			4	
MICROBIOLOGY	BIOL				4	A250 or A330
MEDICAL TERMINOLOGY	EXSC	A201			4	
TECHINCAL WRITING	ENGL	A462			3	
PUBLIC HEALTH SEQUENCE						
INTRODUCTION TO PUBLIC HEALTH	PUBH	A201			3	
ENVIROMENTAL PUBLIC HEALTH	PUBH	A301			3	
HEALTHCARE AND PUBLIC POLICY	PUBH	A325			3	
EVAL. METHODS IN PUBLIC HEALTH	PUBH	A330			3	
ISSUES/TRENDS IN PUBLIC HEALTH	PUBH	A350			3	
SOCIOLOGY OF MEDICINE AND DISEASE	PUBH	A360			3	
PRINCIPLES OF EPIDEMIOLOGY	PUBH	A405			3	
HEALTH PSYCHOLOGY	PUBH	A480			3	
HEALTH COMMUNICATION	PUBH	A482			3	
PUBLIC HEALTH CAPSTONE						
EXPERIENTIAL LEARNING	PUBH	A499			3	
SCIENCE CONCENTRATION (14HRS)						
ENVIRONMENTAL SCIENCE AND HUMAN HEALTH	BIOL	A390			3	
ENVIROMENTAL TOXICOLOGY	BIOL	A577			3	
ENVIROMENTAL EARTH SCIENCE	GEOL	A103			4	
GIS IN THE SCIENCES	GEOL	A363			4	
TOTAL HOURS: 120	Reviewed (initials & date):					

☐ NON-WESTERN REQUIREMENT _____

☐ ICE REQUIRMENT COMPLETED

WRITING INTENSIVE CRS. _____

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Effective F2024

PROGRAMS OF STUDY

Bachelor of Science, Public Health-Community Health

The following maybe useful to track your program completion (see next page)

This degree program is designed for individuals passionate about making a difference in their communities without pursuing traditional medical or nursing careers, our program offers a comprehensive exploration of public health principles, practices, and policies.

Biology and Geology
University of South Carolina Aiken

Name:	Degree / Major: **BS Public Health**
VIP ID:	Option: **Community Health**
Banner ID:	Date of Entry: Catalog year:
Phone:	Advisor:

RECORD OF COMPLETION OF DEGREE REQUIREMENTS

		COURSE		SEMESTER	GRADE	HRS	COMMENTS
Univ. General ED TIER I	**GENERAL EDUCATION (31 HOURS)**						
	I.ENGLISH	ENGL	A101			3	
		ENGL	A102			3	
	II. GLOBAL CULTURES (HIST A101 or A102)	HIST				3	A101 or 102
	III. MATHEMATICS (MATH A108 or STAT A201 ARE REQUIRED FOR THE DEGREE PROGAM)	MATH	A108			3	required
	III. NATURAL SCIENCES	CHEM				4	A101 or 111
	IV. HUMANITIES (SEE DEGREEWORKS or SSC)					3	
						3	
	V. COMMUNICATIONS (COMM A201 or A241)	COMM				3	
	VI. AMERICAN POLITICAL INSTITUTIONS *ONE OF THE FOLLOWING.; POLI A201, HIST A201, OR HIST A202					3	
	VII. SOCIAL & BEHAVIORAL SCIENCES (PSYC A101 or SOCY A101)	PSYC	A101			3	required
College General ED TIER II	**VIII. COLLEGE OF SCIENCE AND ENGINEERING (15-17 Hours)** *CHOOSE ADDITIONAL MATH IF NEEDED TO SATIFY DEGREE REQUIREMENT OF MATH A108 or STAT A201 ARE REQUIRED . **CHOOSE FROM ANY OF FOLLOWING AREAS TO COMPLETE TEIR II; HUMANITIES, FINE ARTS, MATH/STATS/LOGIC,NATURAL SCIENCE , SOCIAL/BEHAVIORAL SCIENCE OR FOREIGN LANGUAGE.	STAT	A201			3	required
		SOCY	A101			3	required
	IX. FREE ELECTIVES (9-11 Hours) *CHOOSE ADDITIONAL COURSES FROM ANY AREA.						

MAJOR REQUIREMENTS: 48 Hours (C or better required in all)	COURSE		SEMESTER	GRADE	HRS	COMMENTS
INTRODUCTORY CORE SEQUENCE						
ANATOMY & PHYSIOLOGY I	BIOL	A243			4	
ANATOMY & PHYSIOLOGY II	BIOL	A244			4	
MICROBIOLOGY	BIOL				4	A250 or A330
MEDICAL TERMINOLOGY	EXSC	A201			4	
TECHINCAL WRITING	ENGL	A462			3	
PUBLIC HEALTH SEQUENCE						
INTRODUCTION TO PUBLIC HEALTH	PUBH	A201			3	
ENVIROMENTAL PUBLIC HEALTH	PUBH	A301			3	
HEALTHCARE AND PUBLIC POLICY	PUBH	A325			3	
EVAL. METHODS IN PUBLIC HEALTH	PUBH	A330			3	
ISSUES/TRENDS IN PUBLIC HEALTH	PUBH	A350			3	
SOCIOLOGY OF MEDICINE AND DISEASE	PUBH	A360			3	
PRINCIPLES OF EPIDEMIOLOGY	PUBH	A405			3	
HEALTH PSYCHOLOGY	PUBH	A480			3	
HEALTH COMMUNICATION	PUBH	A482			3	
PUBLIC HEALTH CAPSTONE						
EXPERIENTIAL LEARNING	PUBH	A499			3	
COMMUNITY HEALTH CONCENTRATION (15HRS)						
Area 1: Choose two course from PSCY A310, A320, A385, A390, A460, A465 or A485	PSYC				3	
	PSYC				3	
Area 2: Choose two courses from SOCY A341, A370, A404, A405, or A410	SOCY				3	
	SOCY				3	
Area 3: Choose one course from AANTH A410, COMM A460, EXSC A337, HIST A372, POLI A370, or POLI A374					3	
TOTAL HOURS: 120	Reviewed (initials & date):					

☐ NON-WESTERN REQUIREMENT _____ WRITING INTENSIVE CRS. _____

☐ ICE REQUIRMENT COMPLETED _____

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Effective F2024