

College of the Environment and Life Sciences
University of Rhode Island

GEOSCIENCES

Expected Undergraduate Student Outcomes

We welcome you to the Department of Geosciences, of the College of the Environment and Life Sciences! By the time you graduate, we in the College and department have every expectation that your education at URI will provide you with the critical knowledge, skills, and perspectives that will foster your success during the next phases of your life.

We ask that you dedicate yourself to learning while you are here at URI. The rewards will be countless. Your URI studies and your co-curricular experiences will help you to:

- P build a solid base of knowledge in the major that you choose,
- P communicate effectively with the people you will encounter in your work and personal life, and
- P develop awareness and perspective regarding your personal engagement as a member of the global community.

Your professors in the Department of Geosciences have established the following list of expectations for your learning here at URI. Please study the list and use it as a road map for your education. Review it on a regular basis and discuss it with your academic advisor. You will be amazed at your educational progress each semester and with your level of achievement at the conclusion of your undergraduate studies.

We wish you all the best during your years with us in the College of the Environment and Life Sciences.

KNOWLEDGE

DEPTH AND APPLICATION OF KNOWLEDGE – You will acquire knowledge and skills necessary to obtain or pursue a professional position or graduate/professional training in your discipline. By the time you complete your education you will have the

knowledge of:

1. Earth processes--1
2. Geologic time--2
3. Earth history--3
4. The evolution of life--4

5. Plate tectonics--5
6. Global climate--6
7. The effect of natural processes and human activity on the environment--7
8. The earth as a set of interconnected systems--8

ability to:

1. Construct simple geologic maps--9
2. Identify common rocks and minerals--10
3. Carry out measurements of the physical and chemical properties of earth materials--11
4. Summarize the geologic evolution of selected areas, such as Rhode Island--12
5. Use geologic compasses, GPS, GIS systems, and related cartographic tools--13
6. Where appropriate integrate and apply knowledge and skills to solve specific geologic problems--14

QUANTITATIVE COMPETENCE – You will identify and use appropriate quantitative methods to analyze physical, biological, or social phenomena, as they pertain to geology. By the time you complete your education you will have the

knowledge of:

1. Basic mathematical and statistical terms and concepts used in geology--15
2. Research methodologies--16

ability to:

1. Use computational and analytical tools to evaluate geologic data--17
2. Form inferences, judgments and conclusions based upon your analysis of geologic data--18
3. Use simple algebraic and differential equations in the solution of geologic problems--19

METHODS OF INQUIRY – You will understand and use methods of inquiry appropriate to your discipline. By the time you complete your education you will have

knowledge of:

1. Scientific method--20
2. The significance of geology as an “historical” science--21

ability to:

1. Use observation, exploration, experimentation, and simulation to gain knowledge--22

2. Formulate and test hypotheses, based upon your analysis of geologic data--23
3. Recognize the limitations of the methods you use--24

PROBLEM-SOLVING – You will use acquired knowledge, skills, and ingenuity to solve complex problems. By the time you complete your education you will have the

knowledge of:

1. A range of problem-solving strategies--25

be able to:

1. Use existing information to develop problem-solving strategies--26
2. Choose and implement an appropriate strategy--27
3. Evaluate results and refine strategy accordingly--28
4. Construct analog and digital models of geologic processes--29

COMMUNICATION

INFORMATION MANAGEMENT – You will gather and interpret information from diverse sources. By the time you complete your education you will be able to

1. Locate, compile, and organize information using a variety of techniques and current technology--30
2. Critically evaluate various sources of information.--31

COMMUNICATION – You will communicate clearly and effectively using a variety of methods. By the time you complete your education you will be able to:

1. Speak in an articulate manner and present your ideas and knowledge effectively--32
2. Write logically and effectively for diverse audiences--33
3. Use discipline-specific modes, such as PowerPoint, for graphic communication--34
4. Be able to listen effectively and respond appropriately--35

MULTIDISCIPLINARY PERSPECTIVE – You will recognize the value of, and participate in, multidisciplinary teams. By the time you complete your education you will be able to

1. Understand the perspectives and scope of related disciplines--36
2. Interact effectively with peers and professionals in related fields--37

PERSONAL GROWTH

ETHICAL PRINCIPLES – You will understand and apply ethical principles to issues, problems, and professional practices. By the time you complete your undergraduate education you will

1. Develop a personal environmental ethic--38
2. Be conversant in the ethical standards of geology--39

GLOBAL AWARENESS – You will develop an awareness of global community and ecology in their physical, biological, and social dimensions. By the time you complete your education you will

1. Become familiar with Earth systems and the manner in which they have been modified by human activity over time--40
2. Recognize and appreciate the diversity of human cultures and their relationships to local and global ecosystems--41

PERSONAL DEVELOPMENT – You will develop a sense of responsibility to self, community, and society. By the time you complete your education you will

1. Recognize the value and benefits of being a contributing member of your community and society--42
2. Use reflection and self-evaluation to set goals for personal improvement—43
3. Understand and respect differences among diverse populations--44