INSTRUCTOR
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COURSE DESCRIPTION
This course is meant to immerse you in the remarkable biodiversity of coastal marine habitats of Rhode Island and nearby shores, with a primary emphasis on invertebrate animal species. Combining exposure to field and lab work – even virtually and remotely – this course also teaching students the tricks and tools of the trade, including the collection techniques, lab identification methods, and the best way to photo-catalog or preserve your specimens.

While we don’t get the benefit of sunburns, barnacle scrapes, or crab bites, my intention is to make this mid-winter remote experience still very rewarding and enjoyable.

PREREQUISITES
One year of introductory biology and, ideally, one semester of a relevant course in ecology or biodiversity.

COURSE LEARNING OBJECTIVES
By the end of this course, the student will be able to:
1. Identify core characteristics of the major invertebrate animal groups and determine the identities of species common to southern New England coasts.
2. Describe the major characteristics of key coastal habitats and list some of their more abundant invertebrate species.
3. Understand the means by which species are collected in the field, identified and, as needed, preserved.

REQUIRED TEXTS
Each student should have a copy of one of the following two books:

Both are commonly available on any number of used and new book sites online. I will also be placing some useful identification keys in the Resources Folder.
TECHNOLOGY REQUIREMENTS

To successfully complete this course, you will need access to a computer with reliable, high-speed Internet access and appropriate system and software to support the Brightspace learning platform. Typical technical requirements for users are:

<table>
<thead>
<tr>
<th>Windows 7 (XP or Vista)</th>
<th>Mac OS X or higher</th>
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<tbody>
<tr>
<td>64 MB Ram</td>
<td>32 MB Ram</td>
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<tr>
<td>28.8 kbps modem (56k or higher recommended)</td>
<td>28.8 kbps modem (56k or higher recommended)</td>
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<tr>
<td>SoundCard &amp; Speakers</td>
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<tr>
<td>External headphones with built-in microphone</td>
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<tr>
<td>Mozilla Firefox 9.0 or higher</td>
<td>Mozilla Firefox 9.0 or higher, Safari 5.0 or higher</td>
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Also requires Word 2007 (PC) 2011 (MAC) or newer, PowerPoint, Excel, Adobe Flash, and Adobe Acrobat Reader.

BRIGHTSPACE HELP

Here is the link to access Brightspace [https://brightspace.uri.edu](https://brightspace.uri.edu) as well as the Brightspace resource page [https://web.uri.edu/brightspace/](https://web.uri.edu/brightspace/). 24/7 chat support is also available on the Brightspace homepage under HELP.

CLASSROOM PROTOCOL

For this online course, Brightspace is our “classroom.” Please refer to the Brightspace YouTube video tutorials before you get started and refer back to them as a resource as needed while you complete this course.

In the online learning environment, “attendance” is measured by your PRESENCE in the site as well as your CONTRIBUTIONS to the site. The importance of regular log-ins and active participation cannot be overstated. In “The Before Times,” this would be measured by the time you spend in the field collecting organisms or in the lab working on species identifications.

COURSE NAVIGATION

You should begin to familiarize yourself with the Brightspace platform and how to navigate it. Brightspace is kind enough to provide several awesome tutorials, and I will also take some time to make sure you all get to where you need to go on the site.

The course will progress one week at a time, with most assignments being due intermittently across the session – and a few larger assignments being due at or near the very end of the class.
MAJOR STUDY UNITS

Week One:
1A. Introduction to general invertebrate biodiversity
1B. Introduction to the tools and techniques used in this class, and in the field
1C. The common coastal marine and estuarine habitats – rocky shores
1D. Introduction to basal invertebrates: Porifera, Cnidaria, Ctenophora, and Bryozoa

Week Two:
2A. Introduction to more complex protostomes: Arthropoda, Mollusca, and Annelida
2B. The taxonomic literature
2C. The common coastal marine and estuarine habitats – salt marshes and mudflats

Week Three:
3A. Introduction to deuterostomes: Echinodermata and Chordata
3B. The common coastal marine and estuarine habitats – floating docks and fouling communities
3C. Final identification collection and group projects

STUDENT PERFORMANCE REQUIREMENTS

I expect you all to participate in and work through all asynchronous assignments in a timely manner on your own and with your groups. I’ve purposefully set up the course so that most work is spread across the three weeks in a way that shouldn’t become too arduous so long as you properly budget your time. Also, remember that I am here to help you get through this, despite working asynchronously (i.e. on your own!).

METHODS OF EVALUATION

<table>
<thead>
<tr>
<th>Student Deliverables</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Species identification reports</td>
<td>40%</td>
</tr>
<tr>
<td>Group presentation of habitats and species</td>
<td>15%</td>
</tr>
<tr>
<td>Practical quiz of known species</td>
<td>10%</td>
</tr>
<tr>
<td>Practical quiz of unknown species</td>
<td>10%</td>
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<tr>
<td>Taxonomic report on one species</td>
<td>10%</td>
</tr>
<tr>
<td>Short quiz on species ID and techniques</td>
<td>5%</td>
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<tr>
<td>Discussions and participation</td>
<td>10%</td>
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DESCRIPTIONS OF ASSIGNMENTS
Each assignment will be linked in the appropriate section of each module, including the method for submission back to me. I will make each assignment available in a timely fashion, staggered so you're not all faced with the daunting task of doing it all – or the temptation to get ahead of yourself.

- Species Identifications – The class main project. Each week for the core of the course, you’ll be identifying organisms from photographs and clues provided. These will be submitted every few days, with the option to submit a final version at the end of the course, to make up any mistakes
- Group presentation of habitats – on Wednesday of Week 3, groups (assigned in the first few days) will give an oral presentation using powerpoint or pdf of a selected common coastal habitat, including some of the common invertebrate species found there. Other students will submit questions for each group in the discussion section – and groups will respond to those questions.
- Practical Quiz #1 – at the end of Week 2, you’ll take a quiz where you need to identify ten species by sight, from a list of twenty species provided you at the beginning of the course.
- Practical Quiz #2 – at the end of the course, Week 3, you’ll take a quiz where you have to identify five species you’ve probably never seen before, using nothing but your keys and your training thus far
- Taxonomic Report – From a list of species, each student will select one to give a brief presentation to the class in Week 2, answering questions provided.
- Short quiz on IDs and techniques – a brief quiz at the end of Week 1 to assess how well your picking up the skills so far.
- General class discussions – each week, we’ll discuss various topics as we go, and you’ll also have plenty of chance to raise your own thoughts and interests.

ATTENDANCE AND OTHER CLASS POLICIES
Requirements for students’ attendance and participation will be defined by each instructor based on the following policy:

- Monday of the first week is considered the first day of class for online and blended instruction. This includes instruction for fully online classes and online instruction supporting blended classes.
- Regular onsite attendance is expected for student success. If a student misses more than one onsite class or a couple days of engagement in an online class, the student may, at the discretion of the instructor, fail the course. Students are expected to participate in all modules, assignments, and discussions.
Students who will miss assignment or discussion deadlines have the responsibility to discuss their attendance with the instructor in advance. Instructors may, but are not obligated to, accommodate students under extraordinary circumstances, but the student must request accommodation and provide requested supporting documentation.

If a student misses a portion (e.g., arriving late or leaving early) of an onsite course, the student’s grade may be adversely affected. Students who are not in attendance for at least 75 percent of any scheduled class may be considered absent for that class. Students should discuss missing portions of a class with their instructor to determine how their grade may be affected.

Regular online attendance/participation and engagement is expected for student success in both fully online and blended courses. Online participation is evident through posting to a discussion board, wiki, virtual office or classroom meeting, a drop box, attending a virtual seminar, completing real-time activities or quizzes, or other course-related activities (synchronous or asynchronous).

Schools and programs may have different attendance policies. Refer to school and program specific information for additional attendance policies.

NETIQUETTE FOR ONLINE COURSE

- Be polite and respectful of one another.
- Avoid personal attacks. Keep dialogue friendly and supportive, even when you disagree or wish to present a controversial idea or response.
- Be careful with the use of humor and sarcasm. Emotion is difficult to sense through text.
- Be helpful and share your expertise. Foster community communication and collaboration.
- Contribute constructively and completely to each discussion. Avoid short repetitive “I agree” responses and don’t make everyone else do the work.
- Consider carefully what you write. Re-read all e-mail and discussion before sending or posting.
- Remember that e-mail is considered a permanent record that may be forwarded to others.
- Be brief and succinct. Don’t use up other people’s time or bandwidth.
- Use descriptive subject headings for each e-mail message.
- Respect privacy. Don’t forward a personal message without permission.
- Cite references. Include web addresses, authors, names of articles, date of publication, etc.
Keep responses professional and educational. Do not advertise or send chain letters.

Do not send large attachments unless you have been requested to do so or have permission from all parties.

2 word postings (e.g.: I agree, Oh yeah, No way, Me too) do not “count” as postings.

**URI ACADEMIC WRITING STANDARDS**

Specific writing standards differ from discipline to discipline and learning to write persuasively in any genre is a complex process, both individual and social, that takes place over time with continued practice and guidance. Nonetheless, URI has identified some common assumptions and practices that apply to most academic writing done at the university level. These generally understood elements are articulated here to help students see how they can best express their ideas effectively, regardless of their discipline or any particular writing assignment.

Venues for writing include the widespread use of e-mail, electronic chat spaces and interactive blackboards. URI is committed to guaranteeing that students can expect all electronic communication to meet Federal and State regulations concerning harassment or other “hate” speech. Individual integrity and social decency require common courtesies and a mutual understanding that writing—in all its educational configurations—is an attempt to share information, knowledge, opinions and insights in fruitful ways.

Academic writing (as commonly understood in the university) always aims at correct Standard English grammar, punctuation, and spelling.

The following details are meant to give students accurate, useful, and practical assistance for writing across the curriculum of URI.

Students can assume that successful collegiate writing will generally:

- Delineate the relationships among writer, purpose and audience by means of a clear focus (thesis statements, hypotheses or instructor-posed questions are examples of such focusing methods but are by no means the only ones) and a topic that’s managed and developed appropriately for the specific task.
- Display a familiarity with and understanding of the particular discourse styles of the discipline and/or particular assignment.
• Demonstrate the analytical skills of the writer rather than just repeating what others have said by summarizing or paraphrasing.
• Substantiate abstractions, judgments, and assertions with evidence specifically applicable for the occasion whether illustrations, quotations, or relevant data.
• Draw upon contextualized research whenever necessary, properly acknowledging the explicit work or intellectual property of others.
• Require more than one carefully proofread and documented draft, typed or computer printed unless otherwise specified.

PROFESSIONAL CONDUCT
Cheating and plagiarism are serious academic offenses, which are dealt with firmly by the College and University. Scholastic integrity presumes that students are honest in all academic work. Cheating is the failure to give credit for work not done independently (i.e., submitting a paper written by someone other than yourself), unauthorized communication during an examination, or the claiming of credit for work not done (i.e., falsifying information). Plagiarism is the failure to give credit for another person’s written or oral statement, thereby falsely presuming that such work is originally and solely your own.

If you have any doubt about what constitutes plagiarism, visit the following website: https://honorcouncil.georgetown.edu/whatispLAGIARISM, the URI Student Handbook, and University Manual sections on plagiarism and cheating at http://web.uri.edu/studentconduct/student-handbook/.

Students are expected to be honest in all academic work. A student’s name on any written work, quiz or exam shall be regarded as assurance that the work is the result of the student’s own independent thought and study. Work should be stated in the student’s own words, properly attributed to its source. Students have an obligation to know how to quote, paraphrase, summarize, cite and reference the work of others with integrity. The following are examples of academic dishonesty.

• Using material, directly or paraphrasing, from published sources (print or electronic) without appropriate citation;
• Claiming disproportionate credit for work not done independently;
• Unauthorized possession or access to exams;
• Unauthorized communication during exams;
• Unauthorized use of another’s work or preparing work for another student;
• Taking an exam for another student;
• Altering or attempting to alter grades;
The use of notes or electronic devices to gain an unauthorized advantage during exams;
Fabricating or falsifying facts, data or references;
Facilitating or aiding another’s academic dishonesty;
Submitting the same paper for more than one course without prior approval from the Instructor.

Please note the following section from the University Manual:

8.27.17. Instructors shall have the explicit duty to take action in known cases of cheating or plagiarism. The instructor shall have the right to fail a student on the assignment on which the instructor has determined that a student has cheated or plagiarized. The circumstances of this failure shall be reported to the student’s academic dean, the instructor’s dean, and the Office of Student Life. The student may appeal the matter to the instructor’s dean, and the decision by the dean shall be expeditious and final. Such action will be initiated by the instructor if it is determined that any written assignment is copied or falsified or inappropriately referenced.

Any good writer’s handbook as well as reputable online resources will offer help on matters of plagiarism and instruct you on how to acknowledge source material. If you need more help understanding when to cite something or how to indicate your references, PLEASE ASK.

Please note: Students are responsible for being familiar with and adhering to the published “Community Standards of Behavior: University Policies and Regulations” which can be accessed in the University Student Handbook.

ACADEMIC SUPPORT SERVICES

Office of Disability Services
Americans With Disabilities Act Statement
Any personal learning accommodations that may be needed by a student covered by the “Americans with Disabilities Act” must be made known to the university as soon as possible. This is the student’s responsibility. Information about services, academic modifications and documentation requirements can be obtained from the The Office of Affirmative Action, Equal Opportunity and Diversity (AAEOD).
https://web.uri.edu/affirmativeaction/
Any student with a documented disability is welcome to contact me early in the semester so that we may work out reasonable accommodations to support your success in this course. Students should also contact Disability Services for Students, Office of Student Life, 330 Memorial Union, 401-874-2098.

From the University Manual: 6.40.10 and 6.40.11 Accommodations for Qualified Students With Disabilities. Students are expected to notify faculty at the onset of the semester if any special considerations are required in the classroom. If any special considerations are required for examinations, it is expected the student will notify the faculty a week before the examination with the appropriate paperwork.

Uri Online Library Resources
https://web.uri.edu/library/
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics Discussed</th>
<th>Course Learning Objectives</th>
<th>Assignments/Deliverables</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction to invertebrate biodiversity</td>
<td>1. After this introduction, students will be able to identify core characteristics of invertebrate animals and understand their relative contribution to biodiversity.</td>
<td>Class introductions sharing instructor and student backgrounds and interest (complete by Monday, January 4, 6pm)</td>
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<td>A brief primer on the craft and the tools of the trade</td>
<td>2. Following the orientation videos, students will be able to identify some of the tools used for taxonomy, both in the field and in lab.</td>
<td>Watch orientation videos of lab and field equipment (complete by Tuesday, Jan 5, 6pm)</td>
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<td>Marine and estuarine habitats of southern New England</td>
<td>3. Following lecture, students will be able to demonstrate an understanding of the unique coastal and open-water habitats of southern New England.</td>
<td>Identify, minimum: 2 sponges spp. 3 cnidarian spp. 1 ctenophora sp. 2 bryozoan spp. (due by Saturday, Jan 9, 6pm)</td>
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<td>Intro to basal invertebrates</td>
<td>4. After inspecting different specimens, students will be able to identify the key characteristics of Porifera, Cnidaria, Ctenophora, and Bryozoa – and identify minimum 8 species (listed in assignments).</td>
<td>Watch sponge spicule test (by Wednesday, Jan 6, 6pm)</td>
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<td>Taxonomic reporting</td>
<td>5. From reading example papers on a specific species, students will be able to identify how species are characterized and reported in taxonomic papers.</td>
<td>Watch rocky shore habitat video (by Thursday, Jan 7, 6pm)</td>
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<td></td>
<td>Rocky shore habitats</td>
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<td>Brief assessment quiz (Friday, Jan 8, 6pm)</td>
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<td>2</td>
<td>Intro to more complex protostome invertebrates</td>
<td>1. After inspecting different specimens, students will be able to identify the key characteristics of Arthropoda, Mollusca, and Annelida – and identify minimum 16 species (listed in assignments)</td>
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<td>Salt marsh habitats</td>
<td>2. By the end of the week, students will be able to identify on sight ten different common marine invertebrate species of southern New England (from a previously provided list of twenty species)</td>
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<td>Mudflat habitats</td>
<td>Identify, minimum: 8 arthropod spp. 2 annelid spp. 6 mollusc spp. (due by Saturday, Jan 16, 6pm)</td>
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<td>Practical Quiz: Students will be able to identify ten common species from a previously provided list of twenty species (Friday, Jan 15, 6pm)</td>
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<td>Taxonomic species report (share with class by Wednesday, Jan 13, 6pm)</td>
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<td></td>
<td>Watch salt marsh and mudflat habitat videos (by Monday, Jan 11, 6pm)</td>
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<tr>
<th>3</th>
<th>Intro to deuterostome invertebrates</th>
<th>1. After inspecting different specimens, students will be able to identify the key characteristics of Echinodermata and Chordata – and be able to identify minimum 6 species (listed in assignments)</th>
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<td>Unnatural habitats – floating dock marina fouling communities</td>
<td>2. At the end of the course, students will demonstrate a mastery of identification techniques and general marine invertebrate biodiversity by being able to identify five unknown species with the aid of relevant keys and literature.</td>
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<td>Final identification quiz and group presentations</td>
<td>3. At the end of the course, students will be able to summarize the common invertebrate species found in the common coastal habitats of southern New England</td>
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<td>Identify, minimum: 2 echinoderm spp. 4 chordate spp. and any updated previous identifications (due by Friday, Jan 22, 6pm)</td>
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<td>Watch floating dock habitat video (by Monday, Jan 18, 6pm)</td>
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<td>Group project on common/ key species found in selected habitats (share with class by Wednesday, Jan 20, 6pm)</td>
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<td>Practical Quiz 2: Students will be able to identify five previously unknown species, using available keys (Friday, Jan 22, 6pm)</td>
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