Section 1
Instructor, Course Information & Objectives

Advanced Academic Programs
Zanvyl Krieger School of Arts and Sciences
Johns Hopkins University

AS.420.611: Principles and Methods of Ecology

Instructor Information
Instructor: Jerry L. Burgess, Ph.D
Email Address: jerry.burgess@jhu.edu
Office Hours: online (or by appointment in person)

Course Description
This course examines the relationship between organisms and their biotic and abiotic environment at three levels of biological hierarchy: individual organism, population, and community. Population characteristics, models of population dynamics, and the effect of ecological interactions on population regulation are discussed in detail. The structure and function of natural and man-made communities and the impact disturbances have on community structure are also examined. Students are led to appreciate the importance of ecology in solving environmental problems.

Prerequisites:
420.301 - Quantitative Methods
420.302 - Chemistry of Natural Processes

Course Goals & Learning Objectives
By the end of this course, you will be able to:

- Describe how interactions of organisms with their environment and other organisms gives rise to patterns of species distribution and abundance
- Describe biotic and abiotic factors affecting ecological processes at the individual, community and ecosystem levels
- Explain the major processes influencing biodiversity in terrestrial and aquatic ecosystems
- Define basic principles of ecology including population growth, ecological interactions, succession, and evolutionary change, and make predictions
based on these principles

- Discuss how the function of local and global ecosystems is being altered by human activity, and critique alternative strategies for minimizing human impact on biogeochemical cycles.
- Conduct basic field and analytical techniques in ecology such as habitat sampling and physiochemical characterization of populations and communities
- Demonstrate familiarity with common approaches for statistical analysis and presentation of ecological data
- Apply ecological principles to environmental challenges and conservation concerns
Section 2

Course Materials

Textbook
The textbook for the course is *Ecology* 3rd edition by Cain, Bowman and Hacker (2014) ISBN-13: 978-0878939084 & ISBN-10: 0878939083. I will draw most of the lecture material from this text. For those desiring a more thorough review of basic ecological principles, this will be a valuable resource.

Other Readings
All other readings will be posted on the online classroom with support from JHU reserves.

Other equipment / software/ websites / online resources
A number of “hands on” exercises and questions will be assigned in coordination with our class textbook. The link to that site is: http://sites.sinauer.com/ecology3e/index.html

We will perform several of the SimBio Ecobearer Virtual Labs. This system will need to be downloaded and purchased separately. Each lab is $5-10/module paid by credit card.

We will most likely use the following modules (some are listed in this syllabus and others I may add to sections of the course as I gauge our learning progress):

- Niche Wars
- Isle Royal
- The Barnacle Zone - The Intermediate Disturbance Hypothesis
- Top Down Control – Keystone Predator
- Patchy Prairies

To subscribe to your SimUText, you will need to supply your email address as a user name, your name and student ID, and select a password. The bookstore does not offer a SimUText Redemption Code so just click the Continue button.
Please follow the instructions below to subscribe to SimUText for your Principles and Methods of Ecology SU17 course at Johns Hopkins University.

It is important that you review the information below before you subscribe to the SimUText for Principles and Methods of Ecology at Johns Hopkins University. To avoid possible problems, do not wait until the last minute.

- CHECK YOUR TECH! Visit https://simutext.zendesk.com/hc/en-us/categories/200170134-Check-Your-Tech to confirm that the SimUText application will work on your computer, and/or to explore your options if there is a problem.
- If you purchased a SimUText Voucher from your bookstore, be sure to have it with you when subscribing, as you will need to enter your voucher code.
- When you are ready to subscribe and download installers, follow this link to initiate the process: https://www.simutext2.com/student/register.html#/key/UmZh-Kj2a-seeL-H8pY-ZjNa
- After you have completed the subscription process, if you need to download the SimUText application installers again, you will be able to access them by logging into the SimUText Student Portal (https://www.simutext2.com/student).

Save this email! Should you encounter problems, you may need your course-specific Access Key. It is: UmZh-Kj2a-seeL-H8pY-ZjNa

Problems or questions? Visit SimUText Support (http://simbio.com/support/simutext)

Specific Technology Requirements & Skills for this Course

You will need access to a spreadsheet such as MS Excel, Apple Numbers or Google Docs will facilitate basic statistical analysis.

Learning online requires some basic knowledge of computer technology. At a minimum, you need to be able to:

- Navigate in and use Blackboard; the Blackboard Student Orientation course on your “My Institution” page
- Create and save MS Word documents; see MS Word tutorials for PC users (all versions); Word Help for Mac users
Section 3
Course Overview and Goals

One of the simplest definitions of ecology is “the study of the abundance and distribution of organisms.” In this course we will explore the physical and the biological features and interactions that determine densities and distributions. A central goal of ecology is to try to reduce the incredible complexity of the natural world to an oversimplified, yet hopefully still useful, set of principles. This course will provide an understanding of ecological theory, and we will critically examine some real-world applications of such theories. Global climate change, overfishing, habitat loss, altered nutrient cycles, and the spread of invasive species are among the world’s pressing global environmental issues. Solutions to these problems are complex, but firmly rooted in the fundamental tenets of ecological theory. Ultimately, students should be able to relate ecological principles to problems of habitat and species conservation, resource and waste management, pest control, and areas of environmental planning.

Each week, you’ll also have assignments to complete on the online classroom, including quizzes, virtual labs, at home live labs, and discussion activities. The quizzes will involve multiple choice and short answer questions, and they are designed to get you thinking more deeply about key concepts in the readings. Ecology, as a natural science attempts to explain, interpret and predict nature’s phenomena. Such work often begins with observations obtain in the field which lead to further investigation. As an online class, we will attempt to incorporate the field aspect through virtual labs and “at home” data collection as part of an independent research project. Other activities will involve sharing observations and opinions with other students online.
Course Topics, Activities and Schedule

The following is a tentative Schedule of Topics and the associated reading from the text. Topics may be modified by the instructor, though I will try for advanced notice of no less than 5 days that will be conveyed via the online classroom.

<table>
<thead>
<tr>
<th>Module and Dates</th>
<th>Course Subject</th>
<th>Lab Topics</th>
<th>Reading From Textbook</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 10 May – 16 May</td>
<td>Introduction – The Physical Environment</td>
<td>Natural History Field Lab</td>
<td>Chapters 1, 2 and the first section of Chapter 3</td>
</tr>
<tr>
<td>2 17 May – 23 May</td>
<td>Dealing with Environmental Variation</td>
<td>Niche Wars – Introduction to SimBio</td>
<td>Chapter 3, 4, and 5</td>
</tr>
<tr>
<td>3 24 May – 30 May</td>
<td>Evolutionary Ecology</td>
<td>Independent Research Project - Assigned</td>
<td>Chapters 6 and 7</td>
</tr>
<tr>
<td>4 31 May – 6 June</td>
<td>Individuals and Populations</td>
<td>Isle Royale - SimBio</td>
<td>Chapter 9</td>
</tr>
<tr>
<td>5 7 June – 13 June</td>
<td>Population Dynamics</td>
<td>Life Table Lab</td>
<td>Chapters 10 and 11</td>
</tr>
<tr>
<td>6 14 June – 20 June</td>
<td>Interactions</td>
<td></td>
<td>Chapter 13-15</td>
</tr>
<tr>
<td>7 21 June – 27 June</td>
<td>Interactions II</td>
<td></td>
<td>Chapter 12</td>
</tr>
<tr>
<td>8 28 June – 4 July</td>
<td>Communities</td>
<td>Statistical Primer Lab</td>
<td>Chapter 16</td>
</tr>
<tr>
<td>9 5 July – 11 July</td>
<td>Biogeography and Vegetation Dynamics</td>
<td>Intermediate Disturbance Hypothesis - SimBio</td>
<td>Chapters 17 and 18</td>
</tr>
<tr>
<td>10 12 July – 18 July</td>
<td>Biodiversity</td>
<td>Keystone Predator - SimBio</td>
<td>Chapters 19 &amp; 20</td>
</tr>
<tr>
<td>11 19 July – 25 July</td>
<td>Energy Flow in Ecosystems</td>
<td></td>
<td>Chapter 21</td>
</tr>
<tr>
<td>12 26 July – 1 Aug</td>
<td>Conservation Biology</td>
<td></td>
<td>Chapter 23</td>
</tr>
<tr>
<td>13 2 Aug – 8 Aug</td>
<td>Conservation Biology II</td>
<td>Patchy Prairies - SimBio</td>
<td>Chapters 23 and 24</td>
</tr>
<tr>
<td>14</td>
<td>Species and Global Change</td>
<td></td>
<td>Chapter 24-</td>
</tr>
</tbody>
</table>
Directions for Students

Next Steps: Carefully review the remaining sections of the syllabus section of this course before beginning Week 1 activities, which are located in the Lessons folder in your online classroom.

- Once you feel that you are ready to dive into the first week’s activities, click on the Lessons button on the left-side navigation. Then, click on Module 1 and begin with the Introduction and Objectives.

What To Expect in this Course

This course is 14 weeks in length and includes individual and whole group activities in a weekly cycle of instruction. Each week begins on a Wednesday and ends on the following Tuesday. Please review the course syllabus thoroughly to learn about specific course outcomes and requirements.

Each week, you will complete readings that may include videos, multimedia presentations, web-based resources, and articles from professional journals. A reading may be integrated within an activity during the week or provide some key information to assist your learning.

In this course, you will also experience online learning activities, which include discussion boards, virtual simulations, group work, and online multimedia presentations.
Section 4
Assessments and Grading Policy

Assignments

Each assignment will be assigned a numerical value out of 10 points. Your final grade is calculated as a weighted average of the total number of points (see below for details). Specific due dates will be located in the lesson modules.

<table>
<thead>
<tr>
<th>Assignments (Class begins on 10 May and will run through 15 Aug)</th>
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<tbody>
<tr>
<td>Assignment 1: Natural History Lab</td>
</tr>
<tr>
<td>The scientific method begins with observations about the natural world—it's patterns and processes. This assignment will help you begin thinking of testable questions to explain natural observations. Deliverables: Prezi with photo documentation.</td>
</tr>
<tr>
<td>Assignment 2: Hands-On Problem 1.1</td>
</tr>
<tr>
<td>The student will examine weather patterns and mosquito-borne diseases in human populations. Deliverables: Answers submitted through the online classroom in pdf format.</td>
</tr>
<tr>
<td>Assignment 3: Hands-On Problem 3.1</td>
</tr>
<tr>
<td>The student will explore biome boundaries and climate change. Deliverables: Answers submitted through the online classroom in pdf format.</td>
</tr>
<tr>
<td>Assignment 4: Threaded Discussion (DB01): Introductions</td>
</tr>
<tr>
<td>The student will engage in an icebreaker introduction dialogue. One initial post, and 3 follow up.</td>
</tr>
<tr>
<td>Assignment 5: Threaded Discussion (DB02) on Module 1 Journal Readings</td>
</tr>
<tr>
<td>The student will read 3 different articles introducing</td>
</tr>
</tbody>
</table>
ecology and some of the major problems ecosystems face. Deliverables: Post comments based on article impressions, react to other students' comments, and respond to ideas shared by you or by others in the course.

**Assignment 6: Module 1 Quiz on Chapters 1, 2, and 3**  
Based on lecture and course textbook. Deliverables: Answers submitted through the online classroom.

**Assignment 7a: Niche Wars - SimBio**  
The student will examine hyperspace partitioning, but the main goal is to intro the SimBio interface. Deliverables: Answers submitted through the SimBio interface.

**Assignment 7b: Hands-On Problem 5.1**  
The student will explore comparisons of C3 and C4 pathways. Deliverables: Answers submitted through the online classroom in pdf format.

**Assignment 8: Threaded Discussion (DB03) on Darwin and the Galapagos**  
Students will be referred to a NOVA website that attempts to recreate Darwin’s Journey. Deliverables: Post comments based on audio/video impressions, react to other students' comments, and respond to ideas shared by you or by others in the course.

**Assignment 9: Module 2 Quiz on Chapters 4 and 5**  
Based on lecture, and course textbook. Deliverables: Answers submitted through the online classroom.

**Assignment 10: Introduction to Independent Research (IRP) Project**  
This project entails finding a suitable problem (one that can be done given the time and resources), writing a research proposal that describes your hypotheses and the experiments or observations to test your hypotheses, doing the research, and writing a paper on your findings (in scientific
| Assignment 11: **Hands-On Problem 6.1**  
The student will explore how both natural selection and genetic drift can lead to evolution by altering the frequency of alleles in populations.  
Deliverables: Answers submitted through the online classroom in pdf format. |
|---|
| Assignment 12: **Threaded Discussion (DB04) on the Grant’s and Darwin’s Finches**  
Deliverables: Post comments based on article impressions, react to other students' comments, and respond to ideas shared by you or by others in the course. |
| Assignment 13: **Module 3 Quiz on Chapters 6, 7 and Darwins’ Finches readings**  
Based on lecture, articles and course textbook.  
Deliverables: Answers submitted through the online classroom. |
| Assignment 14: **Population Pyramids**  
This activity will have you generate various population pyramids and then interpret the displayed patterns. |
| Assignment 15: **Cemetery Survivorship Curves**  
The student will use spreadsheets to explore type I, II and III distributions using real-life data.  
Deliverables: Answers submitted through the online classroom in.xls and pdf format. |
| Assignment 16: **Threaded Discussion (DB05) on Life Table Societal Implications**  
Deliverables: Post comments based on interpretation of the dataset, react to other students' comments, and respond to ideas shared by you or by others in the course. |
| Assignment 17: **Isle Royale - SimBio**  
The student will explore basic population biology concepts including exponential and logistic growth and carrying capacity.  
Deliverables: Answers |
| Assignment 18: **Hands-On Problem 11.1**  
The student will explore population overshoots and carrying capacity. Deliverables: Answers submitted through the online classroom in pdf format. |
| Assignment 19: **Module 5 Quiz on Chapters 9-11**  
Based on lecture and course textbook.  
Deliverables: Answers submitted through the online classroom. |
| Assignment 20: **Threaded Discussion (DB06) on Module 6 Journal Readings**  
The student will read an article discussing the implications of loss of biodiversity. Deliverables: Post comments based on article impressions, react to other students' comments, and respond to ideas shared by you or by others in the course. |
| Assignment 21: **Module 6 Quiz on Chapters 13-15**  
Based on lecture, and course textbook.  
Deliverables: Answers submitted through the online classroom. |
| Assignment 22: **Threaded Discussion (DB07) on Module 7 Journal Readings**  
The student will read an article discussing the impacts of exotic species invasions. Deliverables: Post comments based on article impressions, react to other students' comments, and respond to ideas shared by you or by others in the course. |
| Assignment 23: **Paramecia Interactions** a look at graphing of niche partitioning. |
| Assignment 24: **Module 7 Quiz on Chapter 12**  
Based on lecture, and course textbook.  
Deliverables: Answers submitted through the online classroom. |
| Assignment 25: **Vegetation Data Analysis**  
The student will use spreadsheets to perform basic t-test evaluation of hypothesis. Deliverables: Answers submitted through the online classroom in.xls and pdf format. |
<table>
<thead>
<tr>
<th>Assignment 26: Intermediate Disturbance Hypothesis (IDH) - SimBio</th>
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<tbody>
<tr>
<td>The student will examine a successional sequence with and without fire disturbance. Deliverables: Answers submitted through the SimBio interface.</td>
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<tr>
<th>Assignment 27: Hands-On Problem 18.1</th>
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<tbody>
<tr>
<td>The student will explore patterns of species diversity. Deliverables: Answers submitted through the online classroom in pdf format.</td>
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<tr>
<th>Assignment 28: Threaded Discussion (DB09) on Module 9 Journal Readings</th>
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<tbody>
<tr>
<td>The student will read an article proposing possible laws in ecology. Deliverables: Post comments based on article impressions, react to other students' comments, and respond to ideas shared by you or by others in the course.</td>
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<tr>
<th>Assignment 29: Module 9 Quiz on Chapters 16-18</th>
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<tbody>
<tr>
<td>Based on lecture, and course textbook. Deliverables: Answers submitted through the online classroom.</td>
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<tr>
<th>Assignment 30: Keystone Predator - SimBio</th>
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<tbody>
<tr>
<td>The student will recreate the famous experiments of Paine and colleagues in the Pacific Northwest with the sea star <em>Pisaster</em>. Deliverables: Answers submitted through the SimBio interface.</td>
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<tr>
<th>Assignment 31: Threaded Discussion (DB10) on 100 Years of Animal Extinction</th>
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<tbody>
<tr>
<td>The student will view a pictorial representation of recent extinctions. Deliverables: Post comments based on article impressions, react to other students' comments, and respond to ideas shared by you or by others in the course.</td>
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</table>

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<tr>
<th>Assignment 32: Hands-On Problem 21.2</th>
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</thead>
<tbody>
<tr>
<td>The student will explore data dealing with trophic structure. Deliverables: Answers submitted through the online classroom in pdf format.</td>
</tr>
</tbody>
</table>

| Assignment 33: Module 11 Quiz on Chapters 20 |
**Assignment 34: Threaded Discussion (DB12) on Module 12 Journal Readings**
The student will read an article discussing the impacts of climate change to marine ecosystems. Deliverables: Post comments based on article impressions, react to other students' comments, and respond to ideas shared by you or by others in the course.

**Assignment 35: Patchy Prairies - SimBio**
The student will experiment with habitat restoration schemes that will maximize survivorship of butterflies, given pre-existing patches of prairie. Deliverables: Answers submitted through the SimBio interface.

**Assignment 36: Independent Research Project (IRP)**

**Assignment 37: Threaded Discussion (DB13) on Module 13 Journal Readings**
The student will read an article revisits concepts from Week 1 – reversing defaunation and The 6th and 7th Mass Extinction. Deliverables: Post comments based on article impressions, react to other students' comments, and respond to ideas shared by you or by others in the course.

**Assignment 38: Module 14 Quiz on Chapters 22, 23 and 24**
Based on lecture, and course textbook. Deliverables: Answers submitted through the online classroom.
Grading

Your cumulative average will be based on the following weighted averages:

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Points</th>
<th>Percentage Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module Quizzes</td>
<td>90</td>
<td>20%</td>
</tr>
<tr>
<td>Hands On Problem Assignments</td>
<td>70</td>
<td>10%</td>
</tr>
<tr>
<td>Discussion Board Threads</td>
<td>120</td>
<td>15%</td>
</tr>
<tr>
<td>SimBio Lab Assignments</td>
<td>40</td>
<td>20%</td>
</tr>
<tr>
<td>Assignments: Natural History Lab, Cemetery Survivorship Curves, Population Pyramids, <em>Paramecia</em> Interactions, Vegetation Data Analysis.</td>
<td>50</td>
<td>15%</td>
</tr>
<tr>
<td>Independent Research Project Assignment</td>
<td>86</td>
<td>20%</td>
</tr>
</tbody>
</table>

The grading scale for students enrolled for credit is A+ (98-100%), A (94 to <98%), A- (90 to <94%), B+ (88 to <90%), B (84 to <88%), B- (80 to <84%), C (70 to <80%), and F (<70%).

*Late work (any assignment turned in after an assigned due date) will receive zero credit and extra credit is not used in this course.

Assignment Guidelines

How should assignments be submitted?

The weekly directions will indicate where assignments will be posted (e.g. in assignment tool within the Lessons folder). If submitting documents to an assignment or forum, please specify the assignment name in the discussion thread and/or the document title. When creating files, include your name and the name of the assignment in the file title. Also, please be sure to only include one period in file names. The period should be between the file name and the extension. For example: jburgess_assignment1.doc

When will assignments be due?

Assignment and activity due dates are listed in this syllabus and the weekly checklists. The instructor via an announcement in the online classroom will announce changes. Some larger assignments will be completed over several weeks. In these cases, you will be prompted to
complete portions of the assignment each week.

**When will completed assignments be returned?**
Professor Burgess will aim to return assignments to you within 5-7 days following the due date, depending on the length of the assignment. You will receive feedback under the My Grades link on the left hand menu of your course.

**What is the policy for late assignments?**
You are expected to contact your instructor in advance if you think you cannot meet an assignment deadline. However, if an assignment is late and prior arrangements have not been made with the instructor, the assignment score will be zero. There are no exceptions.

**Time Management Expectations**

**What is the time demand and schedule of the course?**
Because this is a graduate-level course the rigor and time commitment is higher than a traditional semester course. It is expected that you look ahead to schedule your time. Plan to complete coursework across several days of the week rather than all in one day.

Some assignments require that you work on them for multiple weeks. Be sure to review the assignment directions at the beginning of the course so that you can plan your time accordingly. Please seek help before becoming frustrated and spending a significant amount of time to resolve an issue.
Section 5
Course Participation & Communication Policy

Participation

What are the participation requirements?
You are recommended to log into the online classroom at least three times a week, though a daily check-in is advised. It is your responsibility to read all announcements and discussion postings within your assigned forums. You should revisit the discussion multiple times over the week to monitor and review feedback from your peers. During those Modules where threaded discussions are assigned, I will read and grade the student discussions but I will not address most posts – this is where a lot of the real learning occurs and it will be from your peers. In some cases, I might share a related idea, intervene when the discussion goes off-track, or tie student comments together to help deepen student learning. Consequently, I will not directly answer questions in the discussion area unless they are addressed to me. I will check the discussions daily during the week, and occasionally on the weekends.

Network Etiquette (i.e. “Netiquette”)
In this course, online discussion will be primarily take place in our online discussion board. In all textual online communication it important to follow proper rules of netiquette.

What is netiquette? Simply stated, it's network etiquette – that is, the etiquette of cyberspace. And "etiquette" means the social and cultural norms of communicating with others in a proper and respectful way. In other words, netiquette is a set of rules for behaving and interacting properly online.

The Netiquette "Core Rules" linked below are a set of general guidelines for cyberspace behavior. They probably won't cover all situations, but they should give you some basic principles to use in communicating online.

For Netiquette Core Rules visit The Core Rules of Netiquette web page.
Contacting the Instructor

The instructor for this course is Professor Burgess (jerry.burgess@jhu.edu).

Feel free to contact me with comments, questions, and concerns. You will receive a response within 24-48 hours.

All email messages will be sent to you via your JHU email account, so you should be in the habit of checking that account every day or you should ensure that your JHU email account forwards messages to another account of your choice.)

Professionalism is expected throughout this course whether in the online classroom or email. Your responses to questions, interaction/communications/emails with classmates or me should be professional in manner. This includes “netiquette” (electronic etiquette) such as using salutations (not “Hey! Or “Hi Jerry” – Professor Burgess, please”) when you send an email, signing your emails, and responding to emails in a timely fashion.
Section 6

Course Protocols & Getting Help

How will I know about changes to the course?

Frequently, you will find new announcements posted in the Announcements, which contain information about current course activities that you are working on and any changes to the course. Please check announcements every time that you log into your online course.

How should I communicate with others in this course?

You should communicate often with your classmates and with Professor Burgess. The majority of communication will take place within the Discussion forums. When you have a question about an assignment or a question about the course, please post your question in the course’s “Ask Your professor” forum.

Are there any requirements for sending e-mail messages?

When you send an e-mail message to the instructor or to another participant in the course, please observe the following guidelines:

- Include the title of the course in the subject field (e.g., JHU Principles and Methods of Ecology).
- Keep messages concise, and check spelling and grammar.
- Send longer messages as attachments.
- Sign your full name (the sender’s email is not always obvious).

Section 7

Course Topics, Activities & Schedule

Tentative Course Schedule

**Important Note:** Activity and assignment details will be explained in detail within each week’s corresponding learning module.

<table>
<thead>
<tr>
<th>Module</th>
<th>Topics</th>
<th>Activities</th>
<th>Additional Journal Readings</th>
<th>Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction and the Physical Environment of the Biosphere</td>
<td>Natural History Field Lab</td>
<td>Conveying the intellectual challenge of ecology: An historical perspective</td>
<td>Prezi with photo documentation and hypothesis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hands-On Problem 1.1</td>
<td>Defaunation in the Anthropocene</td>
<td>Discussion on Module 1 Journal Readings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hands-On Problem 3.1</td>
<td></td>
<td>Quiz on Chapters 1, 2, and 3*</td>
</tr>
<tr>
<td>2</td>
<td>Dealing with Environmental Variation</td>
<td>Niche Wars – Introduction to SimBio</td>
<td>How and Why Species Multiply – Darwin’s Finches Chapter 5</td>
<td>SimBio Results Discussion on Darwin and the Galapagos Quiz on Chapters 4 and 5*</td>
</tr>
<tr>
<td>3</td>
<td>Evolutionary Ecology</td>
<td>Independent Research Project (IRP)-Introduction</td>
<td>How and Why Species Multiply – Darwin’s Finches Chapter 6</td>
<td>SimBio Results Discussion on the Grant’s and Darwin’s Finches Quiz on Evolution (Readings and text Chapters 6 and 7)*</td>
</tr>
<tr>
<td>4</td>
<td>Individuals and Populations</td>
<td>Life Table Lab</td>
<td>Research Project – Draft Proposal Spreadsheet and Textural Summary of Results Discussion on Life Table Societal Implications</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Population Dynamics</td>
<td>Isle Royale – SimBio</td>
<td>SimBio Results Quiz on Populations and Dynamics (Chapters 9-11)*</td>
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<tr>
<td>6</td>
<td>Organismal Interactions I</td>
<td>IRP – Work</td>
<td>Biodiversity loss and its impact on humanity Discussion on Journal Readings Quiz (Chapters 13-15)*</td>
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</tr>
<tr>
<td>7</td>
<td>Interactions II</td>
<td>IRP – Work</td>
<td>Impacts of biological invasions: what’s what and the way forward Discussion on Journal Readings Quiz (Chapter 12)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Biological Communities</td>
<td>Statistical Primer Lab – Comparing Communities</td>
<td>Written Summary of Results and Interpretation</td>
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<tr>
<td>9</td>
<td>Biogeography and Intermediate</td>
<td>Are there General</td>
<td>SimBio Results</td>
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Section 8

University Policies

General
This course adheres to all University policies described in the academic catalog. Please pay close attention to the following policies:

Students with Disabilities
Johns Hopkins University is committed to providing reasonable and appropriate accommodations to students with disabilities. Students with documented disabilities should contact the coordinator listed on the Disability Accommodations page. Further information and a link to the Student Request for Accommodation form can also be found on the Disability Accommodations page.

Ethics & Plagiarism
JHU Ethics Statement: The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition. Report any violations you witness to the instructor.

Read and adhere to JHU’s Notice on Plagiarism.

Dropping the Course
You are responsible for understanding the university’s policies and procedures regarding withdrawing from courses found in the current catalog. You should be aware of the current deadlines according to the Academic Calendar.

Getting Help
You have a variety of methods to get help. Please consult the help listed in the "Blackboard Help" link in the online classroom for important information. If you encounter technical difficulty in completing or submitting any online assessment, please immediately contact the designated help desk listed on the AAP online support page. Also, contact your instructor at the email address listed atop this syllabus.

Copyright Policy
All course material are the property of JHU and are to be used for the student’s individual academic purpose only. Any dissemination, copying, reproducing, modification, displaying, or transmitting of any course material content for any other purpose is prohibited, will be considered misconduct under the JHU Copyright Compliance Policy, and may be cause for disciplinary action. In addition, encouraging academic dishonesty or cheating by distributing information about course materials or assignments which would give an unfair advantage to others may violate AAP’s Code of Conduct and the University’s Student Conduct Code. Specifically, recordings, course materials, and lecture notes may not be exchanged or distributed for commercial purposes, for compensation, or for any purpose other than use by students enrolled in the class. Other distributions of such materials by students may be deemed to violate the above University policies and be subject to disciplinary action.