

Florida International University, Department of Biological Science

Ecology (PCB 3043) (Online)

Semester:

Instructor. Alain Duran PhD

**ONLINE- Ecology (PCB 3043) – Semester: \_\_\_\_\_**  
**Course Instructor. Dr. Alain Duran**

Ecology is the scientific study of how organisms interact in and with the natural world; or in the words of German zoologist Ernst Haeckel, “ecology is the study of all the complex interrelationships referred to by Darwin as the conditions of the struggle for existence.” In this course, the book, readings, and lectures will guide us through a progressive hierarchy of concepts from individual organisms to populations, communities, ecosystems, and, ultimately, global ecology. We will emphasize connections between mathematical, physical, and chemical processes and biological ones. The overall goal of this course is for you to understand the central ideas and concepts of ecology and be able to integrate information to formulate solutions and solve ecological problems in modern life.

**Syllabus Document:** This syllabus serves as a legally binding contract between the professor and students. Every aspect of the course is outlined in this document. If there are any questions or problems (e.g., schedule conflict with a holiday or personal issue), these need to be brought to my attention THE FIRST WEEK OF CLASS. Otherwise, all dates, class formats, etc., are set within this document. Any changes to the syllabus will be immediately shared with students via electronic postings (i.e., emails, Canvas Announcement).

**Course Materials:** Ricklefs & Relyea 2014. The Economy of Nature, 8th edition, W.H Freeman and Company, New York. ISBN-13: 978-1-4292-4995-9. The e-book can be purchased at [Macmillan Learning Online Store for Students to purchase Ecology: The Economy of Nature](#)

**Online class:** The syllabus, lectures, reading and assignment, and other class updates will be delivered via CANVAS. Students are responsible for checking the site and keeping up with all posted materials and information. Please contact me if you have questions about using this site. Email: Please get an FIU student email address and check it daily. Any bulk emails I send to the class will be sent to this address only, and you will be responsible for all bulk emails I send. Importantly, each module will open at 6am on Monday and all activities are due on Sunday 11:59pm. Thus, you have the entire week to complete them.

**Communication:** Please, when you communicate via email, use your FIU email and 1) introduce yourself (name), 2) the class you are referring to (taking), and very important: remember you are a college student attending one of the best universities in the country, so communicate professionally.

**Course Learning Objectives:** At the course completion, successful students will:

- be conversant with the central ecological concepts and theories and be able to use these to explain observed patterns in nature
- understand and adequately use ecological terminology in context to describe natural
- systems

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- be cognizant of important ecologists and the field's history to comprehend modern-day ecological issues and be capable of applying ecological theory to construct solutions to contemporary ecological problems.

### ***Grade Components and Proportions:***

*Weekly Canvas Discussion – 10%*

*Quizzes – 15%*

*Applied assignments – 35%*

*Exams – 3 ‘partial’ exams (10% each) 30%*

*Final cumulative exam – 10%*

*Weekly Canvas Discussion – 10%:* This portion of your overall grade will incorporate ALL of the weekly discussions. At the end of each video lecture, there will be multiple questions, comments, and sources of information to post and comment on in our discussion section. The objective of discussions is to bring examples, questions, and applications of the material covered during the week. You must watch the lecture and participate at least twice (one post, one comment) to obtain full credit for that week. The comments and posts are free formats (e.g., videos, text, presentations). The main objective is to develop a fact-based, professional discussion about the topic. Be aware that quality is an important aspect of the discussion, and the foremost aim is that you apply the new knowledge. You can post examples that are related to the topic. You can ask a question or make comments to start the ball rolling. No credit will be given to simple and vague statements such as “I agree, good job, excellent, great post, etc.”. **There is no make-up for discussion since it is a “live” interchange among students on the week’s topic.**

*Quizzes - 15%:* This portion of your overall grade will consist of short (~15 questions) multiple-choice questions that will help you to prepare better for the exams. You’ll have two attempts (highest score)

*Applied assignments – 35%:* There are exercises, readings, simulations, and other assignment types designed to reinforce the topic in question by applying the concept in simulated or real sceneries. Students must complete the assignments in their entirety to obtain credit for them. For multiple choice questions, there will be two attempts and the highest score will be kept.

*Exams 30%* –The partial exams include only the portion of the material covered within each section. All exams will be ONE ATTEMPT (60 minutes, 30 – 35 multiple choice questions) only and will be administered using Respondus lockdown browser. **There will be NO make-up exam alternatives.**

*Final cumulative exam - 10%:* This exam is cumulative, encompassing all the material learned throughout the semester. The exam will be taken using Honorlock.

### FIU Policies

Honor Code: More generally, I expect every student to maintain the highest standards of academic integrity. You are expected to follow the FIU Student Code of Conduct:

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<http://www2.fiu.edu/~oabp/misconductweb/1acmisconductproc.htm>

Sexual Harassment Policy: FIU's sexual harassment policy is available at:

[http://bot.fiu.edu/files/Reg%20104.%20Sexual%20Harassment%209-12-08%20\(Final\).pdf](http://bot.fiu.edu/files/Reg%20104.%20Sexual%20Harassment%209-12-08%20(Final).pdf)

Other FIU Policies: <http://compliance.fiu.edu/ethics.htm>

**Important days**

January 17th, last day to add/drop

March 20th, last day to drop with a DR grade

**Schedule of Classes and Readings:**

Module	Date	Chapter - Topic	Application assignment
1	_____	Ch1: Introduction + Ch2: Adaptations to Aquatic environments + Ch3: Adaptations to Terrestrial environments	<ul style="list-style-type: none"> <li>• Quiz 1</li> <li>• Discussion 1</li> </ul>
2	_____	Ch4: Adaptations to variable environments	<ul style="list-style-type: none"> <li>• Quiz 2</li> <li>• Discussion 2</li> <li>• Application assignment 1</li> </ul>
3	_____	Ch5&6: Climates, soils, and Biomes	<ul style="list-style-type: none"> <li>• Quiz 3</li> <li>• Discussion 3</li> <li>• Application assignment 2</li> </ul>
<b>Exam 1</b>		<b>Exam 1 (Chapters 1:6)</b>	
4	_____	Ch7&8: Evolution and adaptations, Life histories	<ul style="list-style-type: none"> <li>• Quiz 4</li> <li>• Discussion 4</li> <li>• Application assignment 3</li> </ul>
5	_____	Ch9&10: Reproductive strategies, Social behavior	<ul style="list-style-type: none"> <li>• Quiz 5</li> <li>• Discussion 5</li> <li>• Application assignment 4</li> </ul>
<b>Exam 2</b>		<b>Exam 2 (Chapters 7:10)</b>	
<b>No class</b>		<b>Spring Break</b>	
6	_____	Ch11,12,13: Populations, distribution, growth and regulation	<ul style="list-style-type: none"> <li>• Quiz 6</li> <li>• Discussion 6</li> <li>• Application assignment 5</li> </ul>
7	_____	Ch14&15: Consumer-resource interactions	<ul style="list-style-type: none"> <li>• Quiz 7</li> <li>• Discussion 7</li> <li>• Application assignment 6</li> </ul>
8	_____	Ch16&17: Competition and mutualism	<ul style="list-style-type: none"> <li>• Quiz 8</li> <li>• Discussion 8</li> <li>• Application assignment 7</li> </ul>
<b>Exam 3</b>		<b>Exam 3 (chapters 11:17)</b>	
9	_____	Ch18-21: Communities and ecosystems	<ul style="list-style-type: none"> <li>• Quiz 9</li> <li>• Discussion 9</li> <li>• Application assignment 8</li> </ul>
10	_____	Ch22&23: Global ecology and conservation ecology	<ul style="list-style-type: none"> <li>• Quiz 10</li> <li>• Discussion 10</li> <li>• Application assignment 9</li> </ul>
11	_____	Final recap + Ecology as a Job	No quizzes or assignments

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<i>Final exam</i>	_____	<i>Final Exam (chapters 1:17)</i>	
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My priority is the success of my students. I will work extraordinarily hard to help you do well. Do not hesitate to take advantage of that. Please feel free to contact me at any time.

Syllabus subject to change; all changes will be reported to students ASAP.