How do we know that whales share a common ancestor with modern day hippos? Where do Grey Whales fit into the food chain? What affects their migration along the California coast? These are the kinds of questions that we'll tackle.

WELCOME TO BIO 94!

Why are ecology and evolutionary biology relevant to our lives? This course will emphasize broad concepts that you can apply to your future Bio Sci core courses. By the end of this course, you should be able to

• Look at an item in the news and critically evaluate its validity
• Propose an evolutionary hypothesis
• Explain biotic and abiotic factors that affect the environment
• Design an experiment to test a hypothesis

Freeman Biological Sciences (5th edition) & Mastering Biology (custom versions) are required. Your purchase options for the textbook are detailed on the next page. DO NOT purchase your text through Amazon or other discount retailer. You will not have access to the correct version of Mastering Biology.

Learning Catalytics: We will be using this feature of Mastering Biology during class. Bring a tablet, smart phone or laptop.

Dr. Nancy Aguilar-Roca

Email: nmaguila@uci.edu
Phone: (949) 824-3632
Office hour: Tues, 11a-12p
Place TBA
Calendar for one-on-one appts.

Lecture

Lec B: Mon, Wed, Fri, 2:00-2:50pm, BS3 1200
Lec D: Mon, Wed, Fri, 3:00-3:50pm, ALP 1300

Website

Lec B: https://canvas.eee.uci.edu/courses/13978
Lec D: https://canvas.eee.uci.edu/courses/13979

Discussion Board

You can post questions about the syllabus and course materials on the Canvas Discussion page

Administrative TA

Lauren Pandori, lmquinn@uci.edu
Please email Lauren with questions about Learning Catalytics, Mastering Biology and other administrative issues.
Textbook

Below are two options for the textbook and Modified Mastering Biology. After you purchase the text and/or access code, instructions for how to register are on the class webpage. **DO NOT purchase your text through Amazon or other discount retailer.** You will not have access to the correct version of Mastering Biology. You will be able to access the site on Jan. 4, 2019.

Choose ONE of the following options
(Course ID for your section will be posted on the course webpage)

**BIO SCI 94 & H94 – COURSE MATERIALS**
**CHOOSE ONLY ONE:**

**OPTION ONE:**
**PHYSICAL TEXTBOOK & MASTERING PACKAGE**
$106.05

*Includes access to*

Where: at campus bookstore
ISBN: 9781323167564

*Includes:*
- Custom bound textbook
- Modified Mastering Biology Code (6-month access with eText)

*Note:* you will need Modified Mastering Biology in order to complete your homework assignments.

*Best value if:*
You would like a printed textbook which can be a great reference during classes, & throughout your academic & professional career!

**OPTION TWO:**
**ELECTRONIC TEXTBOOK & MASTERING PACKAGE**
$63.60

Where: www.pearsonmylabandmastering.com

*Includes:*
- 6-month access to Modified Mastering Biology with eText

*Note:* you will need Modified Mastering Biology in order to complete your homework assignments.

*Best value if:*
You don’t need a printed copy of your textbook, and you can purchase your course materials directly online with a credit card.

**DO NOT** purchase your text through Amazon or a discount textbook vendor. You will not have the correct access code for the custom UCI Mastering Biology site.

You will be able to access MasteringBiology material for this course starting Jan. 4, 2019.

This version of the Freeman textbook is a substantial revision from previous editions, so only the 5th edition will be usable this class.
Much of what we'll cover in this course is visible all around you. I will organize a couple of optional field trips so you can experience the diversity of plants and animals near campus. There will be sign-up sheets after week 1.

**Freshwater Marsh**

**San Joaquin Freshwater Marsh**
Located within walking distance of campus (at the Arboretum), the director of the marsh, Dr. Peter Bowler, has generously agreed to offer tours of the marsh throughout the quarter (weather permitting).

**Marine Habitats**

**Corona del Mar & Laguna Beach**
We have some beautiful tidepools within a 20 minute drive of campus. Dates and times will depend on the tides (and my personal schedule).

**California grunion runs**
If you've never been to a grunion run, there's a possibility that you'll get to see one during the last 2 weeks of the quarter. Mother Nature will dictate if it happens or not.

**Coastal Chaparral**

**Crystal Cove State Park**
To see chaparral you only have to walk to the edge of campus, but for a better look, a 10 minute drive takes you to a trailhead with spectacular views and free access to Crystal Cove State Park. Dates and times for a nature walk will depend on my schedule (and the weather).
Online Pre-class Quizzes The goal of the quizzes is to expose you to lesson material before class so we can focus more on problems and applications. Quizzes will open 24hrs before class and close at 11am on the day of class. Each quiz will be worth 2 points and each correct answer will be worth between 0.1 and 0.5 point each. The lowest 5 quiz scores will be dropped.

Learning Catalytics There will be one point per Lesson for participating in Learning Catalytics. The lowest 5 scores will be dropped beginning on Wed Jan 9 (Lesson 2). Learning Catalytics questions are used to help determine if there are any misconceptions, if anything is confusing and have a little bit of fun.

Discussion Activities for the 2 points associated with each Discussion will be assigned at the discretion of your individual instructor. The activities may include oral presentations, short quizzes, worksheets and data analysis. Your two lowest scores will be dropped.

Make-up sections: If you miss your section, you may NOT just attend another one for points, but you may ask permission to attend another one for the learning experience. Remember that you are allowed to drop your 2 lowest scores. Exceptions will be made for documented reasons such as ER visits, accidents with a police report, lunch with the Chancellor etc.

Midterms: There will be 3 in-class midterms that will cover only the material from the preceding 2 or 3 weeks. The questions will be in the style of the questions for the final exam. Make-up midterms will NOT be given. If you miss a midterm for a documented reason (e.g. ER visit, accident with police report), the average of your other midterms will replace the missing score. If you're still paying attention to the syllabus, send Dr. Aguilar-Roca an email with a picture of your favorite dinosaur. She’ll be impressed!

Final Exam The comprehensive final exam will be primarily multiple choice questions with a few short answer questions.

It is expected that you will make every effort to take your final exam at the scheduled time. However, requests for make-up final exams will be considered under the following guidelines:

• A student may be granted a make-up if there is a verifiable emergency that prevents the student from taking the final examination at the scheduled time. Such emergencies include, but are not limited to, serious illness, death of immediate family member, or serious accident.

• A student may be granted a make-up if they have a disability registered with the Disability Services Center.

• In all cases, the petition for make-up final exam must be presented with verifiable evidence.

• Vacation plans do not constitute a legitimate excuse.

Graded Activities

Meet the real life Peter the Anteater!

Peter the Giant Anteater (Myrmecophaga tridactyla) arrived at the Santa Ana Zoo in 2009 and became a father in 2011. A single anteater may eat up to 30,000 insects per day. Giant Anteaters are considered vulnerable because of habitat loss.
### Letter Grades
Scores will be rounded to the nearest tenth of a point and assigned letter grades as follows:

- >96.0% = A+; 93.0% = A; 90.0% = A-
- >86.0% = B+; 83.0% = B; >80.0% = B-
- >76.0% = C+; 73.0% = C; >70.0% = C-
- >66.0% = D+; >63.0% = D; >60.0% = D-
- < 60.0% = F

If you earn 89.94%, that will be rounded to 89.9% and it will be a B+. If you earn 89.95%, that will be rounded to 90% and it will be an A-. If the overall class average at the end of the quarter is below 75.0% I will consider a curve.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Notes</th>
<th>Points Possible*</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm #1</td>
<td>Material from Lessons 1 - 6</td>
<td>30</td>
<td>11.7</td>
</tr>
<tr>
<td>Midterm #2</td>
<td>Material from Lessons 7 - 13</td>
<td>30</td>
<td>11.7</td>
</tr>
<tr>
<td>Midterm #3</td>
<td>Material from Lessons 14 - 19</td>
<td>30</td>
<td>11.7</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Cumulative, with emphasis on Lessons 20 - 25</td>
<td>90</td>
<td>35</td>
</tr>
<tr>
<td>Learning Catalytics</td>
<td>24 lectures (beginning Wed Jan 9) +0.5 point for &lt;50% participation +1 point for ≥50% participation Drop 5 lowest scores</td>
<td>19</td>
<td>7.4</td>
</tr>
<tr>
<td>Discussion</td>
<td>10 Discussions, 2 points each Drop 2 lowest Discussion scores</td>
<td>16</td>
<td>6.2</td>
</tr>
<tr>
<td>Online Quizzes</td>
<td>25 Quizzes, 2 points each Drop 5 lowest online quiz scores</td>
<td>40</td>
<td>15.6</td>
</tr>
<tr>
<td>Instructor Evaluations</td>
<td>One for lecture; one for discussion</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>257</strong></td>
<td></td>
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</tbody>
</table>

* The final points available may change during the quarter due to unforeseen circumstances.

Students at Arizona State University resorted to doing this to improve their grades!

**Contacting Dr. Aguilar-Roca**

I will be available during posted office hours and by appointment. I will do my best to respond to your emails within 24 hours. (For general administrative and content questions, you’ll likely get a faster answer from the Discussion board on Canvas).

I enjoy hearing from students and I will be even happier to hear from you if you observe the following guidelines:

- Use a relevant subject line.
- Start emails with "Dear Dr. Aguilar-Roca,"
- Assume that I’m too old to understand IM and text-messaging abbreviations.
- Proofread. Auto-corrected biological terms are hysterically funny, but they hinder efficient communication.
- Sign with the name you prefer to be called.

I try to set aside time every week for one-on-one appointments with students (for everything from help with writing to biology concepts to life in general). Just put yourself on my calendar.
My Commitment to the Whole Student

<table>
<thead>
<tr>
<th>Inclusive Classroom:</th>
<th>Equal Access for All Students:</th>
<th>student groups. Your suggestions are encouraged and appreciated.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I will uphold UCI’s commitment to ensuring equality and valuing diversity. UCI recognizes that our individual differences can deepen our understanding of one another and the world around us, rather than divide us. In this class, people of all ethnicities, genders and gender identities, religions, ages, sexual orientations, disabilities, socioeconomic backgrounds, regions, and nationalities are strongly encouraged to share their rich array of perspectives and experiences. If you have a name and/or set of pronouns that differ from those that appear on the roster, please let me know!</td>
<td>Janet Napolitano, the UC president, publicly supports all students regardless of immigration status. She has also made a commitment to support and protect students and their families. If you feel that you need any kind of assistance as you are affected by either your immigration status or a loved one (family member, parents, friends, partner) feel free to contact the UCI DREAM Center.</td>
<td></td>
</tr>
</tbody>
</table>

See also Diversity and Awareness at UCI and UCI LGBT Resource Center

| In an ideal world, science would be objective. However, much of science is subjective and is historically built on a small subset of privileged voices. I acknowledge that it is possible that there may be both overt and covert biases in the material due to the lens with which it was written, even though the material is primarily of a scientific nature. Integrating a diverse set of experiences is important for a more comprehensive understanding of science. | Basic Needs Security: Any student who faces challenges securing sufficient food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. Other resources available at UCI:  
- Student Outreach and Retention Center (SOAR)  
- SOAR Basic Needs Hub & Food Pantry  
Furthermore, please notify the professor if you are comfortable doing so, so that she can assist with securing resources. |

Please let me know ways to improve the effectiveness of the course for you personally, or for other students or

A safe space. UCI CARE provides free and confidential support services to members of the UCI community impacted by sexual assault, relationship abuse, family violence and/or stalking.

Feeling stressed out?

Over the course of the quarter, you may experience a range of challenges that interfere with your learning and daily activities, such as problems with friend, family, and/or significant other; substance use; concerns about personal adequacy; feeling overwhelmed; or feeling sad or anxious without knowing why. There is nothing wrong with consulting a professional counselor. Some other strategies to consider:

One of the best things you can do is find a study partner. Two heads are better than one!

Go for a walk outside! This is what exercise does to your brain

Give mindful meditation a try. Free intro videos from UCI and UCLA

Grab a friend and go play at the ARC

Did you know that you can also get a relaxing massage at the ARC?
## Lecture schedule

Specific pages will be posted on the class webpage

<table>
<thead>
<tr>
<th>Date</th>
<th>Lesson #</th>
<th>Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Mon Jan 7</td>
<td>1 Chapter 1: Introduction</td>
</tr>
<tr>
<td></td>
<td>Wed Jan 9</td>
<td>2 Chapter 25: Evolution by Natural Selection</td>
</tr>
<tr>
<td></td>
<td>Fri Jan 11</td>
<td>3 Chapter 26: Evolutionary Processes</td>
</tr>
<tr>
<td>Week 2</td>
<td>Mon Jan 14</td>
<td>4 Chapter 26: Evolutionary Processes</td>
</tr>
<tr>
<td></td>
<td>Wed Jan 16</td>
<td>5 Chapter 27: Speciation</td>
</tr>
<tr>
<td></td>
<td>Fri Jan 18</td>
<td>6 Chapter 28: Phylogenies and the History of Life</td>
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<tr>
<td>Week 3</td>
<td>Mon Jan 21</td>
<td>Holiday</td>
</tr>
<tr>
<td></td>
<td>Wed Jan 23</td>
<td>Midterm #1 (Lessons 1 - 6)</td>
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<tr>
<td></td>
<td>Fri Jan 25</td>
<td>7 Chapter 28: Phylogenies and the History of Life</td>
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<tr>
<td>Week 4</td>
<td>Mon Jan 28</td>
<td>8 Chapter 29: Bacteria and Archaea</td>
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<tr>
<td></td>
<td>Wed Jan 30</td>
<td>9 Chapter 29: Bacteria and Archaea</td>
</tr>
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<td></td>
<td>Fri Feb 1</td>
<td>10 Chapter 30: Protists</td>
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<tr>
<td>Week 5</td>
<td>Mon Feb 4</td>
<td>11 Chapter 31: Green Algae and Land Plants</td>
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<td>Wed Feb 6</td>
<td>12 Chapter 31: Green Algae and Land Plants</td>
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<td></td>
<td>Fri Feb 8</td>
<td>13 Chapter 32: Fungi</td>
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<tr>
<td>Week 6</td>
<td>Mon Feb 11</td>
<td>Midterm #2 (Lessons 7 - 13)</td>
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<tr>
<td></td>
<td>Wed Feb 13</td>
<td>14 Chapter 33: An Introduction to Animals</td>
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<tr>
<td></td>
<td>Fri Feb 15</td>
<td>15 Chapter 34: Protostome Animals</td>
</tr>
<tr>
<td>Week 7</td>
<td>Mon Feb 18</td>
<td>Holiday</td>
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<tr>
<td></td>
<td>Wed Feb 20</td>
<td>16 Chapter 34: Protostome Animals</td>
</tr>
<tr>
<td></td>
<td>Fri Feb 22</td>
<td>17 Chapter 34: Protostome Animals</td>
</tr>
<tr>
<td>Date</td>
<td>Lesson #</td>
<td>Chapter</td>
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<tr>
<td>Week 8</td>
<td>Mon Feb 25</td>
<td>18</td>
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<td></td>
<td>Wed Feb 27</td>
<td>19</td>
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<td>Fri Mar 1</td>
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<tr>
<td>Week 9</td>
<td>Mon Mar 4</td>
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<td>Wed Mar 6</td>
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<td>Fri Mar 8</td>
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<td>Week 10</td>
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<td></td>
<td>Wed Mar 13</td>
<td>24</td>
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<td></td>
<td>Fri Mar 15</td>
<td>25</td>
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<tr>
<td>Final</td>
<td>Lec B: Fri Mar 22, 1:30-2:30 pm</td>
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<tr>
<td></td>
<td>Lec D: Mon Mar 18, 4:00-6:00pm</td>
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