Principles of Marine Biology (BSC 3312)
Spring 2020
CB1, Room 309
Tuesday & Thursday 9:00-10:20 AM

Instructor: Dr. Christa Diercksen
Office: Biology 201A
Email: christa.diercksen@ucf.edu
Office Hours (BIO 201A): Tuesday: 1:00-3:00 PM or by appointment (please email)

Course Description:

- *Credit hours*: 3
- *Course Prerequisites*: Biology 1 (BSC 2010) and Biology 2 (BSC 2011)
- *Purpose of the course*: BSC 3312 is an introductory exploration of the marine environment that will provide students with an initial understanding of the different marine ecosystems and the organisms that occupy those ecosystems. This course can provide the foundation for more advanced classes in topics of marine science as well as giving students the knowledge and skills to understand the connections between the marine environment and human society which they may need to make well-informed decisions as citizens in a global community.

Course Objectives:

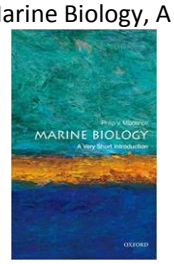
- Learn about basic oceanography and the physical marine environment as it relates to the organisms that live in the ocean.
- Learn about the different types of marine ecosystems and their specific characteristics that shape those environments and the organisms that live there.
- Explore marine organisms with focus on their unique adaptations that allow them to live in their different habits.
- Investigate and question the impact of humans on the world's oceans.

General Course Topics:

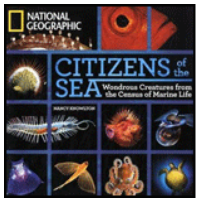
- Basic salt water chemistry and oceanography
- Basic concepts in marine ecology
- Community structure of the different ocean ecosystems (deep sea, coral reefs, intertidal, etc.)
- Exploration of the organisms that live in marine environments with focus on their special marine adaptations
- Human impact on oceans

Required book/materials:

- "Marine Biology, A Very Short Introduction" by Philip V. Mladenov, ISBN 9780199695058



- "Citizens of the Sea" by Nancy Knowlton, ISBN 9780199695058



- Other readings or background information and/or links will be provided on Webcourses.

Academic Activity Assignment: Bio 1 & 2 Foundation "Quiz"

- Due date for quiz: **Friday, January 10, 2020 at 5:00 PM**
- This assignment is for *completion only* (i.e. No point value assigned) BUT if you do not score well on the quiz, you are strongly encouraged to view the "*Primer of Biological Principles and Ecology*" and "*Properties of Water*" Powerpoints containing a basic review of background concepts and important vocabulary necessary for BSC 3312. Additionally, there is a link to a free Khan Academy crash course for Bio 1/2 and Ecology in our Webcourses that students can use to review this basic content if needed.

Course Grade Breakdown: Total of 450 points

• Lecture Exams (2)	200 pts. (100 pts. each)
• Lecture Quizzes (11, lowest dropped)	100 pts. (10 pts. each)
• Final Exam (1)	50 pts.
• Case Studies (3)	60 pts. (20 pts. each)
• Speed Date Organism (1)	20 pts.
• Reflections (3)	15 pts. (5 pts. each)
• What I Learned Today About the Ocean (1)	5 pts.

The final course grade will be awarded using the following scale by calculating the percentage of your total earned points during the semester out of 450 possible points. **Grade Scale:** A=90-100%; B+=87-89%; B=80-86%; C+=77-79%; C=70-76%; D+= 67-69%; D=60-66%; F<60% (*Note: No minus grades, e.g. "A-" or NC grades.)*

- Final grade percentages will be NOT be rounded up, e.g. An 89.6% would be a "B^{+}" and not rounded to an "A" grade. There are NO exceptions to this grading scheme.
- Grading categories are NOT weighted and points earned from different categories are all worth the same.
- **Withdrawal Date**: **Wednesday, March 20, 2020 at 11:59 PM**.
- **Make-up work:** Make-ups for missed exams, presentations or other due dates must be approved at the discretion of Dr. Diercksen and *will require documentation*. *Note: Missed online quizzes can NOT be made up.*

Grade Details:

Lecture Exams (200 pts. total):

- There will be two (2) lecture exams (each worth 100 pts.) with short answer, free response, critical thinking style questions as well as some multiple choice, matching or True/False questions.
- Scantrons will be provided.
- Exam 1 will cover the first half of the semester concerning the marine environment and marine ecosystems and Exam 2 will cover the second half of the semester about marine organisms and their adaptations to the marine environment.

Multiple Choice Quizzes (100 pts. total):

- Eleven (11) multiple choice 10 question quizzes (10 pts. each) will be given every week (see course schedule) except for weeks when an exam is given.
- Quizzes will be taken within Webcourses.
- Each quiz will cover approximately the material covered that week in lecture and in the readings.
- The quizzes are open-book but must be completed **within 15 minutes** (students with documented accommodations for extended time must arrange extra time with Dr. Diercksen).
- You will have only **ONE (1)** attempt to take the quiz.
- Your **lowest (1) quiz grade will be dropped** from your final course grade.
- Quizzes will be available for one week, opening at **8:00 AM on Mondays** and closing at **11:59 PM on Fridays** and will be **due at 11:59 PM on Fridays.**
- NO late quizzes will be accepted.
- **Important: There are NO makeups or excused absences for missed quizzes** (unless a student can provide documentation affecting them longer than 1 week, e.g. extended hospitalization, sequestered jury duty, etc. that prevented computer access).
- If you miss taking a quiz, you will receive a zero (0) for that quiz's grade.
- Do NOT wait until the last minute to take the quiz. Technical or internet difficulties will NOT be accepted as an excuse for missing quizzes.
- Students are responsible for knowing the quiz due dates which can be found in the Course Schedule, in Webcourses and in the Course Calendar.

Final Exam (50 pts.): Thursday, April 23 from 7:00-9:50 AM

- This is not a classic cumulative exam but will still address major concepts from the whole semester. More information will be given as the Final Exam period approaches.
- The Final Exam will be given during the Final Exam period per the UCF official Final Exam schedule.
- **Important: Failure to take the Final Exam will result in a failing grade (F) for the course.**

Case Studies (60 pts. total):

- There will be three (3) case studies on course content each worth 20 pts.
- Students will work in randomly assigned groups of students on the case studies in class. Pre-class reading or videos will be assigned when appropriate.
- Students will earn individual grades based on their answers to the case studies.
- Material for the case studies will either be on Webcourses or provided in class.
- Students who are absent on case study days for documented and excused absences will still be responsible for completing their own case study analysis.
- Submissions will be on Webcourses. Please refer to each case study and rubics for details on submissions and due dates.
    - Late submissions will be accepted but will lose 20% of the point value for each day late.

"Speed Date" Organism (20 pts.):

- **Due: April 7th** in lecture
    - NO late submissions will be accepted without documented and approved excuses.
    - Students are required to attend the presentation day unless excused by Dr. Diercksen.
- Students will be randomly assigned a marine organism for a VERY BRIEF individual presentation.
- Detailed rubric is in Webcourses

Reflections (15 pts. total):

- Three (3) personal reflections **each worth 5 pts**. (total of 15 pts.) will be submitted on Webcourses (Please refer to course schedule below for due dates).
    - Late submissions will be accepted but will lose 20% of the point value for each day late.
- Information about what to include in Reflections can be found within the Assignment information.
- Due to the personal nature of Reflections, assessment will be based not on a "right" or "wrong" response but depth of thought in your Reflection will be assessed.

What I Learned Today About the Ocean (5 pts.):

- **Due date: Open but no later than April 16 (last day of class)**
- Each student will be asked to share with the class one thing they learned about the ocean (outside of our class!).

Academic Integrity:

- Cheating on lecture exams and quizzes will not be tolerated.
- Plagiarism will also be monitored on all items turned in for any assignments.
- Penalties for cheating and plagiarism can include but are not limited to:
    - A failing grade on an assignment or in the course
    - Suspension or expulsion from the university
    - A "Z Designation" on a student's official transcript indicating academic dishonesty
        - For more information about the Z Designation, see http://z.ucf.edu/
- Students who are caught cheating will be immediately referred to the UCF Disciplinary Action Committee.

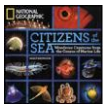
Classroom Conduct: By enrolling at UCF, all students have agreed to abide by the Golden Rule. Please become familiar with this document at: **http://www.goldenrule.sdes.ucf.edu**

- Students who fail to show respect for the instructor or fellow students by talking, texting, using their laptops for non-class related material, etc. will be asked to leave.

Disability Access Statement:

- Students who need accommodations must be registered with Student Accessibility Services (SAS), Student Resource Center Room 132, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.
- Students are expected to schedule their own exams with SAS to be completed on the same day exams are given in the classroom but please let Dr. Diercksen know if you are taking your exams at SAS or wish to discuss other accommodations. For the online quizzes, please discuss with Dr. Diercksen if accommodations such as extended time are requested.

COURSE SCHEDULE

Key: **Textbook reading:**  **Mladenov**  **Knowlton** **Assignment Due**

Exam or Quiz **WC** **Submitted in Webcourses** **Case Study**

Note: All due date times are 11:59 pm unless otherwise noted.

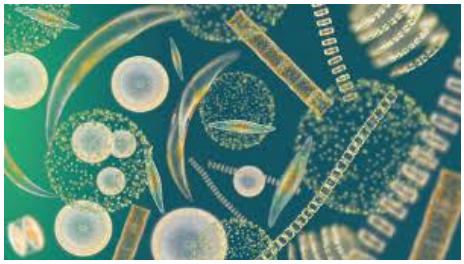
WEEK 1: JANUARY 7 & 9 — BASIC OCEANOGRAPHY

 Chapter 1: *Marine Environment;* Chapter 7: *Intertidal Life* (pgs 119-120)

Academic Activity" Bio 1 & 2 "quiz" (WC): Due **January 10** at **5:00 PM**

Reflection #1 (WC): Due **January 10**

WEEK 2: JANUARY 14 & 16 — MARINE PRIMARY PRODUCTION



 Chapter 2: *Marine Biological Processes*

Quiz #1 (WC): Due **January 17**

WEEK 3: JANUARY 21 & 23 — COASTAL COMMUNITIES

Chapter 3: *Life in the Coastal Ocean* (pgs 38-50); Chapter 7: *Intertidal Life* (pgs 120- 127)

Quiz #2 (WC): Due **January 24**

WEEK 4: JANUARY 28 & 30 — POLAR COMMUNITIES

Chapter 4: *Polar Marine Biology* (pages 60-73)

Missing Sea Otters Case Study in lecture (materials in WC): **January 28**

Quiz #3 (WC): Due **January 31**

WEEK 5: FEBRUARY 4 & 6 — CORAL REEFS & MANGROVES

Chapter 5: *Marine Life in the Tropics* (pgs 77-87 & pgs 96-98)

Missing Sea Otters Case Study Submission (WC): **Due February 7**

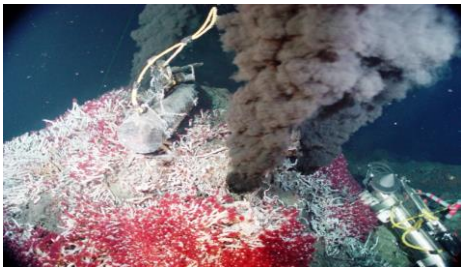
Quiz #4 (WC): Due **February 7**

WEEK 6: FEBRUARY 11 & 13 OPEN OCEAN

No reading assignment but lecture on *Open Ocean*

Quiz #5 (WC): Due **February 14**

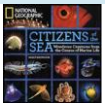
WEEK 7: FEBRUARY 18 & 20 DEEP OCEAN ENVIRONMENT




Chapter 6: *Deep Ocean Biology*

Quiz #6 (WC): Due **February 21**

WEEK 8: FEBRUARY 25 & 27 CENSUS OF MARINE LIFE



Chapter 1: *Names & Numbers*

COTS Case Study in lecture (materials in WC): **February 25**

Quiz #7 (WC): Due **February 28**

WEEK 9: MARCH 3 & 5 CAMOUFLAGE, SENSES & MOVEMENT

Chapter 2 (*Appearances Are Everything*), Chapter 3 (*Sense & Sensibilities*) & Chapter 4 (*Ocean Locomotion)*

EXAM 1 (in lecture) on **March 3**

COTS Study Submission (WC): Due **March 6**

Reflection #2 (WC): Due **March 6**

WEEK 10: MARCH 9-13 SPRING BREAK!!!!

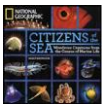
NO CLASS

WEEK 11: MARCH 17 & 19 SETTLEMENT, LIVING CONDITIONS & PREDATION

Chapter 5 (*Settling Down & Growing Up*), Chapter 6 (*There's No Place Like Home*) & Chapter 7 (*Sea Food)*

Quiz #8 (WC): Due **March 20**

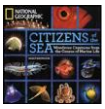
WEEK 12: MARCH 24 & 26 — SYMBIOSIS, GROUPS & REPRODUCTION



Chapter 8 (*Best Friends*), Chapter 9 (*The More, the Merrier*) & Chapter 10 (*Sex & the Sea*)

Quiz #9 (WC): Due **March 27**

WEEK 13: MARCH 31 & APRIL 2 — OCEAN DANGERS & BENEFITS

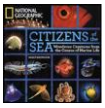


Chapter 12 (*Dangerous Encounters*) & Chapter 13 (*For What It's Worth*)

Quiz #10 (WC): Due **April 3**

WEEK 14: APRIL 7 & 9 — HUMAN IMPACT ON OCEANS

Chapter 3: Pages 52-59; Chapter 4: Pages 73-76; Chapter 5: Pages 87-96 & 98-99; Chapter 7: Pages 127-131



Chapter 14 (*Bad News, Good News*)

"Speed Date" Organism presentation (in lecture): Due **April 7**

Quiz #11 (WC): Due **April 10**

WEEK 15: APRIL 14 & 16 DEAD ZONES

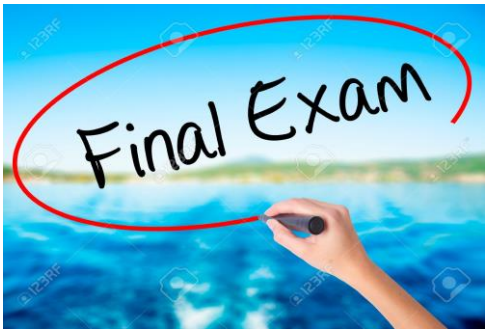
 Chapter 3: Pages 50-52

Dead Zone Case Study (in lecture): **April 14**

EXAM 2 (in lecture): On **April 16**

Reflection #3 (WC)**:** Due **April 17**

FINAL EXAM PERIOD THURSDAY, APRIL 23: 7:00-9:50 AM



FINAL EXAM:
Thursday, April 23: 7:00-9:50 AM

Dead Zone Case Study Submission (WC): Due **April 23**