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Class materials are posted on Canvas (under “Files”) and you should be equipped with these material when you come to class.

Learning Goals: In this class students will:

- Explain ways in which marine birds and mammals make a living and how they interact and are shaped by their environment.
- Explain how scientists study these animals.
- Develop skills for observing and collecting information about marine birds and mammals in the field.
- Develop skills in asking testable research questions focused on marine birds and mammals.
- Use the primary literature to expand on the information you are learning in class and in the field.
- Develop an in-depth oral and written presentation.
- Synthesize data collected in a class project.

Books: National Geographic Field Guide to Birds - this should accompany you on all of our field trips. Resource material in the B and M lab and library.

Supplies: You will need a Rite in the Rain field note book, and for laboratory sessions, a scalpel, tweezers, scissors, and a blunt probe. All of these can be purchased in the office. **Binoculars are essential.**

Week 1

Tues June 26 Introduction
Field trip a.m. Bird identification skills Spotting scope use - lower Coos Bay
Field trip p.m. Cormorant colonies.
Introduction to species projects

Thur June 28 No class

Week 2

Mon. July 2
Marine bird diversity
Bird identification – study skins
Oceanography
Field Trip: Coquille Point Rocks and Bandon Marsh NWR, Bandon **(Sack lunches)**

Tues July 3 Field trip: Cape Arago and local area
Avian Life History Patterns
Library work for species summaries

Thur July 5 ☺ **Quiz I: Avian and marine mammal taxonomy (15 pts)**
Avian Anatomy
Avian dissection

Week 3

Tues July 10 ☺ **Independent Field Observation 1 due (IFO 1)**
Depart 7 a.m. All day trip to Newport - Oregon coast aquarium and bird colonies. **(Sack lunches)**
☺ **Aquarium Field Notes:** swimming in pinnipeds and birds
☺ **Hypothesis 1:** captive animals (spotting scope group graded)

Thur July 12 Near-shore boat trip (0800 – 1130)

Seabird, Pinniped Life History patterns
Oceanography update
Species summaries work time

Week 4

Tues July 17 North Cove pinniped field trip
Marine mammal locomotion

Thur July 19 Ocean Boat trip (0600 - 1100)
Summary of boat trip
Avian locomotion /flight characteristics
☺ **Hypothesis 2:** from boat observations (spotting scope group graded)

☼ **Species summaries: (SOSH) (BFAL)**

Week 5

Tues July 24 ☺ **Quiz II: Avian/MM Life History Patterns (20 pts)**
Field trip: PECO check in/upper bay (Alternate ocean boat trip)
Avian and marine mammal feeding

☼ **Species summaries: (Harbor seal)**

Thur July 26 Bay boat trip (0730 - 1130)
Marine bird and mammal senses – olfaction and vision

☼ **Species summaries: (BLOY)**

Week 6

Tues July 31 **Avian feeding**
Point Adams Gull Experiment
Diving biology
Marine mammal senses - sound production and reception
☺ **Hypothesis 3:** from feeding observations

☺ **IFO 2 due**

☼ **Species summaries: (Humpback), (Dall's) (CASL), (COMU)**

Thur August 2 ☺ **Quiz III: Feeding and locomotion (20 pts)**
Field Trip: Coquille point, Cape Arago

Week 7

Tues Aug 7 Port Orford, Bandon Marsh NWR **(Sack lunches)** *Alternate Pluteus trip*
Cetacean Life History Patterns

☼ **Species summaries: (Sea Otter), (PECO), (Northern E. Seal), (Orca), (Harbor Porpoise)**

Thur Aug 9 ☺ **Quiz IV: Diving, marine bird and mammal sensory biology, cetacean social systems**

Marine mammal dissection –

Week 8

Tues Aug 14 PECO check in/Bay Boat trip (0800 – 1100)
Marine birds and mammals as ocean indicators - Discussion of 2018 season
☀ **Species summaries: (Brown Pelican); (Steller Sea Lion)**
☺ **End of day – hand in your species summaries**

Thur Aug 16 ☺ **Quiz V: The Big Picture, general biology of the organisms (including material from species summaries and dissection)**

☺ **Discussion of Pelagic Cormorant data and write up of data. Hand in by 14:00.**

ASSIGNMENTS

Species Summaries

The species summary assignment is designed to give you the opportunity to look at a single species in some depth and read the primary literature associated with that species. You will use the information to develop a presentation and a final piece of work that you will share with the class. Further details and an example will be given in class.

Field Note Books

We expect you to take field notes on each of our field trips. They are a tool to help you sharpen your observation skills, and to assist you in learning about the biology of the animals. You should record observations that will assist you with learning the natural history of the animals you are observing, and observations that help you understand the material we are covering in class. You will take field notes at the Oregon Coast Aquarium and we would like you to record two sets of observations during your own time. These can be taken in your class field notebook or on separate paper. They should be taken in the field and not rewritten. You will hand these in to be graded. Expectations and a rubric for grading of field notes are provided on Canvas.

PECO Class Project: For details see: <http://oimbpeco.weebly.com/index.html>

We will conduct a class project where we will record the chronology of breeding of the OIMB Pelagic Cormorant colony and synthesize these data with those collected previously to determine the success of the 2018 nesting season.

Hypotheses

Developing questions that are interesting and can be answered experimentally is an important skill for scientists. This assignment will help you develop this skill. Further details will be given in class.

GRADING

You will be graded on both your individual and group work. There are a total of 195 possible points. Grades are based on:

Species summary presentation in class 15 points
Species summary final project 15 points
PECO Class project data collection – group graded – 10 points
PECO Class project analysis –group graded - 15 points
Four quizzes 20 points each
Three hypotheses - individually and group graded – 5 points each
Aquarium field notes 10 points
Two independent field notes - 10 points each
Taxonomy quiz 15 points