ENVIRONMENTAL BIOLOGY AND CONSERVATION
Bio 7 / ENV 7 – Spring, 2020

Instructors: Dr. Michael Reed, michael.reed@tufts.edu
Dr. Colin Orians, colin.orians@tufts.edu

Teaching Assistant: Genevieve Pugesek, genevievepugesek@gmail.com

Class Hours: Tues, Wed, Fri 9:30-10:20 a.m.; in Anderson 112

Office Hours: come to these any (every) week to ask questions about the material
Reed: Wednesday 10:30-12:00 a.m., or by appointment, Robinson 360 (you need
to go through rm 359 to get to my office)
Orians: Tuesday 10:30-12:00 a.m., or by appointment, Robinson 364
Pugesek: Tuesday and Thursday from 10:30-11:30, Robinson 350

Reading: There is no textbook; assigned readings and videos will be posted on Canvas.

Course Requirements:
1) Completion of three exams.
   a. Note: there is no exam during finals week but there is a Digital Story Film Festival
during the schedule exam time. People who do not attend, are penalized on their
Digital Project – see below

2) Written, in-class participation in 10 Breakout discussions.

3) Completion of group Digital Project (video)

Grading:
- Each exam = 20% of grade (60% of total); breakouts = 15%; Group digital project = 25%
  * note that the point scores on Canvas will not add up to these %s – we adjust at the end *
- Exams will be multiple choice plus short answer; bring a pencil
  o Exams are based on lectures, class discussions, and reading/video assignments
  o Exams will not be cumulative, except when material is repeated in the new exam
    period.
  o We grade on straight percentages, unless we find a reason to curve.
  o Cutoffs for grades follow this pattern: B-/B/B+ = 80-83% /83-88%/88-<90%, but
    these cutoffs can be adjusted (up or down) depending on class average and dispersion.
  o Exam keys will be posted on Canvas.
  o If you have questions about a grade on particular questions from an exam, you have 7
days (weekend & vacation days included) from the day we first return exams to the
class to return your exam plus a written explanation of why you believe your answer
might deserve more points, comparing it to the answer on the posted key.
  o Make up exam policy: No make-up exam without Doctor’s excuse or equivalent;
    make up exams might be a different format than in-class exams.
• Breakouts are all in-class participation
  o There is no way to make-up missed breakouts
  o We count only 10 of 12 breakouts towards your grade (yes, your best 10)
• Digital Project grading is described here: http://sites.tufts.edu/environmentalbiology/
  • attending the entire showing of the Digital Story Film Festival during the time scheduled for the class final. Those failing to attend Attendees will have 5% subtracted from their Group Digital Story grade.
• Extra credit – none. It is against Tufts’ rules to provide graded opportunities that are not in the syllabus.

Canvas: Lots of good stuff there! We will put outlines for each lecture, old exams, and announcements on the University’s Canvas site. Outlines will include definitions and diagrams. These are ONLY outlines – studying them will NOT be sufficient to pass the exams! AFTER each lecture, we also will post a pdf of the slides on Canvas. *If you are on the wait list for the class, email Dr. Reed so he can add you to the Canvas site.* Wait-listed students will be added through the University’s wait-list process.

Breakout Discussions

Regularly during the semester we will pose a problem to the class. Students will then form groups of 3-4 people to discuss the problem (during class) for ~10-15 min and summarize the answer(s) on a sheet of paper (a few sentences, bulleted points where appropriate). Each member of the group will write his/her own name on the page and hand in the page before we discuss the problem as a class.

IMPORTANT: (1) groups of <3 or >4 will receive no credit; (2) you must be present in class for the breakout to receive a grade; putting someone else’s name on the paper is grounds for failing the course. (3) If multiple names are written by the same person, those names will receive a score of 0 for the breakout. For what we consider a reasonable effort by the group to address the problem, 5 points will be awarded; for less effort or incomplete answers 4 points; lower scores for poorer efforts. There are 12 Breakouts during the semester, and you will get credit for your best 10.

Digital Project Description and Due dates: see Modules in Canvas

Deadlines: meeting posted deadlines is your responsibility. Late projects will be docked 5% of the total points per day for every deadline date missed!
## Date: Topics: Breakout

### Unit 1 – Biodiversity and Conservation

**Jan.** 15 Course Intro  
17 Biodiversity & Ecosystems I  
21 Biodiversity & Ecosystems II  
24 What is science  
28 Lies with statistics/Intro to video assignment  
29 Threats to biodiversity  
31 Human-Wildlife conflict  

**Feb.** 4 Illegal wildlife trade  
5 Species distributions; Island biogeography  
7 Exotic species  
11 Storyboarding and finding literature  
12 Cane Toad (movie)  
14 Balance of nature  
18 **EXAM 1**  

### Unit 2 – One Health

19 Population growth I: Humans  
21 Population growth II: Non-humans  
25 Emerging and re-emerging diseases  
26 Biodiversity and human health  
28 Public Health  

**Mar.** 3 Biodiversity and food production  
4 Sustainable agriculture  
6 GM crops: What, how and costs/benefits  
10 Bt crops: A case study  
11 Global warming I: Evidence and mechanisms  
13 Global warming II: Pest outbreaks  
24 Climate Disruption  
25 **EXAM 2**  

### Unit 3 - Sustainability

27 Sustainability  
31 Fisheries I  

**Apr.** 1 Deforestation  
3 Managing species and ecosystems I  
7 Managing species and ecosystems II  
10 Marine conservation, reserves  
14 Hunting & Restoration I  
15 Hunting & Restoration II  
17 Energy & Pollution I  
21 Energy & Pollution II; life cycle assessment  
22 Success stories  
24 **EXAM 3**  

**May** 7 Noon-2 p.m. Digital Story Film Festival