BIOB480/BIOE548 notes 8/22/2024

Introduction:

- You're in BIOB480 (undergrad) / BIOE548 (grad).
- Instructor: Dr. Ethan Linck
- Introductions: name, major, hometown (whatever that means to you), why you are taking this class.
- Today's plan: Review syllabus, discuss foundational vocabulary, preliminary assessment.

Syllabus:

- Location, office hours, how to contact me.
- Textbook: bookstore, library, digital copies; talk to me if you are in a bind.
- Overview: we will discuss this more on Tuesday, but the goal of the class is to understand where genetic variation comes from, how it changes, and how.
- Learning outcomes: Lots more than this, but you can think of this as what I want you to remember 10 years down the line.
- Grading: This is a hard class. Opportunities to revise quizzes; come to class Tuesday with questions on homework.
- Grading scheme and participation rubric. Note that there is more than one way to engage. I won't formally take attendence, but I do notice. Come unless you have a good reason not to; I appreciate the heads up if you can't make it. We're all adults here.
- D2L: All materials will be posted before class; notes posted after class. If you can't find something, email me (ethan.linck@montana.edu).
- Schedule and format: mathematical population genetics until the end of October, then a few lectures on applications combined with group projects. No lab section, but some group work / use of software. Lots of time on whiteboard. Class works best if you are engaged and stop me to ask questions.
- Group projects: Proposals due later in the semester—can be paper presentations or data analysis-based depending on interests.
- Generative AI: not useful, don't risk it.
- Inclusivity: I don't anticipate problems, but note human population genetics can be sensitive.
- Drop / add dates: September 11th (no "W"); November 13th (with "W").
- Will likely be a living document; if you need printed copies, talk to me.

Paper reading strategies:

Understanding both the intellectual history and contemporary practice of conservation genetics requires moving beyond textbooks to reead the primary literature. The following questions are (in my opinion) helpful for efficiently grasping the takeaways and context of scientific articles:

- What type of paper is it? A review, a perspective piece, a comment, a meta-analysis? Is it empirical or theoretical? A simulation study? Is it basic or applied research?
- What is the main question or goal?
- How did the authors set out to answer that question?
- What did they find?
- How do they interpret their findings?

- Critique: What are the strengths of the study? Does their evidence support their conclusions? How could their evidence be stronger?
- What does each figure say? Where was the paper published, i.e. what are the goals of the journal? When was it published?

Preliminary assessment

- Handed out in person; also available on D2L. Not graded.