

Syllabus

WIS 6934 Ecological Forecasting and Dynamics

Instructor	Dr. Morgan Ernest (she/her) Dr. Ethan White (he/him)	
Office Location	Building 150	Building 150
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Times and Locations

Tuesday, Period 3 (9:35-10:25 am), MCCB 1108

Thursday, Period 3 (9:35-10:25 am), MCCB 1108

Course Objectives

The goal of this class is to provide students a basic understanding of how populations and communities change through time and to provide fundamental concepts of how to forecast those changes. By the end of the semester, students will:

1. Have an appreciation of the dynamics and time scales of change that populations and communities exhibit.
2. Understand the basic concepts of forecasting that apply across fields and the challenges within ecology
3. Apply time series concepts to working with ecological time series data
4. Be able to fit models to data and use those models to make forecasts

General Course Structure and Expectations

This course is a mixture of class discussion of the primary literature and hands-on experience involving data and computing. Completing assigned readings, intellectual engagement with topics, discussion participation, and completion of R-tutorials are the main ways students will learn in this class. Tuesdays are typically concept discussion days. Thursdays are typically R tutorial or other tools discussion.

Course Participation

The course is designed to be in-person. That said, we recognize that folks have a lot of things going on, so if you need to miss some days let us know and we will work with you on how to best keep up with the material.

Paper discussions:

This discussion is generally centered around the discussion questions that are provided in advance but may also expand beyond them. Our goal is to produce a classroom environment where everyone is comfortable participating in class discussions. We will try to manage discussions so that everyone has a chance to contribute and make sure that folks who are less comfortable interjecting get a chance to participate. We welcome your help in making sure that everyone in the class gets a chance to contribute.

If you don't feel comfortable talking during class you can provide written responses to the assigned class discussion questions by submitting them to the instructors using the messaging system in Canvas. Instructor notes are also provided via the course website so that students have access to information being discussed in class. The Canvas discussion board can also be used to ask questions and generate discussion with the class related to the topic material.

To help prepare students for paper discussions, and help professors understand things that need clarification during class, everyone is asked to describe things that confused them about reading the paper the night before the paper discussion.

R-tutorials

R-tutorials consist of live coding in class where students follow along with the instructor, do informal exercises on their own, and ask questions.

Completed R-tutorials are submitted on Canvas and graded for completion. If you need to miss class on the day of an R tutorial you can follow along with the written R tutorial notes and and submit the resulting R code for the assignment as normal.

Attendance Policy

The class is focused on in-person interactions, so regular attendance is the best way to get the most out of the class. That said, we understand that life happens.

You can miss two days of paper discussions without submitting makeup work because only 5 out of 7 confusions and participation grades factor into your final grade. If you miss more than two days you should complete the paper confusions for the paper and also send written responses to the discussion questions to the instructors via Canvas. Two to three sentences per question is an approximate guideline for the length of response to each question, but feel free to write more or less as appropriate.

You can miss one day of R-tutorials without submitting makeup work because only 10 out of 11 R-tutorials factor into your final grade. However, tutorials build on one another so we highly recommend completing all tutorials.

Course Materials

- 1. All reading materials are made available through the [course website](#). Most of them are openly available, but in a few cases if you are off campus you may need to use the UF VPN to access them.
- 2. Computers: Laptops with R and Rstudio installed are required for the R-tutorial part of the course. If you don't have access to a laptop let us know and we'll provide you with one.

UF Policies

Information on UF academic policies, academic resources, and compus health and wellness resources is available on the [Academic Policies & Resources webpage](#).

Grading Policies

- 25 points total for completing paper confusions (5 points each up to 5 confusions)
- 25 points total for participating in class discussions (5 points each up to 5 discussions)
 - Completed by either attendance or providing written answers to the Discussion Questions
- 100 points total for completing R-tutorials (10 points each for up to 10 tutorials)
- 75 points total for the class project

Grading scale

- A 93-100
- A- 90-92
- B+ 87-89
- B 83-86
- B- 80-82
- C+ 77-79
- C 73-76
- C- 70-72
- D+ 67-69
- D 60-66
- E <60

UF grading policies for assigning grade points

UF policies related to grades are available on the [Grades and Grading Policies webpage](#).

Course Schedule

The details course schedule is available on the [course website](#) and on Canvas.

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