Instructor: Andrew Wray
Office: Deady 12 (Basement of Deady)
Email: awray3@uoregon.edu (preferred)
Phone: 541-346-4711 (strongly not preferred)

Office Hours:
Mon, 2-3pm
Tues, 10-11am,
Wed, 4-5pm
Thurs, 3-4pm
and by appointment

Class Meetings: 6-7:50 pm, MW, Deady 307

Course Goals: A student successfully completing this course should, in a general sense, have...

- facility with the computation of first and second derivatives and the interpretation thereof,
- knowledge of the difference between functions on discrete domains and continuous domains and the practical implications of each,
- repeated exposure to applications in population, reproduction, drug concentration, vascular function, gas exchange, selection, and food intake using all the learning outcomes.

The student can model the mathematical topics described among the learning outcomes in words, then solve or simplify the relevant equations and/or expressions, and finally write a summary statement of the solution.

Learning Outcomes: A successful student can...

- compute and interpret limits at finite values and infinity,
- evaluate the continuity of a function on an interval,
- determine when it is appropriate to use L' Hôpital's Rule and compute it in those instances,
- compute and interpret first and second derivatives for polynomial, logarithmic, exponential, and trigonometric functions,
- use product, quotient, and chain rules to compute derivatives,
- use graphical, numerical, and algebraic means to identify equilibria of discrete systems and classify their stability,
- find and interpret extrema of continuous and discrete functions,
- use the Mean Value Theorem, Intermediate Value Theorem, and Extreme Value Theorem to draw conclusions about extrema and roots of continuous functions.

Most importantly, the student can model the mathematical topics described among the learning outcomes in words, then solve or simplify the relevant equations and/or expressions, and finally write a summary statement of the solution.

Text: *Modeling the Dynamics of Life: Calculus and Probability for Life Scientists,* 3rd edition, by Frederick Adler.

Recommended: A graphing calculator (TI 83/84's are a great choice, and I will be able to help you use it if needed).

Homework: Homework will consist of written turn-in homework and online WebWork. WebWork homework will be due usually once a week. Written homework will be more involved, and will usually be harder than WebWork questions. On written homework, I expect:

- neat handwriting,
- clear steps shown in your solution,
- *complete* sentences explaining your solution
- a staple, should it go more than one page,
- no frilly edges or scribbles. (Frilly edges are what you get when you rip it out of a spiral notebook.)

Points will be deducted for not following these rules. At the end of the term I may give bonus points to your homework score to cover life's little misfortunes that might cause to you miss an assignment or two. I encourage working together on homework, but you *must* be able to answer the questions on your own. A note on late homework: Webwork assignments will close eventually. If you need an extension for homework, come see me during office hours and I may give you an extension. However, I reserve the right to revoke this if I notice it becomes a habit for you.

Quizzes: There will be a short quiz each day we meet, usually at the beginning of class. These will usually just be a problem or two to make sure you are keeping up in the class, and I anticipate these taking at most 15 minutes.

Exams:

Exam 1:	Wednesday, Oct 19th (Middle of Week 4)
Exam 2:	Wednesday, Nov 9th (Middle of Week 7)
Cumulative Final Exam:	Mon, Dec 5th (Week 11)

A note on exams: unless there are documented, extreme circumstances, no late work will be accepted, nor make-up exams given.
The final exam will be on Monday, December 5th. If you cannot make this time for any reason, you must arrange a different time to take it by the end of week 2.

Grading: Course grades[1] are weighted according to the following scheme.

Homework	20%
Quizzes	20%
Midterm Exams (2)	30% (15% each)
Final Exam	30%

Standard grade assignments will be made (e.g. grades in the 80% to 90% range will be B's, those in the 70% to 80% range are C's, etc.)
Plus and minus grades will be awarded in the upper and lower 3% of a bracket. (e.g. A grade of B+ is awarded between 88% and 90%; B- between 80% and 82%). I reserve the right to apply a course adjustment to grades at the end of the term.

[1] A student who achieves adjusted grades of D or F on *all* of the exams may be eligible for a maximum grade of D.

Lectures: I don't take attendance, but I assure you that coming to lectures and participating will only benefit your learning. I encourage you to participate in lectures by asking questions and working on the handouts I give you. I also ask that you turn off your phones and keep laptops put away.

Accessibility: For those of you who are currently registered with Accessible Education Center for a documented disability, please present your paperwork to me during the first week of the term (or earlier) so that we can design a plan for you. Those of you with a disability (or who might) but are not registered with AEC should contact them as soon as possible. It is much more likely that measures can be taken to provide adequate special accommodation if the organization is done through AEC. I have attempted to provide documents that are accessible. Please let me know if you need additional accommodations.

Sexual Violence: The UO is committed to providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic and dating violence and gender-based stalking. If you (or someone you know) has experienced or experiences gender-based violence (intimate partner violence, attempted or completed sexual assault, harassment, coercion, stalking, etc.), know that you are not alone. UO has staff members trained to support survivors in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, helping with legal protective orders, and more.

Please be aware that all UO employees are required reporters. This means that if you tell me about a situation, I may have to report the information to my supervisor or the Office of Affirmative Action and Equal Opportunity. Although I have to report the situation, you will still have options about how your case will be handled, including whether or not you wish to pursue a formal complaint. Our goal is to make sure you are aware of the range of options available to you and have access to the resources you need.

If you wish to speak to someone confidentially, you can call 541-346-SAFE, UO's 24- hour hotline, to be connected to a confidential counselor to discuss your options. You can also visit the SAFE website at safe.uoregon.edu.

Student Conduct: I plan to treat every student with respect and, as such, expect my students to show respect for me and for the class as a whole. Violations of the student conduct code results in the incident being included on your student conduct record as well as academic sanctions such as a failing grade on any coursework related to the violation or simply a failing grade in the course. The University of Oregon requires all instances of cheating be reported, no matter how small. Cheating includes, but is not limited to:

- Looking at another student's exam during a test
- Copying the work of another person (student or otherwise) and submitting it as your own
- Using any materials except those explicitly approved during a test-taking situation
- Resubmitting graded work that was altered after being returned

Any kind of cheating will result in a grade of 0 on the assignment. For a list of other descriptions of cheating, see the Student Conduct Code.

Suggestions for Successful Study:

- Don't get behind in your reading, homework, etc.
- Participate in class, ask questions, and make use of my office hours.
- Form a study group with others in the class. Work together on homework - but everyone must join in and submit their own work.
- Read ahead in the book. Even reading the first few pages of each lesson will help the material sink in quicker during lecture and allow you to ask meaningful questions.
- Keep all your old exams, worksheets and quizzes. You'll find them useful when youre studying for tests.
- If you think you'll need extra help, establish a tutoring plan right away. Check with the Teaching and Learning Center (Room 68 in the Basement of PLC) for free or private tutoring.

Important Dates:

Monday of week 1 (Oct 3rd)	Last day to drop without a "W"
Wednesday of week 2 (Oct 5th)	Last day to add a class
Sunday of week 7 (Nov 11th)	Last day to change to P/NP or withdraw
Thurs/Fri of 9th week (Nov 24, 25)	Thanksgiving Holiday (No Classes)

See the calendar on Registrars website for other deadlines

Online Homework Assignments

Online homework will be assigned and completed using WebWork. WebWork is a free online homework system where you view problems and submit answers. The advantage to using WebWork is that you get immediate feedback on your answers to problems.

WebWork Login

You can log in directly through `http://webwork.uoregon.edu/webwork2/Math246-13746` using your duck ID.

WebWork Practice

The first assignment you should complete in WebWork is called "WebWork Practice". It does not involve (much) math, but instead is intended to familiarize you with the interface of WebWork: how to look at problems, how to preview and enter answers, and so on. This assignment counts as your first homework assignment. Do it by the end of Friday on Week 1 for credit. These are easy points.

Showing Work

While doing your WebWork homework, I highly recommend having scratch paper at hand. Even though WebWork does not grade you on your process, having a comprehensive thought process is necessary. It will also help you track down mistakes that you made if the first answer you submit is incorrect. Remember: On quizzes and exams showing your work will be extremely important!

Getting Help From...

Me: You should make use of my office time whenever possible. For WebWork problems, please make use of the "Email Instructor" button on questions you've had difficulty with. Alternatively, you may use Canvas' messaging system to send me messages.

Tutors: The Teaching and Learning Center (Room 68 in the Basement of PLC) has both free and private tutors available during most business hours. Free tutoring is also available in the Math Library Reading Room (across the hall from the math office in Fenton Hall) on weekdays and Sundays.