

MATH 2210 (Call # 50211, Lab-Call # 30224)
CALCULUS FOR BIOLOGICAL/LIFE SCIENTISTS

INSTRUCTOR: Professor Dan Kannan,

Office: Room 442, Boyd; email: kannan@math.uga.edu

Office Hours: Tuesdays, Wednesdays, Thursdays 3:30pm – 4:30pm.

Lectures: 1:25pm – 2:15pm MWF and 12:30pm – 1:45pm Thursdays.

TEXT: **Modeling the Dynamics of Life: Calculus for Life Scientists (2ed) by Adler.**

SYLLABUS: Chapters 4,5,6, and 7. Antiderivatives via differential equations. Riemann sums. Fundamental Theorem of Calculus. Definite, indefinite, and improper integrals. **Integration methods. Differential equations.** Euler's method. **Stable and unstable equilibria. Solutions in the phase plane.** Applications include Newton's law of cooling, diffusion across a membrane, modeling disease, prey-predator population dynamics. **Introduction to probability.** Diffusion and genetics. Bayes' theorem. Independence, conditioning, and Markov chain. Discrete and continuous random variables. Descriptive statistics for spread. Special distributions. Normal approximation. Applications. [Some of the sections may not be covered, for lack of time.]

Midpoint Withdrawal Deadline: Tuesday, March 7.

Breaks: Monday, Jan 16 (MLK day); March 13-17 (spring break).

Tests: Exams: There will be four 75mts-exams scheduled for **Exam-1: Thurs, Jan 26; Exam-2: Thurs, Feb 16; Exam-3: March 30; Exam-4: Thurs, April 20.** (40% of total weight.)

Quizzes/Pop-Quizzes: [Number of pop-quizzes unknown] 15 to 20mts quizzes are scheduled for **Quiz-1: Wed, Jan 18, Quiz-2: Fri, Feb 3; Quiz-3: Fri, Feb 10; Quiz-4: Fri, Feb 24; Quiz-5: Fri, March 10; Quiz-6: Fri, April 7; Quiz-7: Fri, April 14; Quiz-8: Fri, April 28.** Two lowest quiz grades will be dropped. (Thus, the remaining six regular quizzes and pop-quizzes will carry 30% of total weight).

Midterm Exam: Thurs, March 2. (15% of total weight)

Final Exam: Friday, May 5, 12:00noon-3:00pm. (15% of total weight).

University's honesty code applies.

INSTRUCTIONS: I encourage class participation. Feel free to stop me and ask pertinent questions if you do not understand any part of the lecture. If you are willing to work hard, I will be happy to help you. Work regularly.

I do not curve exams and do not give any make up exam. If you missed any test without a valid reason, your grade for that test will be zero. If you miss a test with valid reasons, the weight of that test will be added to the total weight of the final exam, and the weight of the Exams/Quizzes will correspondingly decrease. **You are expected to attend all lectures.** In the classroom: Do not disturb your classmates and the lecture; No food (including gums); **Turn off your cell phones before entering the class room.**