MATH 1170
CALCULUS FOR BIOLOGISTS I
Fall Semester, 2015

Time and Place:	MWF 9:40 a.m., JFB B-1
Computer Lab:	Tuesdays as assigned in LCB 115
Instructor:	Professor Fred Adler
Web:	http://www.math.utah.edu/~adler/math1170/
email:	adler@math.utah.edu
Office hour:	Fridays from 10:30 - 11:30 in LCB 304
Computer lab leader	Heather Brooks
email:	heather@math.utah.edu
Text:	F. R. Adler, *Modeling the Dynamics of Life: Third Edition*

The Course. Math 1170 is the first semester of a full year calculus sequence specifically designed for life science majors to teach the mathematics necessary to do biology in this quantitative age, and provides an integrated view of modeling, calculus, and calculus-based probability and statistics. The sequence is for students with little or no previous calculus.

Computer Labs. We meet for one hour weekly for a computer lab. Lab assignments are due weekly on the following Tuesday and account for 15% of your grade. The material covered in labs will be fair game for tests.

Homework. Homework will be due as shown on the back. Odd-numbered problems have answers in the back of the book.

Exams. There will be three mid-terms (each with three or four problems), weekly quizzes (5 questions each, plus extra credit), and a comprehensive final (five problems).

Midterm 1 (Chapter 1)	Wednesday, Sep 23
Midterm 2 (Chapter 2)	Wednesday, Oct 28
Midterm 3 (Chapter 3)	Friday, Nov 20
Final Exam (Chapters 1-4)	Wednesday Dec 16, 10:30 a.m. – 12:30 p.m

Grading. Grades will be weighted as shown. You can drop your lowest midterm or half the final, and your worst two quizzes. The curve is built before these low scores are dropped.

Each midterm	10%
Quizzes	10%
Final Exam	30%
Written homework	15%
Computer lab write-ups	15%

Prerequisites: Mathematics up through precalculus, or the equivalent. Students with extensive calculus background will find much that is new in this course, but should consult with the professor before signing up.

ADA policy The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union, 1-6020. CDS will work with you and the instructor to make arrangements for accommodations.

Accommodations policy. The instructor does not grant content accommodation requests as the course content fulfills legitimate pedagogical goals

Classroom etiquette: Students will maintain a respectful and safe learning atmosphere, and class will be canceled if this atmosphere is violated.

COURSE OUTLINE

Weeks/Date	Topics	Homework Problems	Due
Weeks 1-4	**Discrete-Time Dynamical Systems**		
Aug 24	1.1		
Aug 26	1.2	2, 6, 10, 14, 26, 30, 40, 42, 46, 54	Aug 31
Aug 28	1.3	6, 10, 12, 18, 24, 26, 30, 36, 42, 46	Aug 31
Aug 31	1.4	10, 12, 18, 22, 40, 42, 52, 54	Sep 09
Sep 02	1.5	8, 12, 14, 18, 22, 26, 30, 38, 58	Sep 09
Sep 04	1.6	6, 12, 18, 22, 30, 38, 44, 46	Sep 09
Sep 09	1.7	6, 8, 16, 20, 24, 34, 42, 46, 56	Sep 14
Sep 11	1.8	2, 10, 26, 32, 38, 42, 48	Sep 21
Sep 14	1.9	4, 12, 16, 20, 24, 34, 42, 46	Sep 21
Sep 16	1.10	2, 8, 24, 34, 36, 40	Sep 21
Sep 18	1.11	1, 5	Sep 21
Sep 21	Review		
Sep 23	Midterm 1		
Weeks 5-9	**Limits and Derivatives**		
Sep 25	2.1	6, 12, 18, 26, 30, 36, 38, 40	Oct 5
Sep 28	2.2	2, 10, 30, 34, 40, 42	Oct 5
Sep 30	2.3	2, 4, 12, 14, 30, 34, 46	Oct 5
Oct 02	2.4	6, 8, 18, 22, 30, 34, 38	Oct 19
Oct 05	2.5	2, 4, 12, 14, 18, 34, 36, 42	Oct 19
Oct 07	2.6	4, 10, 14, 18, 24, 36	Oct 19
Oct 09	2.7	2, 10, 16, 24, 34, 36, 42	Oct 19
Oct 19	2.8	4, 8, 12, 20, 24, 38, 42	Oct 26
Oct 21	2.9	6, 12, 18, 22, 28, 36, 40, 46	Oct 26
Oct 23	2.10	4, 8, 18, 32, 36	Oct 26
Oct 26	Review		
Oct 28	Midterm 2		
Weeks 10-12	**Derivatives and Dynamical Systems**		
Oct 30	3.1	4, 8, 14, 24, 32, 38	Nov 09
Nov 02	3.2	6, 8, 10, 12, 14, 28, 36	Nov 09
Nov 04	3.3	2, 4, 8, 10, 14, 16, 26, 28, 34, 46	Nov 09
Nov 06	3.4	2, 8, 12, 18, 26, 30, 34, 36, 38	Nov 16
Nov 09	3.5	4, 10, 16, 26, 36, 38, 40	Nov 16
Nov 11	3.6	6, 10, 20, 34, 38	Nov 16
Nov 13	3.7	6, 12, 18, 24, 36, 44, 50	Nov 18
Nov 16	3.8	2, 6, 10, 24, 30	Nov 18
Nov 18	Review		
Nov 20	Midterm 3		
Weeks 13-15	**Differential Equations and Integrals**		
Nov 23	4.1	4, 6, 10, 14, 18, 20, 24	Nov 30
Nov 25	4.2	4, 14, 18, 24, 30, 32, 36	Nov 30
Nov 30	4.3	2, 8, 12, 44, 48, 50	Dec 07
Dec 02	4.4	4, 6, 10, 14, 18, 22, 30, 34, 38	Dec 07
Dec 04	4.5	2, 8, 16, 22, 30, 36, 40	Dec 14
Dec 07	4.6	4, 10, 16, 34, 40, 42	Dec 14
Dec 09	4.7	12, 16, 20, 28	Dec 14
Dec 16	Final (10:30-12:30)		