IT-307 Applied Calculus for Technology
Syllabus

Description: Applying Mathematical Techniques to technology problems, including analysis, formulation, and problem solutions. Techniques of differentiation, max/min problems, and elementary techniques of integration are reviewed.

Textbook: Calculus for Business, Economics, and the Social and Life Sciences: Hoffman and Bradley; 9th Edition. Publisher's price: $142.81.

Equipment: Calculator with log, lnx, 1/x, e^x, square root, x^2, and y^x.

Objective: Develop the ability to apply advanced mathematical techniques to technology and business problems. This includes the development of advanced mathematics, and its use as a tool in the solution of practical problems. This also includes the ability to analyze and formulate a problem into mathematical terms so that the tools of calculus can be used in their solution.

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Evaluation: Three exams will be given.

Exam 1	100 points
Exam 2	100 points
Exam 3	80 points
Participation	20 points
Total	300 points

Grades: Letter grades are assigned based on the following points.

A ---- 90-100%
B ---- 80-90%
C ---- 70-80%
D ---- 60-70%
F ---- <60%

Policy: Missing exams have an initial penalty of 10%. Exceptions are possible if an appropriate excuse is provided before the due date. Completion of all exams is required before 30 days after the last day of the course. The participation points are awarded based on attendance and in-class participation.

Hints for Success: Do the algebra assignment before the first weekend!!! Do all the assigned problems once, twice and three times between weekends. Meet in groups between weekends and work problems together. You will find the calculus to be a challenge, however, most mistakes are algebra mistakes.

Assignments

A sound foundation in College Algebra is essential. If your algebra is not current (over 2 years old), you are strongly encouraged to review the subject. The review section in front of the text should help. Answers to all odd-numbered problems are given in the back of the text. For students who want extra help, there will be extra help sessions at the end of each class day. Although you will not be required to turn in these assignments, they will help you be prepared for tests. You can purchase a Student Solutions Manual that has all the odd problems worked. (see information on back of textbook). Textbook website: www.mhhe.com/hoffmann

***Prior to 1st weekend*:**

Appendix – Algebra Review	Page 650: odd numbers thru 63
	Page 658: odd numbers thru 41

1st Weekend:

Chapter 1 – Section 1 (Functions)	Page 9: 1, 5, 7, 9, 17, 23, 27, 39, 43, 53, 55
Section 2 (Graphs)	Page 22: 21, 23, 29
Section 3 (Linear Functions)	Page 36: 1, 3, 5, 7, 9, 11, 13, 15, 19, 23, 25, 35, 37
Section 4 (Functional Models)	Page 53: 1, 5, 7, 9, 11, 31, 41a
Section 5 (Limits)	Page 69: 7, 9, 11, 13
Chapter 2 – Section 2 (Techniques)	Page 108: 1, 3, 5, 7, 9, 11, 13, 17
Section 3 (Prod and Quot)	Page 121: 1, 3, 7, 9, 13, 15
Section 5 (Marginal Analysis)	Page 159: 1, 3, 5, 7, 11, 13

2nd Weekend:

Exam 1 – Sat am (1st weekend material)

Chapter 2 – Section 4 (Chain Rule)	Page 147: 1, 5, 13, 17, 21, 27, 33, 51, 53, 55
Chapter 3 – Section 1, 2, 3 (Sketching)	Page 200: 9, 11, 13. Page 216: 13, 17, 19
	Page 230: 1, 5, 9, 19
Section 5 (Practical Opt)	Page 265: 1, 5, 7, 9

3rd Weekend:

Exam 2 – Sat am (2nd weekend material)

Chapter 4 – Section 1 (Exponential Func)	Page 298: 1, 5, 9
Section 2 (Log Functions)	Page 314: 1, 25, 27
Section 3 (Diff Log and Exp)	Page 330: 1, 3, 9, 15, 17
Section 4 (Added Models)	Page 341: 5, 7, 27, 35, 37
Chapter 5 – Section 1 (Indefinite Integral)	Page 371: 1, 3, 5, 19, 21, 23

Exam 3 – Sun pm (3rd Weekend material)