Math 240 Section <005>
Mathematics for Engineering and Science I
Fall 2009

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Office Hours: MWF (10:45 - 12:30)   TR   (10:00 - 12:00 and 1:00 - 2:00) and by appointment
Class time/Location: MWF 12:30 - 1:45   BH 326

Course Goals: This course serves as an introduction to the ideas of limits and the continuity and differentiability of functions. Background material that is covered during the course includes the concept of a function and its graph, elementary logic and reasoning, polynomial and rational functions and their behavior, the basic theory and applications of trigonometric, exponential, and logarithmic functions, and an introduction to sequences and their behavior.
Textbooks:
  1) _Single Variable Calculus with Precalculus, 2nd Ed.,_ B. Schröder, Fountainhead Press.
   2) _Calculus: Early Transcendentals, 6th Edition_,   James Stewart.

Attendance: Class attendance is regarded as an obligation as well as a privilege. All students are expected to attend regularly and punctually; failure to do so may jeopardize a student's scholastic standing and may lead to suspension from the university.

ALEKS: The ALEKS web-based tutorial will count as part of your 50 homework points of the final course grade. The ALEKS grade wil
be based upon completing 24 hours on ALEKS   during the quarter. The ALEKS course code for this section is
M6YMK-6HA4D.

Homework: Homework will be completed using WeBWorK (webwork.latech.edu) and will count as part of the 50 homework points of the course grade. Paper submissions of work will not be accepted. Additional suggested study problems also covered by the course are included with this page and will be posted on Blackboard (blackboard.latech.edu).

Examinations: There will four in-class tests (100 points each) and a comprehensive final exam (150 points). See my website for specific test dates. PDA's, CD players, radios, and MP3 players are prohibited from use during tests and exams (basically anything with batteries other than any allowed calculators). Use of such devices during a test or exam could violate the Louisiana Tech Honor Code (see below) and may result in a grade of 0% on that test or exam.

Grading: This is graded on an A through F scale ten-point scale (with no plusses or minuses). For example, at least a 90% course grade will earn an A, at least 80% earns a B, at least 70% earns a C and at least a 60% course grade is required to earn a D.

Grade Appeal: In the event of a question regarding an exam grade or final grade, it will be the responsibility of the student to obtain, retain, and present graded materials which have been returned for student possession during the quarter.

Students Needing Special Accommodations: Students needing testing accommodations or classroom accommodations based on a disability should discuss the need with your instructor during the first week of class.

Honor Code: "Being a student of a higher standard, I pledge to embody the principles of academic integrity." This is the pledge that each student is expected to abide by in this course as stated in the Honor Code. For more details about the honor code please refer to Chapter 4 of the University Bulletin. The Bulletin is posted online at http://www.latech.edu/registrar/bulletin/2008-2009/.

Emergency Notification System: All Louisiana Tech students are strongly encouraged to enroll and update their contact information in the Emergency Notification System. It takes just a few seconds to ensure you're able to receive important text and voice alerts in the event of a campus emergency. For more information on the Emergency Notification System, please visit http://www.latech.edu/administration/ens.html

Math 240 Suggested Study Problems

Textbooks for Problems:
Schr: "Single Variable Calculus with Precalculus, 2nd Edition" by Bernd Schroder.
Stew: "Calculus: Early Transcendentals, 6th Edition", Stewart.

Topic	Section	Suggested Problems
Shifting, Stretching and Reflecting	Schr 1.2	1a-e, 2, 5, 6, 7bc, 10, 11ab, 12b, 14, 16
Quadratic Functions	Schr 1.4	1bceg, 2bceg, 4adef, 5a, 6, 10, 13, 15, 17ab
Polynomials	Schr 1.5	1cd, 2ad, 3ade, 4ab, 5af, 13ab, 14a
More on Zeros of Polynomials	Schr 1.6	1abgj,3, 4ab, 6ab
Modeling and Optimization	Schr 1.3/1.8	1.3 #1-8, 14 1.8 #1, 2, 3-11odd
Systems #1: Basic Operations and Notation	Schr 4.3	
Systems #2: Elimination Technique	Schr 4.3	
Systems #3: Inverses	Schr 4.3	
Systems #4: Determinants (optional)	Schr 4.3	
If-Then Statements (Implications)	Schr 2.1	1abcf, 2ab, 4, 5, 8bc, 9abcf, 12bc, 14
Quantified Statements	Schr 2.2	1ac, 2ac, 3, 4ab, 5b
AND, OR, and Connectives	Schr 2.3	1, 4, 6ab, 7, 10de, 11a-f, 12b
Negation of a Statement	Schr 2.4	1b, 2b, 3abei, 5ac, 6ab
Measuring Angles	Schr 3.1	2a-d, 5, 6, 7, 8ab, 9, 12, 14, 15
Defining the Trigonometric Functions	Schr 3.2	1, 2bdg, 3ab, 4ac, 13
Applications of Triangles	Schr 3.3	2, 3, 4, 6, 12bc, 13, 20
The Graphs of Sine, Cosine and Tangent	Schr 3.4	1, 4, 5a, 6, 8a-d, 12, 14a-d, 17, 18
Amplitude, Periods and Phase Shifts	Schr 3.5	1a-f, 2a-d, 3, 4ac
Inverse Trigonometric Functions	Schr 3.6	1, 2, 6ab
Laws of Sines and Cosines	Schr 8.5	1, 2, 3, 5, 11
Exponential Functions	Schr 7.1	2acfgl, 3, 4a-e
Logarithmic Functions	Schr 7.2	1, 2a-e, 3a-e, 4a-d, 5abdfh, 9, 10, 12, 13, 15
Applications of Exponential and Logarithmic Functions	Schr 7.3	1a-h,klpquv, 2-4, 6a, 7, 8
The Tangent and Velocity Problems	Stew 2.1	3, 4, 6, 7
The Limit of a Function	Stew 2.2	1, 2, 4, 5, 7, 9, 12-15, 25-32, 34a, 40
Calculating Limits Using the Limit Laws	Stew 2.3	1-4, 11, 14, 17, 20, 23, 25, 26, 29, 30, 35, 36, 39-44, 46, 55, 56, 59
Continuity	Stew 2.5	1, 3, 4, 6, 16-18, 21, 23, 31, 32, 37-42, 45, 47, 50
Limits at Infinity; Horizontal Asymptotes	Stew 2.6	1-6, 15, 18, 21, 24, 26, 30-33, 39-41, 44, 48, 51, 58
Derivatives and Rates of Change	Stew 2.7	1, 3-5, 7-9, 13-19, 25, 28, 31-33, 41, 42, 47, 48
The Derivative as a Function	Stew 2.8	2-6, 9, 20, 21, 23, 24, 27, 35-38, 41, 43, 51-53
Derivatives of Polynomials (optional)	Stew 3.1	7, 8, 10, 21, 34, 37, 45, 50, 51, 52, 65, 72

The instructor reserves the right to adjust coverage as necessary.