Math 242 Calculus II

SECTION: 002 **QUARTER: Spring 2012** **CLASSROOM:** WH 201 (10 - 11:50 TR)

INSTRUCTOR: Dr. Brian Barron **OFFICE NUMBER**: GTM 310

OFFICE HOURS: MWF (9:15 - 11:00), TR (8:00 - 10:00, 12:00 - 12:30) and by appointment

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PREREQUISITE: Math 241 (grade of C or higher) **COREQUISITES**: PHYS 201 and ENGR 122

COURSE GOALS: To investigate topics in integration of single variable functions, approximations, and introductory probability and statistics.

TEXTBOOKS: Calculus—Early Transcendentals (7^{th} Ed.), 2012 Brooks/Cole, Cengage Learning by James Stewart, and Single Variable Calculus with Precalculus (2^{nd} Ed.) by B. Schröder.

COURSE OUTLINE: To be covered are: Stewart 5.1-5.5, 6.1-6.4, 7.1-7.8, and 8.3, and Schröder 15.5, 17.1-17.6, and 18.1-18.3. (Coverage may be adjusted if necessary.)

ATTENDANCE REGULATIONS: 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. For additional requirements see the University Bulletin.

HOMEWORK POLICY: Homework will be completed using WeBWorK (http://webwork.latech.edu/). Additional suggested study problems from the text will be posted on Blackboard. WeBWorK will contribute 10% to the overall grade. WeBWorK assignments will be graded based upon what is completed online – paper submissions will not be accepted.

CALCULATOR/COMPUTER POLICY: Calculators with symbolic capabilities will not be allowed on tests unless the instructor expressly makes an exception. Access to Mathcad and/or Excel may be required for the course.

EXAMINATIONS: There will be 3 exams, in addition to a comprehensive final exam at the end of the quarter. If you miss an exam, you must notify the instructor prior to the exam either in person or by phone. When you return, it is your responsibility to arrange for a makeup exam. NO CELL PHONES, PAGERS, PDAs, CD PLAYERS, RADIOS, OR OTHER SUCH DEVICES MAY BE USED DURING ANY TEST OR EXAM.

GRADE DETERMINATION POLICY: The standard ten-point grading scale will be used for this class: A = 90% - 100%; B = 80% - 89%; C = 70% - 79%; D = 60% - 69%; F = 0% - 59%. The course grade will be calculated as follows:

Exams (3×100 its each)	300
Webwork	35
Final	150
Total	485

EXAMS MISSED: For EXCUSED absences, the instructor may (at his or her discretion) allow a makeup test or replace the missed test grade by the grade from the final exam.

STUDENTS NEEDING SPECIAL ACCOMMODATIONS & RETENTION OF GRADED MATERIALS: Students needing testing accommodations or classroom accommodations based on a disability are encouraged to discuss the need with me as soon as possible. In the event of a question regarding an exam grade or final grade, it will be the responsibility of the student to retain and present graded materials which have been returned for student possession during the quarter.

HONOR CODE AND ACADEMIC MISCONDUCT: Honor Code Statement "Being a student of a higher standard, I pledge to embody the principles of academic integrity." For details on the honor code, please refer to: http://www.latech.edu/documents/honor-code.pdf .

NOTE: This class is a part of the MATH 240 series and the Cumulative Mathematics GPA Policy for engineering programs. If you are an engineering major, please read the policy at http://www.latech.edu/coes/assets/engr_math_policy.pdf and see your program's curriculum check sheet for more details."

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 242 Outline

Day	**Book-page**	**Section**	**Suggested Assignment** (eoo = every other odd)
1	Stew 369	5.1 Areas and Distances	1,3,13,15,17,21
2	Stew 382	5.2 The Definite Integral	1,5,9,17,21,29,33,39,41,48,49,51,53,55,59
3	Stew 394	5.3 The Fundamental Theorem of Calculus	3,5-45 (eoo),61,73,77
4	Stew 403	5.4 Indefinite Integrals and the Net Change Theorem	1-45 (eoo),53,57,59,61,63,69
5	Stew 413	5.5 The Substitution Rule	1-73 (eoo)
6	Stew 427	6.1 Areas between Curves	1-29 (eoo),31,47
7	Stew 438	6.2 Volumes	1-29(eoo),47,51
8	Stew 444	6.3 Volumes by Cylindrical Shells	3,5,9,11,15,19,21a,25a,37
9	Stew 449 Stew 453	6.4 Work 6.5 Average Value of a Function (Optional, if time)	3,7,9,13,15,21 1,3,5,9,13,19
10	Stew 468	7.1 Integration by Parts	1-41(eoo),51,61,69
11		Test 1 (Sections 5.1-5.5, 6.1-6.4)	
12	Stew 476	7.2 Trigonometric Integrals	1-69(eoo)
13	Stew 483	7.3 Trigonometric Substitution	1,3,7,15,19,23,37
14	Stew 492	7.4 Integration of Rat. Functions by Partial Fractions	1,3,5,7,11,13,17,25,29,35,39,45,61
15	Stew 499 Stew 504	7.5 Strategy for Integration 7.6 Integration Using Tables and CAS	1-81(eoo) 1,9,11,17,21,23,33,39
16	Stew 516	7.7 Approximate Integration	1,3,5,7,15,19,29,39
17	Stew 527	7.8 Improper Integrals	1-41 (eoo), 49,57,67,71
18	Schröder 553	17.1 Fundamentals on Probability Function	17.1: 1a,b,c, 2a,b, 4a,b, 5a,b,c, 6a
19		Test 2 (Sections 7.1-7.8)	
20	Schröder 557 Schröder 565	17.2 Continuous Random Variables 17.3 Some Widely Used Density Functions	17.2: 2, 3, 4a,c,d,j, 5, 6 17.3: 1, 2, 5, 6, 8, 10
21	Schröder 565	17.3 Some Widely Used Density Functions	17.3: 13, 17, 18, 20, 21, 23, 27
22	Schröder 569	17.4 Cumulative Distribution Functions	17.4: 1, 2, 3, 5, 6, 9, 11, 13, 14
23	Stew 560	8.3 Applications to Physics and Engineering	1,3,19,23,27,29
24	Schröder 515	15.5 Centers of Mass of Linear Densities	15.5: 1a,b,c, 3a,b
25	Schröder 575	17.5 Mean and Variance	17.5: 2, 3d,h,i, 5a, 6, 7
26	Schröder 578 Schröder 582 Schröder 589	17.6 Questions to Ask When Solving Statistics Problems 18.1 Some Sample Statistics 18.2 Statistical Behavior of the Sample Mean (only large samples)	17.6: 1, 2, 3, 4, 6, 9 18.1: 1, 4 18.2: 1, 2, 5, 9
27	Schröder 589	18.2 Statistical Behavior of the Sample Mean (only large samples)	18.2: 8, 10, 11, 13, 17, 21
28		Test 3 (Chapters 17 and 18 and Sections 8.3 and 15.5)	
29	Schröder 596	18.3 Confidence Intervals	18.3: 2, 3, 4, 5
30		Final Exam	