Math 114-03/05, Calculus II, Spring 2014

OWS 250 MWF 12:15-1:20 (Section 03), 1:35-2:40 (Section 05)

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Course Prerequisites: Successful completion (C- or better) of trigonometry based Calculus I (Math 113), or its equivalent.

Credits and Workload Expectations: 4 credits: 8-10 hours per week outside the classroom.

Course Materials and Resourses:

- Textbook: *Single Variable Calculus: Early Transcendentals*, 7th Edition, by James Stewart.
- WebAssign: online practice problems, etc. You will need to register using your class key.
- *Mathematica* Software: https://www.stthomas.edu/irt/desktopsupport/software/
- Math Resource Center (MaRC, OSS 235) : free drop-in peer tutoring, group study areas, solution manuals, WebAssign tutorials, *Mathematica* help, ...

Course Objectives:

- Gaining factual knowledge (terminology and methods: integration techniques, parametric curves, differential equations and their solutions, sequences, series, tests for convergence etc.)
- Learning fundamental principles, generalizations, and theories (measuring continuous accumulation with integrals, finite measurements for infinite things, etc.)
- Learning to apply course material (modeling with integrals, parametric curves, and differential equations)
- Developing skill in expressing myself orally or in writing (clear written solutions and oral presentations of problems)

Regular Homework: To prepare for class you will be assigned reading, along with **preparatory exercises** related to the reading. You will also be assigned online **practice problems** related to material that we have already discussed in class. Online assignments are typically due one hour before class starts. You are permitted five attempts for each problem. For each topic, you will also write up one **quality solution** to a problem from the book, after you have had a chance to practice similar problems.

Additional Assignments: About once a week **challenge problems**, requiring more care or depth of inquiry, and ***Mathematica* exercises** will be assigned. Occasionally, in-class participation or presentations will be graded.

Late Work, Missed Exams: Late work is not accepted. Extensions may be granted if requested before the due date. Assignments submitted after the due date must be submitted to the professor in person. Make-up midterm exams or quizzes may be given to students with legitimate excuses such as verified illness, University sponsored events, etc., as long as the make-up exam can be taken within a reasonable time frame. If it is not possible to schedule a make-up exam within a reasonable time frame, the grade for the midterm may be prorated from the final exam. Written documentation is required.

Final Course Grade: The overall score for this course will be computed as outlined below. Final letter grades will be assigned based on the overall score, with the two major components, written solutions and quiz/exams also being considered separately. In particular, the final letter grade will not be higher than one letter grade above the level of the work on written solutions or the work on exams. Exceptional performance on the final may also be taken into account.

- Homework (40%): written preparatory exercises (5%), WebAssign practice problems (5%), and written quality solutions (30%)
- Quizzes (10%): Quiz 1 during the first two weeks, Quiz 2 on May 5 (tentative)
- Midterm Exams (25%): tentatively scheduled for Wed Mar 5 and Fri Apr 11
- Final Exam (25%): cumulative; **1:30-3:30 pm Thurs May 22**

Disability Accommodations: Qualified students with documented disabilities who may need classroom accommodations should make an appointment with the Disability Resources office. Appointments can be made by calling 651-962-6315.You may also make an appointment in person in Murray Herrick, room 110. For further information, you can locate the Disability Resources office on the web at http://www.stthomas.edu/enhancementprog/.

Tentative Course Schedule, Math 114-03/05, Spring 2014

Mon	Wed	Fri
Feb 3, 2014	Feb 5, 2014	Feb 7, 2014
Intro to course; Review substitution	7.1 IBP **Quiz 1A1: Trig**	7.2 Trig Integrals **Quiz 1A2: Derivatives** *Last day to add w/o permission*
Feb 10, 2014	Feb 12, 2014	Feb 14, 2014
7.3 Trig Substitution **Quiz 1A3: Antiderivatives**	7.4 Partial Fractions **Quiz 1A4: Substitution**	7.5 Strategies for Integration **Quiz 1B** *Last day to drop w/o notation*
Feb 17, 2014	Feb 19, 2014	Feb 21, 2014
7.7 Numerical Integration	7.8 Improper Integrals	7.8 Comparison Test for Improper Integrals
Feb 24, 2014	Feb 26, 2014	Feb 28, 2014
6.1 Area between Curves	6.2 Volumes (slices)	6.3 Volumes (shells)
Mar 3, 2014	Mar 5, 2014	Mar 7, 2014
Open	**Exam 1**	6.5 Average Value
Mar 10, 2014	Mar 12, 2014	Mar 14, 2014
9.1 Intro to DE's	9.2 Euler's Method	9.3 Separable DE's
Mar 17, 2014	Mar 19, 2014	Mar 21, 2014
Student Presentations of Application Examples	Student Presentations of Application Examples	10.1 Parametric Equations
Mar 24, 2014	Mar 26, 2014	Mar 28, 2014
Spring Break	Spring Break	Spring Break
Mar 31, 2014	Apr 2, 2014	Apr 4, 2014
10.2 Parametric Calculus	10.3 Polar Coordinates	10.4 Polar Areas and Length
Apr 7, 2014	Apr 9, 2014	Apr 11, 2014
11.1 Sequences	Open	**Exam 2**
Apr 14, 2014	Apr 16, 2014	Apr 18, 2014
11.2 Series	11.3 Integral Test	Good Friday
Apr 21, 2014	Apr 23, 2014	Apr 25, 2014
Easter Monday	11.4 Comparison Tests Last day to withdraw	11.4 Comparison Tests
Apr 28, 2014	Apr 30, 2014	May 2, 2014
11.5 Alternating Series Test	11.6 Absolute Convergence	Student Presentations of Series Examples
May 5, 2014	May 7, 2014	May 9, 2014
Quiz 2 (Series)	11.8 Power Series	11.9 Function as P.S.
May 12, 2014	May 14, 2014	May 16, 2014
11.9 Function as P.S.	11.10 Taylor Series	Open

Final Exam: Thursday May 22, 1:30-3:30 pm