LAKE SUPERIOR
STATE UNIVERSITY

College of Natural and Mathematical Sciences   **Fall 2012**
MATH152 Calculus II (4,0)   **4 Credits**

Prerequisites: Two years of high school algebra, one year of plane geometry, one semester of high school trigonometry, and MATH151 Calculus I with a C or above, or the equivalent.

Instructor(s): George Voutsadakis
              CASET Hall, Room 206E
              906-635-2667
              Email: gvoutsad@lssu.edu

Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
9:00-10:00	9:00-10:00	2:00-3:00	9:00-10:00	9:00-10:00

Required Texts: Essential Calculus: Early Transcendentals, Stewart

Recommended Text: None

Course Description: Applications of the definite integral. Techniques of integration and improper integrals. Infinite Series. Conic sections, polar coordinates and parametric equations.

Course Objectives: At the conclusion of MATH152 students should be able to:
1. Apply integration and numerical methods to find area, volume and length.
2. Use advanced integration techniques such as integration by parts, partial fractions, trigonometric substitution, division and integration of improper fractions.
3. Solve first and second order differential equations.
4. Identify the basic types of infinite series; verify the convergence of infinite sequences and series; find the radius of convergence of a given series; and apply differentiation and integration techniques to infinite series.
5. Use basic concepts of analytic geometry, including the geometric properties of conic sections, to sketch graphs and find formulas; convert between rectangular and polar coordinates; use polar coordinates to find arc length and area; and compute tangents and arc lengths and graph parametric curves.
6. Create and solve mathematical models using integration, differential equations and infinite series.

Grading Scale and Policies:
Point and Percentage Values:

Quizzes	100 points	25%
Exams	200 points	50%
Final Exam	100 points	25%
	Total 400 points	Total 100%

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Grading Scale:

94-100	A	70-74	C
90-93	A-	65-69	C-
87-89	B+	60-64	D+
84-86	B	55-59	D
80-83	B-	50-54	D-
75-79	C+	0-49	F

Grading Policies: You will be graded on correct methodology, i.e., if you provide an answer but show no work or your work is incorrect, you will receive no credit. Your solutions must be written in a connected, step-by-step logical fashion and all variables should be clearly defined. If your solution is not written clearly, you will not receive full credit. In many cases, setting up the correct mathematical model and using this model to solve a problem will be just as important as computing a numerical answer.

The homework exercises for each section covered are on the last page of this handout. You should spend a lot of your math study time doing homework. If you are struggling with your homework seek help from your instructor or the tutors in the Learning Center.

The course outline on the next-to-last page is a projection of the general structure and content of the course. It is tentative and subject to change without prior notice.

Ground Rules:
1. **Calculator:** You will need a graphing calculator. The TI-83/84 Plus is the recommended calculator for this course. This is the one your instructor will be using and your instructor may not be able to provide assistance with other models. All other electronic devices, including computers, PDAs and cell phones, must be turned off for all class lecture sessions.
2. **Purpose of Lecture:** Lectures are an opportunity for students to ask questions and seek clarification on material. This implies student preparation has been accomplished prior to class. Lecture is also the opportunity for the instructor to coordinate coverage of the material and present material that is historically or potentially difficult. It does not negate student preparation or study.
3. **Attendance Policy:** Attendance is strongly encouraged. If you miss a class, or are late, you are still responsible for class notes and assignments. Moreover, you will be assigned a 0 score should a quiz take place during that missed lecture.
4. **Make-up Policy:** Each exam should be taken at the designated time. An exam may be taken prior to or after the scheduled date, by agreement with the instructor, provided that the student provides a request with a documented valid excuse well in advance of the scheduled date. If an absence is unexcused, no make-up will be provided, either for exams or for quizzes.
5. **Academic Integrity:** Students are expected to perform all assigned work themselves. Any form of cheating or plagiarism will be handled in accordance with the Academic Integrity Procedures. Violations of the University Academic Integrity Policy may result in an F course grade.
6. **Testing:** Use of head phones, cell phones and hats during exams is prohibited.

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University Policies and Statements:

The Americans with Disabilities Act & Accommodations

In compliance with Lake Superior State University policies and equal access laws, disability-related accommodations or services are available to students with documented disabilities.

If you are a student with a disability and you think you may require accommodations you must register with Disability Services (DS), which is located in the KJS Library, Room 130, (906) 635-2355 or x2355 on campus. DS will provide you with a letter of confirmation of your verified disability and authorize recommended accommodations. This authorization must be presented to your instructor before any accommodations can be made.

Students who desire such services should meet with instructors in a timely manner, preferably during the first week of class, to discuss individual disability related needs. Any student who feels that an accommodation is needed – based on the impact of a disability – should meet with instructors privately to discuss specific needs.

IPASS (Individual Plan for Academic Student Success)

If at mid-term your grades reflect that you are at risk for failing some or all of your classes, you will be contacted by a representative of IPASS. The IPASS program is designed to help you gain control over your learning through pro-active communication and goal-setting, the development of intentional learning skills and study habits, and personal accountability. You may contact 635-2887 or email ipass@lssu.edu if you would like to sign up early in the semester or if you have any questions or concerns.

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Tentative Course Outline

Week	Dates	Monday	Tuesday	Thursday	Friday
1	08/27/12	Review	6.1	6.1	6.2
2	09/03/12	BREAK	BREAK	6.2	6.3
3	09/10/12	6.3	6.4	6.5	6.5
4	09/17/12	6.6	6.6	Review	Exam 1
5	09/24/12	7.1	7.2	7.2	7.3
6	10/01/12	7.4	7.4	7.5	7.5
7	10/08/12	7.6	7.6	Review	Exam 2
8	10/15/12	8.1	8.2	8.2	8.3
9	10/22/12	8.3	8.4	8.4	8.5
10	10/29/12	8.5	8.6	8.7	8.7
11	11/05/12	8.8	8.8	Review	Exam 3
12	11/12/12	9.1	9.2	9.2	9.3
13	11/19/12	9.3	9.4	BREAK	BREAK
14	11/26/12	9.4	9.5	9.5	Exam 4
15	12/03/12	Review	Review	Review	Review

Assignments

Section	Exercises
6.1	1-23, every other odd
6.2	1-33, every other odd, 37,39,41-57, every other odd, 59,61
6.3	1-27, every other odd, 35,37,39
6.4	1,7,13,19
6.5	1,3,5,7,13,17,19
6.6	1-33, every other odd, 41,45,49
7.1	1-21, every other odd, 27
7.2	1-13, odd, 21,27,33,35
7.3	1-7, odd, 9-37, every other odd
7.4	1-21, every other odd, 29
7.5	1,3,7,9,17,23,25,27,35,39,43
7.6	1,3,5,7,11,15,21-24,33,37,39
8.1	3,5,9-13, every other odd, 33,35
8.2	1-27, odd
8.3	7-27, odd
8.4	3-39, every other odd
8.5	3-19, odd
8.6	3-11, odd, 19-27, odd
8.7	5-17, odd, 23-31, odd
8.8	3,6,8,9,11,13,21
9.1	1-17, odd, 31,37

9.2	1-37, every other odd
9.3	1-17, odd, 23-37, every other odd, 47,51
9.4	1-11, odd, 15-25, odd, 29-35, odd
9.5	1-15, odd