

CALCULUS FOR TECHNOLOGY PROGRAMS II (MATH 2133) SPRING 2012

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 - Office Hours: MW, 1:30PM-3:00PM and by appointment
- Class Meeting: MWF, 12:30PM-1:20PM, MSCS 422
- Textbook: *Technical Calculus with Analytic Geometry* by Peter Kuhfittig, Fourth Edition
- Prerequisites: Calculus for Technology Programs I
- Links:
 - Course Web Page: <http://www.math.okstate.edu/~slarson/teaching/12S-MATH2133-2>
 - Online Classroom (D2L): <http://oc.okstate.edu>

COURSE DESCRIPTION

Prerequisite(s): MATH 2123. Second semester of a terminal sequence in calculus for students in the School of Technology. Calculus of trigonometric, exponential and logarithmic functions and applications to physical problems.

CALCULATORS

A scientific or graphing calculator is recommended for this course. I will be using a TI-83-Plus for class demonstrations. You may check out a graphing calculator free of charge from the Math Department (401 MSCS) for use during the semester. At a minimum you should have a calculator that will do logs, exponentiation and trig functions. You should learn how to work the majority of the problems in this course without a calculator. Use the calculator only as a tool, not a crutch. Some calculators can perform calculus functions. You are not allowed to use these calculus functions of a calculator on quizzes and exams. All problems should be worked using the calculus techniques we discuss in class. Use of the calculator may not be allowed on certain exams and quizzes.

MLRC (THE MATHEMATICS LEARNING RESOURCE CENTER)

The MLRC can be an invaluable resource to support your mathematical learning. **Location:** 4th Floor Classroom Building.

HOMEWORK

Homework for each section will be assigned in class and documented on the course schedule. These problems will not be submitted and graded. However, you should be sure to work these problems when the section is discussed in class to assess your knowledge of the material. These problems are also an excellent source for similar problems for quizzes and exams.

QUIZZES

There will be a total of twelve short quizzes given during the semester- ten regular quizzes and two makeup quizzes. These quizzes will be unannounced and worth 20 points each. Only your scores on the best ten of these will be counted. That is, if you take all twelve, you can drop your lowest two scores. Your quiz score has a maximum value of 200 points - the equivalent of two 50-minute exams.

EXAMS

There will be three 100-point midterm exams and a 200-point comprehensive final exam which contribute to your final grade. Each exam will be announced in class and appear online in the course schedule. The exams will be closed-book but you will be allowed to use a 3" by 5" note card. There will

be **no make-up exams**. If you miss an exam the corresponding section of the final exam will be used for the missed exam score.

GRADES

The contributions to your total score, T (/600), will be calculated as follows. Let Q be quiz score (/200), $E1, E2, E3$ be midterm exam scores (/100), and F be the final exam (/200).

$$T = Q + E1 + E2 + E3 + F - \text{MIN}(Q/2, E1, E2, E3, F/2)$$

Your total score will be divided by 600 and truncated to an integer percentage and determines your final grade as follows.

Total Score	0-59%	60-69%	70-79%	80-89%	90-100%
Letter Grade	F	D	C	B	A

Curving may be applied in form of a linear adjustment to all scores on a particular exam. I reserve the right to decide borderline cases based on class attendance and subjective impressions such as effort and conscientiousness.

COURSE SCHEDULE

The following course schedule is preliminary.

Class Meeting	Date	Sections from Textbook	Subject	Homework Assignment (Odd Problems)
1	01/9	Derivatives of Transcendental Functions 6.1	Review of Trigonometry	1-77
2	01/11	6.1	Review of Trigonometry	81-97
3	01/13	6.2	Derivatives of Sine & Cosine	
University Holiday Drop/add deadline	01/16			
4	01/18	6.2	Derivatives of Sine & Cosine	
5 Drop/add deadline	01/20	6.3	Other Trigonometric Functions	
6	01/23	6.3	Other Trigonometric Functions	
7	01/25	6.4	Inverse Trigonometric Functions	
8	01/27	6.5	Derivatives of Inverse Trigonometric Functions	
9	01/30	6.6	Exponential and Logarithmic Functions	

10	02/01	6.7	Derivative of Logarithmic Function	
11	02/03	6.7	Derivative of Logarithmic Function	
12	02/06	6.8	Derivative of Exponential Function	
13	02/08	6.8	Derivative of Exponential Function	
14	02/10	6.9	L'Hospital's Rule	
15	02/13		Review for Exam 1	
16	02/15		Exam 1	
17	02/17	Integration Techniques 7.1	Power Formula	
18 Six week grades due	02/20	7.2	Logarithmic and Exponential Forms	
19	02/22	7.2	Logarithmic and Exponential Forms	
20	02/24	7.3	Trigonometric Forms	
21	02/27	7.3	Trigonometric Forms	
22	02/29	7.4	Further Trigonometric Forms	
23	03/02	7.5	Inverse Trigonometric Forms	
24	03/05	7.6	Trigonometric Substitution	
25	03/07	7.6	Trigonometric Substitution	
26	03/09	7.7	Integration by Parts	
27	03/12	7.7	Integration by Parts	
28	03/14		Review for Exam 2	
29	03/16		Exam 2	
Spring Break	03/19			
Spring Break	03/21			
Spring Break	03/23			
30	03/26	3 Dimensional Space; Partial Derivatives; Multiple Integrals 9.1	Surfaces in 3 Dimensions	
31	03/28	9.1	Surfaces in 3 Dimensions	

32	03/30	9.2	Partial Derivatives	
33	04/02	9.2	Partial Derivatives	
34	04/04	9.5	Iterated Integrals	
35 Drop/withdraw deadline	04/06	9.6	Volumes by Double Integration	
36	04/09	9.7	Mass & Centroids	
37	04/11	Parametric Equations, Vectors, and Polar Coordinates 8.1	Vectors & Parametric Equations	
38	04/13	8.2	Arc Length	
39	04/16	8.3	Polar Coordinates	
40	04/18		Review for Exam 3	
41 Withdraw deadline	04/20		Exam 3	
42 Pre-finals week	04/23	8.4	Curves in Polar Coordinates	
43 Pre-finals week	04/25	8.5	Areas in Polar Coordinates	
44 Pre-finals week	04/27		Final Exam Review	
Final Exam	05/02		10-1150 am	

ACADEMIC INTEGRITY

I will respect OSU's commitment to academic integrity and uphold the values of honesty and responsibility that preserve our academic community. For more information, see <http://academicintegrity.okstate.edu>.

DISCLAIMER

This syllabus may be subject to future changes and it is your responsibility to be informed. Any change of the syllabus will be announced in class and appear online.