Math 2133 – Section 1 MWF 11:30-12:20

# Calculus for Technology II Syllabus & Outline

Oklahoma State Spring 2011

Instructor:

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Posted on Website

### **Course Objectives**

This course is a continuation of Math 2123. It extends the definitions and principles of elementary calculus (primarily differentiation and integration) to trigonometric, inverse trigonometric, exponential and logarithmic functions. It relies heavily on the student's background in algebra, trigonometry and Math 2123.

## **Textbook/Graphing Calculator**

- Technical Calculus with Analytic Geometry (Fourth Edition) by Allyn J. Washington. Addison-Wesley College Publishing, 2002. This is the same textbook used in Tech Calc I so you won't have to buy a new book.
- 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.

# MLRC: Mathematics Learning Resource Center

The MLRC is an excellent resource for this course. You are strongly encouraged to take full advantage of its services. You should go there regularly to do your homework and to use the materials that we have made available to you. The MLRC is currently located on the 4<sup>th</sup> floor of the Classroom Building.

### Attendance Policy - 4 / 8 Rule

How well a student performs in a course is highly correlated with his/her attendance. Because of the importance your instructor places on our class sessions as active learning opportunities, attendance is a required element of this course.

The 4 / 8 Absence Rule will be strictly enforced.

- More than four (4) absences make you ineligible for the Low Exam Replacement Policy.
- More than eight (8) absences earn an automatic F in the course.

In this course, there is no such thing as an excused absence. If you were not physically present for a class, then you were absent – no exceptions, no excuses. Absences due to University-sponsored activities and military training are also not excused. The attendance policy is liberal enough to accommodate an occasional absence without serious penalty.

Attendance will be recorded via an attendance sheet which will be distributed during class. It is your responsibility to make sure that you sign the attendance sheet during each class. Do not sign the attendance sheet for another student or ask another student to sign for you. This is a serious offense of academic fraud and will be treated as such — all your attendance will be null and void resulting in more than 8 absences and an automatic F in the course and you will be reported to the University Academic Integrity office for possible further sanctions.

Proper attendance also means arriving on time and remaining until the class is dismissed. It is your responsibility to arrive in class no later that 11:30. If you are late for whatever reason, please respect your classmates and do not interrupt the class session already in progress. Students attempting to enter the classroom late, after the lecture has begun, will be asked to leave. If your objective for attending a class is to simply sign the attendance sheet and leave early, then you are abusing the system. You will be counted as absent if you are late or leave early. Students who continue to attempt to enter late or leave early after being counseled will be reported to the Academic Integrity office and appropriate University policies will be applied.

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#### Low Exam Replacement Policy

If you make a low score on one of your hour exams, but make a higher percentage score on the final exam, it may be possible to replace that low exam score with your final exam percentage. This privilege is only applicable if you have four (4) or fewer absences. Only one exam score is eligible for this substitution.

#### Quizzes

There will be a total of twelve (12) short quizzes given during the semester – ten (10) regular quizzes and two (2) makeup quizzes. Generally, these will be given on Fridays, but occasionally we will deviate from this. These quizzes will be worth 20 points each. Only your scores on the best ten (10) 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. Some of these quizzes will be announced closed-book, closed-notes given during the last 10-15 minutes of class. Others will be take-home quizzes. For credit on the take-home quizzes, you must be present when the quizzes are given out and when they are collected. There is the possibility of some will be unannounced or pop quizzes. Since two of these quizzes are considered makeups, absolutely no additional makeups will given for any reason. If you miss a quiz, you will receive a zero and it will be one of the two quiz scores you drop.

A Note on Assigned Homework: A list of homework problems corresponding to each section of the textbook is given on the attached sheet. 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.

A student's success in a math course is usually directly related to the amount of time and effort they put into the homework assignments. You are responsible for all assigned homework problems. You are also responsible for all the textbook material in the sections we cover even though the material may not be specifically discussed in the lecture. Thus, you should always begin your homework assignments by first carefully reading the sections in the book before you start working the problems. As a general rule, you should spend a minimum of 1-2 hours on each assignment. I would strongly suggest you keep all your worked homework problems and worksheets organized in a spiral notebook or some type of folder.

#### **Examinations**

There will be three (3) fifty-minute 100-point examinations and a 200-point comprehensive final examination. The exams will be closed-book, but you will be allowed to use a 3" by 5" note card. Baseball caps or hats with wide brims are not allowed during any exam or quiz. No cell phones or other electronic devices (other than a calculator, if allowed) should be visible during the exams. A schedule of the exams dates is given in the attached Class Schedule. Review these exam dates now and plan your semester schedule accordingly. Absolutely no makeup exams will be given for any reason. If you do miss an exam, the Low Exam Replacement Policy may apply provided you have 4 or fewer absences.

#### **Determining Final Grades**

There are 700 points possible in the course.

Quizzes	200 points max	Count best 10 of 12.
Exam 1 Exam 2 Exam 3	100 points max 100 points max 100 points max	Can drop lowest one of these 3 exams and replace with percent on Final provided you do not have more than 4 absences. See Low Exam Replacement Policy.
Final Exam	200 points max 700 points max poss	Comprehensive

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Semester grades are not negotiable. They will be assigned based solely on total points earned in the course subject to the Attendance Policy. The course grades will be firmly and equitably assigned with no curving based on total points in the table below.

629 559	-	560 490	points points points	89 79	- -	90 % 80 % 70 %	A B C D
489	_	420	points	69	-	60 %	D
419	_	0	points	59	_	0 %	F

# Course Website - Lecture Worksheets

We will use the OSU Online Classroom system - Desire2Learn (D2L) at <a href="https://oc.okstate.edu">https://oc.okstate.edu</a> for the course website. The website will have valuable information pertaining to this course including lecture worksheets and quiz and exam solution keys. Most of these will be PDF files and you will need Acrobat Reader to view and print the files. Before coming to class, you should print off the worksheets and bring them with you to help with taking notes and following along with the lecture. Coming to class without the proper printed worksheets is grounds for being asked to leave the classroom.

The website is a required feature of the course. However, technical problems with the site or your inability to access it should not be used as an excuse for not fulfilling the course requirements. If you do have problems accessing the website, contact the IT Helpdesk. Furthermore, reviewing the worksheets online is not a sufficient substitute for actually attending the lecture and participating in class. Grades will NOT be posted on the website.

## Student Class Number

After the drop and add period ends and the roll is official, you will be given a Student Class Number. This number will consist of a sequential number indicating your alphabetical order in the class. The Student Class Number is very important and helpful in sorting and organizing the papers and recording grades. You must remember this Student Class Number and put it on all quiz and exam papers. If you fail to put your correct Student Class Number on a quiz or exam paper, you will receive a grade of zero on the paper.

### **Graphing Calculator**

A scientific or graphing calculator is recommended for this course. At a minimum you should have a calculator that will do logs, exponentiation and trig functions. Remember that a calculator is just a tool. You should learn how to work the majority of the problems in this course without a calculator. Use the calculator only as a computational 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. It is your responsibility to learn how to operate your calculator properly.

You may be able check out a graphing calculator free of charge from the Math Department (401 MSCS) for use during the semester. Your instructor will provide you with more details of this process in class.

#### E-mail Guidelines

My e-mail address is listed on Page 1 (notice it is @math.okstate.edu, not @okstate.edu). Feel free to e-mail me at anytime to set up an office appointment. Please use the following guidelines when you send me an e-mail:

- All e-mails must have a Subject Line or it automatically gets put in my SPAM folder and I'll never see it.
- All e-mails must include your Student Class Number.
- I will not conduct any course business via e-mail. Any questions or issues involving class policies or grades must be taken care of in person in my office.
- Don't expect me to reply to an email if it deals with a subject that should be address in person in my office. For example, if it asks for exceptions to the class policies like an excused absence or a makeup quiz or exam.

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#### Office Hours

My office hours are on the website. I encourage you to take advantage of these hours for help with the course material and for any questions about your progress in the class. Since I have a lot of students, this time will be on a first-come, first-served basis. If your schedule conflicts with these times, feel free to talk to me before or after a class and we can arrange an appointment at a mutually acceptable time.

### University Policies / Academic Integrity

All university policies will be followed in this course. It is your responsibility to know and comply with all university policies and deadlines. The university has prepared a syllabus attachment document which contains important information. You can view the document at <a href="http://osu.okstate.edu/acadaffr/aa/syllabusattachment-spr.htm">http://osu.okstate.edu/acadaffr/aa/syllabusattachment-spr.htm</a> and on the course website.

OSU is committed to the maintenance of the highest standards of integrity and ethical conduct. This level of ethical behavior and integrity will be maintained in this course. A document outlining academic integrity issues specific for this class can be found in the Miscellaneous section of the course website. OSU's academic integrity policies can be viewed at <a href="http://academicintegrity.okstate.edu">http://academicintegrity.okstate.edu</a> and on the course website.

### Special Accommodations for Students

If you have a need for special accommodations of any nature, I will work with you and Student Disability Services, 315 Student Union, to provide reasonable accommodations to ensure that you have a fair opportunity to perform in the class. Please advise me of such disability and the desired accommodations as soon as possible during the first week of class.

If Student Disability Services has determined that you require extending testing time, you should meet with me as soon as possible to discuss several very specific requirements for this extended testing time.

## **Proper Classroom Decorum**

You are expected to act in an attentive, respectful, non-disruptive manner in the classroom. Cell phones, pagers, iPods and other electronic devices are to be turned off and put out of sight before the beginning of class. Activities during the lecture such as visiting with other students, talking on the phone, texting, reading the newspaper, working on material for another class, sleeping, playing video games, etc. show contempt for the learning process. You will be asked to leave the class if your actions involve the activities above and/or your actions are distracting or inattentive.

You should always come to class with a copy of the printed worksheets. Viewing the worksheets using a laptop during the lecture is not allowed. Discuss this with me if you have a special need to use a laptop.

During the semester if another student is creating a disturbing or distracting environment for you, please let me know and I will correct the situation quickly.

#### How to be Successful in This Class

- Take the Responsibility for Your Own Success. The wrong attitude, absences, and laziness are usually the main
  causes for failing this course. Devote the appropriate amount of time and effort needed to learn the material. Don't
  waste time making up excuses for not doing the required work. Don't waste time or embarrass yourself by being a
  "grade grubber".
- Abide by All Course Rules and Policies. Understand the policies for attendance and for no makeup quizzes and exams. Don't ask for or expect any exceptions to the attendance policy, makeup policy, or other course policies.
- Work and Understand All the Homework. Study (not just read) your lecture notes, worksheets and the textbook sections before you start the problems. Work the problems every day. Don't get behind or wait until the night before an exam or quiz to study.
- Use the Course Resources. Start a routine early in the semester of going to the MLRC regularly for help. Use your professor's office hours for help.

Any changes in this syllabus or class schedule will be communicated to you in class by the instructor.

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				HW	
Week	Date	Section Topic		Pages	Homework Problems
4		Course Introduction			
1	l i	7.1 Trig Functions 7.1 continued		- O21	1-39 odd
		7.1 Continued 7.2 Basic Trig Relations		p 231	1-39 000
	Jan 14 Fri	7.2 continued		p 237	1-25 odd, 33,34,35
	Jais 14 i ii	7.3 Derivative of Sine & Cosine			
	Jan 17 Mon	No Class - Holiday			
2	Jan 19 Wed	7.3 Derivative of Sine & Cosine		p.242:	1-31 odd, 39-45 odd
		7.3 confinued	Q1		
	Jan 21 Eri	7.4 Derivative of Other Trig Functions			
10.00				p 246	1-35 odd, 39,41,43
3	Jan 24 Mon	7.4 continued			3-51 mult of 3
	Jan 26 Wed	7.5 Inverse Trig Functions	Q2	p 256	1-25 odd, 35,37
	Jan 28 Fri	7.6 Derivative of Inverse Trig Functions	QZ	p 200	
	100102111	7.7 Applications		p 260	7, 8, 11, 12
4	Jan 31 Mon Feb 02 Wed	Catch up and Review for Exam 1	Q3		
		Exam 1 - Chapter 7			
	Feb 04 Fri			Control of Control of Association (Control of Control o	
5	Feb 07 Mon	8.1 Exponential & Log Functions		p 271	1-31 odd
	Feb 09 Wed	8.2 Derivative of Log Functions		p 275	1-31 odd
	Feb 11 Fri	8.2 continued	Q4	p 278	1-31 odd
	FED IIII	8.3 Derivative of Exponential Functions		p 210	1 0 7 000
	Feb 14 Mon	8:3 continued			
( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	Feb 16 Wed	8.4 Applications		p 282	13, 14, 15, 16, 32
	Feb 18 Fri	9 1 Integration-General Power Form	Q5	p 287	3-24 mult of 3, 25,26
	LEN HOURTE	Hard Salar S			
		9.1 continued		004	3-27 mult of 3, 29,30,32,33
7	Feb 21 Mon	9.2 Integration-Basic Log Forms		p 291	3-27 High of 3, 29,00,02,00
	Feb 23 Wed	9.2 continued	Q6	p 294	3-24 mult of 3, 25,28
	Feb 25 Fri	9.3 Integration-Exponential Form	QU	p 20-1	
1004.0774666244		   9 3:continued			
8	Feb 28 Mon	9.4 Integration-Basic Trig Forms		p 297	3-24 mult of 3   25,26,27
	Mar 02 Wed	9.4 continued			
	Mar 04 Fri	9.5 Integration-Other Trig Forms	<b>Q7</b>	p 301	3-24 mult of 3, 29,31
	Heise The Park to Proceed that the Process of the Addition				
<u></u>	M 07 Mon	9.6 Integration-Inverse Trig Forms		p 305	3-24 mult of 3, 25,28,30
9	ilviar 07 iviori				
9	Mar 07 Mon Mar 09 Wed	Catch up and Review for Exam 2	Q8		

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				HW	Homework Problems
Week	Date	Section - Topic		Pages	
		5 5 5			
10	Mar 14 Mon	No Class - Spring Break			
	Mar 16 Wed	No Class - Spring Break			
	Mar 18 Fri	No Class - Spring Break			
14.22		10.14Integration by Parts		p 313	1-16
111	Milk All to Control of the Control o	10.1 continued			
	Mar 23 Wed	10.2 Integration-Substitution		p 317	1-16
	Mar 25 Fri	10.2 continued	Q9		
			_	- 220	1-17 odd
12	Mar 28 Mon	10.3 Integration-Trig Substitution		p 320	
	Mar 30 Wed	10.4 Integration-Partial Fractions		p 324	1-15 odd
	Apr 01 Fri	10.5 Integration-Partial Fractions II	Q10	p 329	1-15 odd
		and the second of the second o			
13		11.1 Functions of 2 Variables		p 339	3-24 mult of 3
		11.2 Curves & Surfaces in 3-Dim		p 345	3-24 mult of 3
	Apr 08 Fri	11.2 continued 11.3 Partial Derivatives	Q11	p 349	3-27 mult of 3
	Wall contains		, , , , , , , , , , , , , , , , , , , ,		
14	Apr 11 Mon	11.3 continued			
	Apr 13 Wed	11.4 Applications of Partial Derivatives		p 355	3-18 mult of 3
	Apr 15 Fri	11.5 Double Integrals	Q12	p 360	1-15 odd
	, ipi 13 . i				11000 - 30
15	Apr 18 Mon	Catch up and Review for Exam 3			
	Apr 20 Wed	Exam 3 – Chapter 10 & 11			
	Apr 22 Fri	12 1 Polar Coordinates		p 370	11,2,3-36 mult of 3
2.67 A 320 A 320 A 320 A 340 A 3	and the state of t		<del> </del>		
16	Apr 25 Mon	12.2 Curves in Polar Coordinates		p 373	1,2,3-24 mult of 3
	Apr 27 Wed	12.3 Applications		p 378	1,2,3,6,9,12
	Apr 29 Fri	Review	-		
	May 06	Final Exam — Comprehensive			
	Friday	Date and time set by the			
	10:00-11:50	University It cannot and will			
	am	not be changed			