

**Syllabus**  
**Math 132 (Applied Calculus II)**  
**University of Rhode Island, Fall 2012**

**Contact Information:**

<b>Instructor:</b> Dr. Glenn Faubert	<b>Contact via:</b> SAKAI Messages	<b>Office Hours:</b> See SAKAI
--------------------------------------	------------------------------------	--------------------------------

**Course Description**

This is a second semester course in applied calculus. It is a continuation of MTH131 for students with majors requiring two semesters of calculus or for students who would just like take a second semester of calculus. Topic include methods of integration, probability density and distribution functions, functions of two variables, contour diagrams, partial derivatives, optimizing functions of two variables, modeling with differential equations, solving separable differential equations, and geometric series and some applications.

Prerequisite for this course is one semester of college calculus. (At URI, either MTH131 or MTH141)

**Evaluation/Grade**

<u>Description</u>	<u>Percent of final grade</u>
3 in class 50 minute midterm tests	13% each, total 39%
1 final examination	total 26%
13 homework assignments	total 10%
4 Wiley-Plus assignments	total 10%
1 mini-test quiz on last day	total 5%
Unannounced quizzes and attendance checks.	total 10%

A (93% - 100%)	A- (90% - 92%)	B+ (87% - 89%)	B (83% - 86%)	B- (80% - 82%)
C+ (77% - 79%)	C (73% - 77%)	C- (70% - 72%)	D+ (65% - 69%)	D (60% - 64%)
F (0% - 59%)	Computed Grade will be rounded to the nearest whole percent.			

**Textbook**

(The textbook is required. No special consideration will be given to students without texts by the first class.)  
The required text for the class is Applied Calculus, 4<sup>th</sup> edition, by Hughes-Hallett et. al. Published by J. Wiley & Sons Inc. This text is available in the University Book Store. If you took MTH131 at URI last term, this is the same text. If you will be buying your text online you should order early to allow for delivery. If you buy the text used or from a third party you will also have to buy a subscription to WileyPlus. The subscription is included in all new texts purchased from the URI Bookstore.

The textbook is a math book and it should be read accordingly: SLOWLY! Read it for comprehension and with a pencil and paper at hand. A good practice is skim it before the corresponding lecture and then again slowly for comprehension after the lecture. Some students make the mistake of going directly to the homework problems before reading the section. This might seem to save time in the short run but the cost in long run comprehension and exam scores is prohibitive. Read the text!

### **Lecture**

This class meets three times per week for 50 minutes. You are expected to be there three times per week for 50 minutes. Lecture time is at a premium, so it must be used efficiently. Expect lecture material to be covered at a fast pace. You are expected to come to class prepared to learn. You should complete all homework assignments on time. Before each lecture you should spend a few minutes reviewing the notes for the previous lecture. A few minutes at the start of each lecture will be allocated to student questions. Random attendance checks will be taken throughout the semester. Students who for good reason must arrive late, leave early, or miss class, must inform their instructor via SAKAI before class begins. Students failing to give such notice will get a zero for participation if a random attendance check is taken. Giving notice for being late or absent on a day that homework is due does not excuse the late or missing homework. Give the homework to a friend or submit it via the SAKAI Drop Box tool. Naturally, all students are expected to be respectful of each other and the instructor at all times. Any disruptive students will be removed from the classroom and the roster.

### **Exams**

Three exams and one announced quiz will be given in class on the days noted below. They will fit into the class period and extra time will not be given to students beyond that time. Students will be penalized for not handing in tests immediately when called for. The typical penalty is 5% plus 5% per each additional minute the exam is late. All electronics must be turned off, removed from your desk and out of sight. Cell phone must be unseen and unheard. After ONE warning over the entire term, a student will be penalized 5% for each cellphone interruption during an exam. A student seen handling a cell phone during an exam will be penalized 50%. If you must take a call during lecture, take it outside and out of hearing range. Students repeatedly disrupting the class with cellphones or otherwise will be removed from the room and the class roster. Exams are designed to accurately assess students' knowledge of the class material. Exam grades are NOT scaled. Exam problems will be very similar to homework problems. Calculator use will not be allowed on exams.

### **Homework**

Homework assignments must be handed in at the beginning of the class, or submitted via the SAKAI Drop Box Tool by the beginning of class on the date due. **DO NOT SUBMIT ASSIGNMENTS VIA EMAIL ATTACHMENTS OR FAXES!** They will not be graded. I suggest using a word processor (e.g. Microsoft Word or OpenOffice) for assignments you will submit via the Drop Box. Assignments handed in in class may be typed or neatly handwritten. All work must be shown to get credit for a problem. Some of the problems have answers in the back of the text for you to check. A naked answer from the back of the book with no supporting work or explanation is worth zero. Students may discuss homework problems with each other or with tutors but are expected to write up the final version independently. Late homework will not be corrected and will receive a grade of zero. Homework not on the instructor's desk by the start of the lecture will be considered late. All students get one homework pass that may be used to avoid penalty for missing or late homework. Being absent on a day that homework is due does not excuse you from homework penalties. Grades for homework may be scaled. Most of the learning is done in this class while working on homework assignments. You should be spending about 6 hours per week reading the text and doing the homework. **START HOMEWORK ASSIGNMENTS EARLY.**

### **Online Homework**

Online homework assignments using *Wiley-Plus* will be assigned just as they were in calculus I. These assignments give you more practice over a wider range of problems than the homework handed in in class. The assignments are due on the dates shown on the semester schedule below.

### **Sakai**

Sakai is being used in this course. This means that, if you have not already, you must start becoming acquainted with Sakai. You can access Sakai at the following web address: <https://sakai.uri.edu/portal/> Use your e-campus id and your URI email password (generally not your e-campus password). When you log into Sakai you will see a tab for each of your classes that will be using SAKAI. Click on the tab for MTH132. If you have many tabs, you might need to click on "more" to show all your tabs. See the SAKAI Help Desk to learn how to remove previous semester tabs. More SAKAI Tools may become available during the first couple of weeks of class. You are expected to learn how to use all the tools listed in the left column on the MTH132 home page as they appear. Click on them. You will not break anything. If you get lost, click on Home. By week one you should be able to access the Syllabus, and read Announcements, and use Messages. By week two you should also know how to access Grades and use the Drop Box. Other Tools may later be required by your instructor or may be optional.

**Mathematica**

*Mathematica* is a very well-known software package for mathematics. A student license is typically about \$140, but is available free to URI students. Go to the math department website for details about how to obtain your copy. Spending an hour or two learning how to use *Mathematica* with calculus early in the term save many hours checking homework solutions. Learning some *Mathematica* is optional but suggested.

**Calculators**

Students are allowed (and encouraged) to use calculators to facilitate learning in MTH132. All students should have a graphing calculator. When using calculators on homework and exams students must still show all work to support their answers. You may not refer to your calculator as the sole justification for answers unless otherwise noted.

**Academic Integrity**

Cheating is defined in the University Manual section 8.27.10 as *the claiming of credit for work not done independently without giving credit for aid received, or any unauthorized communication during examinations.* Students are expected to be honest in all academic work. The resolution of any charge of cheating or plagiarism will follow the guidelines set forth in the University Manual 8.27.10-8.27.20, <http://www.uri.edu/facsen/8.20-8.27.html>. A student caught cheating will get an F for the assignment, or an F for the course and/or face University disciplinary hearings resulting in possible dismissal.

**Disability**

Any student with a documented disability is welcome to contact me early in the semester so that we may work out reasonable accommodations to support your success in this course. Students should also contact Disability Services for Students at the Office of Student Life in room 330 of the Memorial Union, 874-2098.

## Semester Schedule

Date	Text	Lecture Topics	(H)omework Due 9am Name (W)iley Due 11pm
Sep 05	7.1	Antiderivatives	
07	7.3	Fundamental Theorem	
10	7.2	Integration by substitution	
12	7.2	"	
14	7.4	Integration by Parts	H01 p304#22 p311#18 p307#4,32
17	7.4	"	W1 Wiley ch7
19	8.1	Probability density functions	
21	8.1	"	H02 p315#6,14 p331#2
24	8.2	Cumulative distribution function	
26	8.2	"	
28	8.3	Median and Mean	H03 p331#10 p337#2,6
Oct 01	9.1	Functions of two variables	W2 Wiley ch8
<b>03</b>	<b>Exam 1</b>	<b>covers ch7, ch8</b>	
05	9.2	Contour diagrams	H04 p343#2,7 p353#10
10	9.2		
12	9.3	Partial derivatives	
15	9.3		H05 p360#2,12 p369#8
17	9.4	Computing partial derivatives	
19	9.5	Critical points and optimization	H06 p369#4,12 p375#10
22	9.5	"	
24	9.6	Constrained optimization	
26	9.6	Constrained optimization cont.	H07 p375#30 p380#12,14
29	10.1	Differential Equations	W3 Wiley ch9
<b>31</b>	<b>Exam 2</b>	<b>covers ch9</b>	
Nov 02	10.2	Solutions of differential equations	H08 p387#6,18 p411#2
05	10.2	"	
09	10.3	Slope fields	
12	10.4	Exponential growth and decay	H09 p411#1,22 p416#6
14	10.5	Applications and modeling	
16	10.5	"	H10 p422#2,8 p430#10
19	10.6	Predator-Prey model	
21	10.7	Modeling spread of disease	
26	10.7	"	H11 p430#14 p435#4abc,18
28	11.1	Geometric Series	
30	11.3	Application: natural science	H12 p440#8,12 p458#2,14
Dec 03	11.3	"	W4 Wiley ch10
<b>05</b>	<b>Exam 3</b>	<b>covers ch 10</b>	
07		Review	H13 P466#2,5
<b>10</b>	<b>Quiz</b>	<b>covers ch11</b>	W5 Wiley ch11

There will be a **Final Exam** given in class at the time determined by the University final exam schedule.