Syllabus
Math 132 (Applied Calculus II)
University of Rhode Island, Spring 2019

Contact Information:

Instructor: Dr. Glenn Faubert	Contact via: SAKAI Messages	Office Hours: 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 to take a second semester of calculus. Topics 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, of course, applications.

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

Evaluation/Grade

Description	Percent of final grade
3 in class 50 minute midterm tests	15% each, total 45%
1 final examination	total 30%
Wiley-Plus homework assignments	total 15%
Classwork/written homework assignments	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+ (67% - 69%)	D (60% - 66%)
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 third class.)

The required text for the class is <u>Applied Calculus</u>, 5th edition, by Hughes-Hallett et. al. Published by J. Wiley & Sons Inc. If you took MTH131 at URI in the last couple of years, this is the same text. If you will be buying your text online you should order early to allow for shipping. 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. Subscriptions to WileyPlus include access to an online version of the text for the semester.

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 read it 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 comprehension and exam scores is prohibitive. Read the text!

Wiley-Plus

This is the online homework that will be due every Monday, Wednesday and Friday night at 10:00pm. This homework is **not** optional and accounts for 15% of your grade. Homework is where most of your learning happens. Access codes come with new texts or can be bought online. If you took MTH131 at URI last semester, your Wiley-Plus account may still be active.

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 most lectures will be allocated to student questions. Random attendance/homework 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 <u>before</u> class begins. Students failing to give such notice will get a zero for participation if a random check is taken. Giving notice for being late or absent does not excuse you from late or missing Wiley homework. This homework is done online using *Wiley-Plus*. 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, with a repeat offense, the roster. I am happy to say that this is a rare event. **Cell phones** are generally a distraction to learning and should be turned off and kept out of sight once the lecture begins. If for an emergency you must take a call during lecture, take it outside and out of hearing range.

Exams

Three exams will be given in class on the dates 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. All electronics must 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 a cellphone interruption during an exam. A student seen handling a cell phone during an exam will be penalized 50%. Exams are designed to accurately assess students' knowledge of the class material. Exam grades are NOT scaled and every exam counts. Exam problems will be very similar to homework problems. Calculator use will not be allowed on the first exam but will be allowed on the others.

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 suggested homework on the syllabus. The assignments are **due at 10:00 pm on every Monday, Wednesday** and **Friday** during the semester unless otherwise announced by the instructor. Wiley will reduce credit for late assignments by 50% if less than 2 days late and will give zero credit to assignments more than 2 days late.

Written Homework

Written homework assignments are shown on the syllabus along with the due date. These problems will be collected at the beginning of some classes. They will provide motivation for questions in class as well as study examples for exams.

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 <u>not</u> your e-campus password). When you log into Sakai you will see (or can find) 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 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. Other Tools may later be required by your instructor or may be optional.

Extra credit

The policy on extra credit is that it is not given. As a matter of fairness, there will be no special assignments given to individual students to improve their grade.

Mathematica

Mathematica is a very well-known software package for mathematics. A student license is typically about $150 but is available free to URI students. Go to the math department website for details about how to obtain your copy. Learning *Mathematica* is optional but suggested. Spending an hour or two learning how to use *Mathematica* early in the term will save many hours checking homework solutions.

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 or 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.

Small changes in this syllabus may be required to correct typos or account for snow days. If the syllabus is edited you will be notified in class and an updated version will be provided on SAKAI.

Semester Schedule

Class	Date	Text	Lecture Topics	Written HW due in class
#1	Jan 23	3.3 3.4 3.5	Review derivative rules	
#2	25	6.2 6.3	Review antiderivate rules & FTC	3.3 #27, 3.4 #25, 3.5 #24b
#3	28	6.6	Integration by substitution	6.2 #63, 6.3 #18
#4	30	6.6	"	6.6 #7,21
#5	Feb 1	6.7	Integration by Parts	6.6 #43,51
#6	4	6.7	"	6.7 #1,7
#7	6	7.1	Probability density functions	6.7 #17,21
#8	8	7.1	"	7.1 #1,5
#9	11	7.2	Cumulative distribution function	7.1 #3,9
#10	13	7.2	"	7.2 #1,13
#11	15	7.3	Median and Mean	7.2 #3,4
#12	18	7.3	"	7.3 #1,#7ac
#13	20	8.1	Functions of two variables	7.3 #6,#7b
#14	**22**	**Test #1**	**covers ch6 & ch7**	
#15	25	8.1	Functions of two variables	8.1 #1,2
#16	27	8.2	Contour diagrams	8.1 #15,16
#17	Mar 1	8.2	"	8.2 #2,4
#18	4	8.3	Partial derivatives	8.2 #7,10
#19	6	8.3	"	8.3 #2,4
#20	8	8.4	Computing partial derivatives	8.3 # 8,12
#21	18	8.5	Critical points & optimization	8.4 #6,8
#22	20	8.5	"	8.5 #2,4
#23	22	8.6	Constrained optimization	8.5 #12,18
#24	25	8.6	"	8.6 #4,6
#25	27	9.1	Differential equations	8.6 #20
#26	**29**	**Test #2**	**covers ch8**	
#27	Apr 1	9.1	Differential equations	9.1 #2,8
#28	3	9.2	Solutions to D.E.'s	9.1 #10,14
#29	5	9.2	"	9.2 #2,6,8,10
#30	8	9.4	Exponential growth & decay	9.2 #14,16,22
#31	10	9.5	Applications and modeling with D.E.'s	9.4 #2,10
#32	12	9.5	"	9.5 #2,8
#33	15	9.6	Population interactions	9.5 #16,18
#34	17	9.7	Spread of disease	9.6 #2,4
#35	19	9.7	"	9.7 #4
#36	22	10.1	Geometric series	9.7 #8
#37	**24**	**Test #3**	**covers ch9**	
#38	26	10.3	Applications of Geo. Series	10.1 #2,4,6,8,10,20