Instructor: Dr. Laura Taalman	<i>Office:</i> Roop 123, 568-3355	Text: 540-246-3185
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## Logistics

Class Times: MWF 10:10-11:00 and Tues 11:00-12:15 in Roop 213

Office hours: MWF 11:00-12:00 and by appointment, Roop 123

Class website: educ.jmu.edu/~taalmala/231\_2013.html

Class Facebook group: Math 231 Spring 2013, www.facebook.com/groups/525477657531138/

Textbook: Calculus with Integrated Precalculus, First Edition, Taalman

Quiz Days: Tuesday 9/3, Tuesday 10/1, Tuesday 10/29, and Tuesday 12/3

*Exam Days:* Tuesday 9/17, Tuesday 10/15, and Tuesday 11/12

Final Exam: at the official time Tuesday 12/10, 10:30-12:30 (pending approval)

# Goals of the Course

This course covers differential calculus of algebraic functions of one variable, including developing an understanding of limits, continuity, differentiation, and derivative applications from both theoretical and calculational perspectives.

# Grades

You can make a rough estimate of your grade at any time in this class by filling in the blanks below with your earned or estimated letter grades and taking the average of the letters. For example, if you earned a grade of 'B' on the first exam you would enter that letter in each of the three blanks for Exam 1. Each blank is worth the same weight in the course.

Quiz 1 Quiz 2	2 Quiz 3	Quiz 4	
Exam 1	Exam 2		Exam 3
Final Exam			
Daily Quizzes	Online Work	Participation/Otl	her

Please note that to get a good estimate of your grade you should use the letter grades that you earned on each exam and not any numerical scores. I assign letter grades based on level of performance and understanding. Your letter grades do not depend on any other person's grades, but only on your own performance. I do not use predetermined numerical scales because numbers are just numbers and don't mean anything inherently about grades. I reserve the right to decide borderline course grades based on factors such as participation, effort, and improvement.

#### Homework

Notice that there is no blank for homework in the grade list above. This is because I will not be

collecting homework in this class. I don't need to collect it because your performance on the exams will show me whether or not you have been doing a sufficient amount of homework. It is up to you to determine how much homework you need to do, and I will not be checking up on you to make sure that you do it. The best advice I can give you is to keep up with the homework problems. Taking responsibility for doing homework consistently is one of the hardest parts of this course; budget your time now and do not fall behind.

## Notebooks

You may record all of your homework and other class notes in a spiral-bound Homework Notebook that you will be allowed to use for part of each exam, including the final exam. Be sure to state problems and show work in whatever way will help you most when you use your Notebook during exams; in particular, note that jotting down the answers from the back of the book will not help you at all, as numbers and functions will change on the exams. All of the exercises in the textbook are fair game for exams except those few that I announce as being off the table. Quizzes and exams will be heavily based on the reading, examples, and exercises in the textbook.

## **Online Work**

Over the course of the semester I will give you a number of online assignments through the CalcPortal website for the book. You should get registered for CalcPortal now and familiarize yourself with the ebook and other resources that are there. Your completion of these online assignments will be part of your course grade. To register your CalcPortal activation code, go to courses.bfwpub.com/inegcalc.php (Mac users need to use Firefox).

#### **Class Discussion and Preparation**

This will be a student-centered, active-learning class and I will do only a minimal amount of formal lecturing. Class will have a discussion-based atmosphere, sometimes within groups and sometimes as a whole class. My goal is to help you learn how to learn mathematics yourselves and to give you as much experience as possible actually doing problems and thinking about mathematics.

You are expected to read each section before class, and come to class prepared to take a reading quiz and answer questions. Class discussion will assume that you have already done this preparation, and you will be lost during class if you have not done the required reading in advance. Please note that reading a math book is not like reading a novel; you may have to read some passages multiple times, take notes, and work carefully through examples. The reading quizzes add up over time and are a part of your final grade, so come prepared.

#### Absences

You do not need to notify me about missing regular class days. If you miss class it is your responsibility to get notes and announcements from another classmate. Daily quizzes cannot be made up, but missing one or two will not hurt your grade. If you will be absent for a prolonged period of time then you should let me know, and provide documentation.

You must be in class each quiz and exam day, beginning at the start of the class period. I do not give make-up exams but in some extenuating circumstances I may be able to "excuse" you from a quiz or exam. If you have a problem with attending on a quiz or exam day, you must notify me in advance and request accommodation. If an emergency causes you to miss an exam, you should contact me and explain your situation. My sympathy with your plight will be partially determined by how much effort you put into quickly contacting me.

### Technology

Calculators will not be allowed on any quizzes or exams. For work done outside of class I suggest that you check your answers with a graphing calculator or computer program. Any Texas Instruments graphing calculator is probably fine, as are many others. A better (and free!) alternative is the website www.wolframalpha.com, which is an online tool that can do much more than a standard graphing calculator, including symbolic differentiation and integration, with steps explained. Cell phones may not be used as calculators or clocks or in any capacity during exams.

#### Facebook

There is a Facebook group for this course called *Math* 231 *Fall* 2013. Membership in this group is optional and it is not required to be "Facebook friends" with me or anyone in the course in order to be part of this group. The purpose of this group is to provide a forum where you can set up study groups with other students, even those you do not currently know (examples: "I'll be at the library at 9pm studying trig if anyone wants to join me" or "Having trouble with algebra! Anyone in the same boat want to meet at the Learning Center this afternoon?"). We will also use the Facebook group to post pictures of blackboard work from class and as a forum for asking and answering questions about the course and the material. If you ask a question about a problem in the book on the Facebook group, I will answer you more quickly if you take a picture of the problem and include it with your question.

## Honor Code

I completely support and encourage working together in groups on homework assignments outside of class. Having said that, I take the Honor Code very seriously, so you should know the difference between collaboration and academic dishonesty. This is sometimes a subtle distinction and it can vary from classroom to classroom. For example, in my class it is *not* cheating to work together and each write up your own answers in your Notebooks. On the other hand, it *would* be considered cheating for you to copy problems into your Notebook from a friend the night before an exam, or to hide old exams or printouts in your Notebook without writing them in your own hand. In my class it would *not* be considered cheating to consult www.wolframalpha.com to help figure out how to solve a problem and to put that in your Notebook, because in my class homework is just a learning tool and is not collected for a grade. Of course, it *would* be considered cheating for a student to look at another student's exam paper, have someone else complete their online assignments, or gain information about exam problems in advance, and so on. Any instances of suspected cheating or academic dishonesty will be referred to the JMU Honor Board for investigation.

#### **Outside of Class**

I strongly encourage you to meet regularly with your groups and with other students outside of class. Students who attend regular study/homework groups tend to do better on quizzes and tests, and thus in the course as a whole. You will be independently deciding how much homework to put into your Notebooks, and a group atmosphere can motivate you to do more work than you might do if you attempted it stuck in your room by yourself. There is blackboard space in Roop 119 and Roop 103 and in many other places on campus, including study and group working spaces in the libraries. Discussing mathematics out loud will significantly increase your understanding. We will attempt to keep the same groups all semester. However, if you have a serious problem with your group then you should let me know.

The Science/Math Learning Center in Roop 200 is open 10–8 MTuWTh, 10–2 F, and 5–8 pm Sat. The SMLC should be your first line of defense when working out homework problems. Many

students just choose to do their homework in the SMLC all the time, so that help is always available when they need it. You can also use the SMLC as a meeting place for study groups or to find other people to work with.

I also encourage you to ask me questions by instant message or email at any time, and to visit me during my office hours or by appointment. I can usually respond to email within one or two days. I will be much faster to reply to questions posted to the Facebook group for the course, because those questions and answers will help the whole class at once. I almost never check my office phone voicemail, but that phone number is a good tool to check if I am in my office if you are thinking of stopping by outside of my office hours. You may text me on my cell if you have an emergency or an important, time-sensitive issue.

## Who am I?

I went to college at the University of Chicago, got my Ph.D. in mathematics at Duke University, and then came to JMU to work in 2000. I'm now a full tenured professor here. In my mathematical research I've studied algebraic geometry, knot theory, and the mathematics of games and puzzles such as Sudoku, Tchoukaillon, and poker. My current obsession is 3D printing; I run the 3D Lab in the Math/Stat Department and the new JMU 3D-printing classroom 3-SPACE. I'm married, have an 8-year-old son, love to play Minecraft, and can beat you at Mrs. Pacman and MarioKart Wii.

#### Who are you?

I have a problem recognizing people, especially when they are out of context (for example, if you switch seats in class, come to my office hours, or run into me at the grocery store). When you see me outside of the classroom, please remind me of your name and what class you are in. And please do not be insulted if it takes me a long time to be able to recognize you or remember your name! For more information see www.geekhaus.com/faceblind.

For official university syllabus information, please see www.jmu.edu/syllabus.