

Math 131 Syllabus FALL 2019
Text: Applied Calculus: A Brief Approach by Soo Tan
Homework Management System: WebAssign
Calculator: TI-83 or TI-84

Math 131 is a one-semester calculus course designed primarily for students concentrating in economics, social science, and accounting. Throughout this course examples from economics and social science should be emphasized. Rigorous proofs are not required; students should gain an intuitive understanding of the basic concepts of calculus, especially linearity, tangent lines, and linear approximation, and how to apply these ideas.

This semester Math 131 is adopting a new textbook. The chapter sections given below are from the 10th Edition. The suggested number of classes represent 75 minute units, 2 classes/week for 14 weeks = 28 classes, 4 classes are reserved for tests & review. The calculus committee recommends 3 in-class exams equally spaced in the semester. This semester Math 131 is also adopting the homework management system, WebAssign. Use of the HMS remains optional for instructors. See notes below.

Chapter 2: Functions, Limits, and Derivatives		6 classes
2.1	Functions and their Graphs	
2.2	Algebra of Functions	
2.3	Functions and Mathematical Models	
2.4	Limits	
2.5	One-Sided Limits and Continuity	
2.6	The Derivative	
Chapter 3	Differentiation	7 classes
3.1	Basic Differentiation Rules	
3.2	The product & quotient rules	
3.3	The chain rule	
3.4	Marginal Functions in Economics	
3.5	Higher-Order Derivatives	
3.6	Implicit Differentiation and Related Rates	
Optional Topic if Time Permits:		
8.2	Partial Derivatives (pages 566 to 573)	
Chapter 4	Applications of the Derivative	7 classes
4.1	Applications of the First Derivative	
4.2	Applications of the Second Derivative	
4.3	Curve Sketching	
4.4	Optimization I	
4.5	Optimization II	
Chapter 5	Exponential and Logarithmic Functions	4 classes
5.1	Exponential Functions	
5.2	Logarithmic Functions	
5.3	Compound Interest	
5.4	Differentiation of Exponential Functions	
5.5	Differentiation of Logarithmic Functions	

Textbook

The physical bookstore at Queens College has closed and been replaced with an on-line service here:
<http://qc.textbookx.com/institutional/index.php> This site sells textbooks without the WebAssign HMS.

The publisher of our textbook (Cengage) offers sales direct to students here:
<http://www.cengagebrain.com/course/3835987> (reportedly more affordable.)

Cengage will create a dedicated mini-site for our courses, including WebAssign as an option Details will be sent to instructors as soon as available.

TI-84+ Guidelines for Math 131

On departmental finals students are not permitted to use calculators which do symbolic differentiation and integration (for example, the TI-89 or TI-92). All sections of Math 131 should cover the following basic calculator operations

Graphing:

Y= menu, WINDOW, TRACE, GRAPH

ZOOM: zoom in, zoom out, zoom box, zoom standard

Use of the FORMAT and MODE menus

TABLE Menu: TBLSET, Using TABLE to find limits numerically

Obtaining more digits than table display allows

Since the treatment of limits in Math 131 is very compressed, the table function can be very useful to help students develop the correct intuition.

CALC menu: VALUE, ZERO, MIN, MAX

VARS menu: using Y-VARS to patch in functions from y= menu

Finding roots numerically:

1. Using CALC → ZERO within graph window

2. Using TRACE and ZOOM with graph

HMS Guidelines

Website: <http://webassign.net/> Instructors can get logins here: <http://webassign.net/>

In addition to on line homework, the web site offers an e-book version of our text, a personal study guide for students, and videos of lectures linked to each section of the book. Students who use WebAssign self-enroll using a “class key”. Students whose instructors are NOT using WebAssign for homework should register at the Math 131 Master Section to access the on line resources. To do this they enter the following class key when they register:

Math 131 Master Section FALL 2019

Class Key:

If you are using WebAssign for on-line homework you will need to create a Course for your section. Once you create this section the system will give you a class key, which your students will use to enroll in your section. Later you can find this code in Class View by clicking on “class key settings” in the Class Tools menu.

To create your WebAssign course: Choose “Create” in the top left menu below “Home”, then “Course”, and select the textbook. Click “enable personal study plan” and the textbook certification. Once you set the start date of the course, students have a 2-week grace period after that date during which they can log in without having paid for access. Set “How will students be placed on your roster” to self-enrollment.