Math 141 Syllabus Fall 2015

Text: Essential Calculus Second Edition by Stewart
Homework Management System: WebAssign
Calculator: TI-84

The chapter sections given below are in Essential Calculus, Second Edition. The suggested lecture hours represent 50 minute units, 3 lecture hours/week for 14 weeks=42 lecture hours. 6 lecture hours are reserved for tests & review. All sections of Math 141 should include instruction in the use of the TI-84 graphics calculator. (guidelines below). The calculus committee recommends 3 in-class exams equally spaced in the semester.

Math 141 is using a homework management system, WebAssign . The College Bookstore sells a loose-leaf version of the text plus a printed access card for WebAssign. Please tell your students NOT to throw away this card. Use of on-line homework is optional for instructors, but all students will need to use the website to access the e-book and other resources. see HMS Guidelines below

Chapter 1 Functions & limits 9 hours

- 1.1 Functions
- 1.2 A Catalog of functions

(At most 2 hours should be devoted to 1.1 and 1.2. Students who have any difficulty with this material should be strongly directed to Math 122.)

- 1.3 Limit of a function (epsilon/delta definitions page 31-32 are optional)
- 1.4 Calculating Limits
- 1.5 Continuity
- 1.6 Limits involving infinity

Chapter 2 Derivatives 15 hours

- 2.1 Derivatives and Rates of Change
- 2.2 The Derivative as a function
- 2.3 Basic Differentiation formulas (2.3, 2.4 and 2.5 each require several hours)
- 2.4 The product & quotient rules
- 2.5 The chain rule
- 2.6 Implicit Diff.
- 2.7 Related Rates
- 2.8 Linear Approximation

Chapter 3 Applications of Differentiation 12 hours

- 3.1 Max & Min Values
- 3.2 MVT
- 3.3 Derivatives & the Shapes of Graphs
- 3.4 Curve Sketching
- 3.5 Optimization (Word Problems)
- (3.6 Newton's method. Optional)

Role of Theory in Math 141:

All students are expected to know the definition of the derivative at a point, and of continuity at a point. They should be able to state these definitions and use them to solve a problem. They should be able to compute the derivative of simple functions from the definition. They should also understand, and be able to state correctly and use the Intermediate Value Theorem, the Extreme Value Theorem, and the Mean Value Theorem. However students are not required to prove any theorems on departmental finals.

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. All students will self-enroll in WebAssign. Students whose instructors are NOT using WebAssign for homework should register at the Math 141 Master Section to access these resources. To do this they enter the following section and code when they register

Math 141 Master Section Fall 2015 Class Key: **qc 5729 5364**

If you are using WebAssign for on-line homework you will need to create a Course in your account for your section. When you do this 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 on the left.

To create your section: 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. After you save the course settings, set "How will students be placed on your roster" to self enrollment.

Students who buy the textbook in the QC Bookstore will receive a printed Access Card, with a code which enables them to enroll in Web Assign. (similar to image below). Instructors should tell students NOT to throw this Access Card away with the packaging. Students who buy the text elsewhere can pay for access at the website.

Calculator Guidelines:

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 141 should cover the following calculator operations

Graphing:	Y= menu, WINDOW, TRACE, GRAPH ZOOM menu
Use of the FORMAT and MODE menus	
Table Menu:	TBLSET, Using TABLE to approximate limits numerically
	Obtaining more digits than the table displays
CALC menu:	VALUE, ZERO, MIN, MAX
VARS menu:	using Y-VARS to patch in functions from the y= menu

Instructors should also demonstrate examples where numerical estimates can be misleading. Final exams in Math 141 should include problems that require use of the graphics calculator. The committee recommends that in class exams should also include some problems that require the calculator.