

## Math 142 Syllabus Fall 2014

**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 142 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 142 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. 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.

Integration		12 hours
	3.7	Antiderivatives
		Appendix C Sigma Notation
	4.1	Areas and Distances
	4.2	The Definite Integral
	4.3	Evaluating Definite Integrals
	4.4	FTC
	4.5	The substitution rule
Chapter 5	Inverse Functions	12 hours
	5.1	Inverse Functions
	5.2	The Natural Logarithmic Function
	5.3	The Natural Exponential function
	5.4	General Logarithmic and Exp functions
	5.5	Exponential growth & decay
	5.6	Inverse Trig Functions
Chapter 7	Applications of Integration	12 hours
	7.1	Area between Curves
	7.2	Volumes
	7.3	Volumes by Cylindrical Shells
	7.4	Arc Length (Don't over-emphasize examples where $(1+(f')^2)$ happens to be a perfect square)
	7.7	Differential Equations

Section 5.8 L'Hospital's Rule is postponed to Math 143. Since we also postpone Chapter 6 Methods of Integration to Math 143, in Chapter 7 instructors should avoid homework problems which require that material

### Role of Theory:

All students are expected to understand the definition of the definite integral as a limit of Riemann sums. They should be able to use this definition to compute simple definite integrals. They should also understand, and be able to state correctly and use the Fundamental Theorem of Calculus, Parts I and II. 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 142 Master Section to access these resources. To do this they enter the following section and code when they register

Math 142 Master Section Fall 2014 Class Key: qc 7495 7467

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 TI84:

On departmental finals students are not permitted to use calculators which do symbolic differentiation and integration (for example, the TI-89 or TI-92). In addition to the routines covered in Math 141, all sections of Math 142 should cover the following calculator operations

- I. Finding numerical values of definite integrals on the CALC menu or the MATH menu. E.g. examples from volume integrals and arc length in chapter 7
- II. Numerical Evaluation of Riemann Sums, using LIST menus or SEQUENCE mode  
LIST menu Routines:
  1. Entering a sequence using the LIST OPPS menu
  2. Storing and retrieving sequences
  3. Applying arithmetic operations or functions from the Y= menu to sequences
  4. Finding the sum of a stored sequence using the LIST MATH menu

These list menu routines can be taught in the course of one lecture and only require about 10 minutes of actual presentation. They are useful for evaluation of Riemann sums, and will also be useful for series in 143.

Instructors should take care to also demonstrate examples where numerical estimates can be misleading. Final exams in Math 142 should include some problems that require use of the graphics calculator.