

**Course Syllabus**  
**MA161    Calculus II**  
**Rivier College    Spring 2005**

**Tuesdays 6:30 – 9:00 pm**

**Instructor**    Dr. Olga Chuyan

**Phone**    (603) 654-9629

**E-mail**    olga\_chuyan@attglobal.net

**Cell**    (603) 714-5975

(for emergency delays and cancellations at the time of classes *only*)

### **Brief Course Description**

Calculus II is the second part of the course in calculus and a continuation of Math 160 (Calculus I). It is centered on the concept of integral and covers integration techniques and applications of integration.

### **Required Course Textbook**

*Single Variable Calculus* by Hughes-Hallett, Gleason, McCallum, et al., third edition, Wiley, 2002, ISBN: 0-471-40826-3

### **Course Objectives**

- To acquire understanding of the major concepts of integral calculus
- To develop the ability to approach calculus topics from graphical, numerical, and symbolic points of view
- To engage in mathematical reasoning
- To learn to read mathematics and to become independent learners of mathematics
- To develop the ability to create mathematical models and use these models to solve problems
- To learn to apply the concept of integral and use the basic techniques of integration

## **Learning Strategies**

All new material will be introduced in class first. You are expected to have read the material and actively participate in forming the concepts in class. We will discuss them and work through a few examples. Your active involvement is crucial: please be prepared to participate in the discussion and contribute ideas.

The next stage will be your work at home with your class notes and the textbook. Please read both your notes and the assigned textbook material making sure you understand everything, study all the examples, and then do the assigned problems. If something is unclear, formulate it as a question for the next class. Group work is a wonderful tool to use at this stage. (However, all the work you submit should be your own. If you work in a group, make sure you put aside any notes and write the solution by yourself, the way you understand it.)

At the beginning of each class, we will discuss the assignment from the previous class meeting and address all questions, concerns and uncertainties. Please do not leave anything unclear: we can only move forward successfully if we have no hazy areas left behind. All questions are always welcome: before, during, or after the class.

If, at any point, you have concerns about the course or your personal progress – please talk with me immediately, after the class or by phone or e-mail. We can certainly deal successfully with all such problems – if we do it promptly, before they have a chance to become “chronic”. If you don’t say anything – I will assume you are happy with the course and your progress.

## **Course Requirements**

- You are expected to attend all classes, to be on time for classes, and to come prepared. Please do the assigned reading, study the examples, solve the assigned problems, and formulate questions to raise in class. Never leave anything unclear.
- Each homework assignment will be collected for grading on the day for which it was assigned after the class discussion of all the unclear points. Please complete it in writing and be ready with your questions. Homework may not be handed in late, unless you make arrangements with me in advance by phone or e-mail. If you cannot avoid an absence, please make sure that a friend, roommate, or classmate will bring your homework to class.
- At the end of each class, there will be a short written quiz on the material covered by the previous home assignment and discussed in class.
- We will have two examinations: on March 1 and on April 19. They will be written tests given in class.
- We will have our final exam on Tuesday, May 3, 6–9 pm. It will be a cumulative written test.

## Grading Method

Written homework assignments:	20%
Quizzes:	20%
Two written tests:	30%
Final exam:	30%

## Tentative Course Outline (please expect adjustments)

Week 1 January 18	Review of Calculus I Differentiation	Chapters 2 & 3
Week 2 January 25	Concept of definite integral	Sections 5.1, 5.2
Week 3 February 1	Theorems about definite integrals	Sections 5.3, 5.4
Week 4 February 8	Antiderivatives	Sections 6.1, 6.2.
Week 5 February 15	Differential equations Second fundamental theorem of calculus	Sections 6.3, 6.4
Week 6 February 22	Integration techniques	Sections 7.1, 7.2, 7.3
Week 7 March 1	Examination 1	
Week 8 March 8	No class Have a good vacation!	
Week 9 March 15	Approximate integration	Sections 7.4, 7.5, 7.6
Week 10 March 22	Improper integrals	Sections 7.7, 7.8
Week 11 March 29	Some applications of integration	Chapter 8
Week 12 April 5	Series	Chapter 9
Week 13 April 12	Approximating functions: Taylor & Fourier Series	Chapter 10
Week 14 April 19	Examination 2	
Week 15 April 26	Review	

**May 3 – Final exam**