



Mathematics Department
Math1411-Calculus I

Course Outline

First Semester 2023/2024

Text Book: Thomas' Calculus 12th edition, by Weir, Hass and Giordano.

This is the first course of the Calculus series, the course will be taught in the *Lecture- discussion* form, in which the material will be presented in the lecture classes, solving homework problems will be done in the discussion classes.

Attending classes and solving (at least trying to) the homework problems is essential for understanding the material.

In this course we will cover more or less 8 chapters (1-8) and appendix A7 of the text book, for details see the assigned problems attached, we have prepared a review material for chapters 1 to 5, you can find it on ritaj.

We have selected some problems from each section in the book; each student should try to do **AT LEAST** these problems before attending the discussion class. Students are expected to have a quiz in any discussion class. Solving other problems from our text book (or any other calculus book) will improve your understanding of the material.

Grading policy for this course is as follows:

Two hour exams **50%**

Quizzes **10%**

Final Exam **40%**

Remarks:

- 1) **Attendance:** Regular attendance and participation is extremely important in this class. You will get the most benefit from the lectures and homework discussions. If you are absent from class, it is your responsibility to find out what material was covered.
- 2) **Internet:** Check your **personal Ritaj account** especially before the exams.
- 3) **Makeup Exams:** **No makeup exams will be given.** If you decide not to take an exam, you should provide a written and documented excuse and then the university formula will be used to compute your grade in the exam that you missed.
- 4) If for some reasons we could not do two hour exams, we will replace them with a midterm exam. In this case the grades will be: 35% Midterm, 15% Quizzes and 50% Final exam.

Topics Outline:

Chapter	Title	Sections
Appendix 7	Complex Numbers	A7
Ch.1-5	Review of functions, limits, continuity, differentiation, and integration.	
Ch.6	Applications of definite integrals	1,2,3,4
Ch.7	Transcendental functions	1-8
Ch.8	Techniques of integration	1,2,3,4,7

Homework Problems

A7	2, 5, 6, 8, 15, 17, 18, 20, 21, 24
	Chapter 6-Applications of integrals
6.1	2,5,6,10,18,22,25,27,28,32,36,40,44,46,49,51
6.2	2,4,9,12,14,17,24,28,29,32,34,38,39
6.3	5,7,10,19,22
6.4	14,15,18,20,22,24
	Chapter 7-Integrals and Transcendental Functions
7.1	2,9,12,16,21,32,33,42,44
7.2	2,4,10,14,16,22,24,31,34,44,54,64,66,70,71
7.3	4,14,21,23,26,38,41,48,50,52,65,73,82,91,92,98,106,108,118
7.4	25,26,30,31,36
7.5	10,16,21,27,30,34,38,41,46,52,56,60,62,66,68,72
7.6	2(c),5(a),6(b),12,16,18,22,26,34,35,40,46,50,59,64,70,74,79,86,90
7.7	2,6,10,15,20,22,46,52,54,57,60
	Chapter 8-Techniques of Integration
8.1	6,11,16,22,25,30,33,36,39,46,50,58
8.2	5,11,18,20,22,28,36,38,42,47,51,64,67,69
8.3	10,14,18,24,26,29,33,38,45,46,54
8.4	12,14,18,20,23,29,30,37,42,47,49,54
8.7	1,4,7,13,20,25,32,35,40,47,50,56,62,65