Integral Calculus
MTH 62-141, Section 01
Summer 2015

Course Instructor: Dr. Animesh Sarker

Contact Information:

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Office hours:	MR 11:30am-1:30pm
	(May 11-Aug 12)

Classes:

Section 01:

MW: 10:00am-11:20am (CN G133)

F: 10:30am-11:20am (CN G133)

Prerequisite:

All students must have passed Math 140 or MTH 139; Math 130 is not sufficient preparation.

Textbook:

Single Variable Calculus, 1st edition, by William Briggs, Lyle Cochran, Bernard Gillett.

Reference book:

Calculus: Early Transcendentals, 7th edition, by James Stewart.

Course content:

Chapter 5,6,8,9,10 and some selected sections from chapter 7.

Calculators:

Only non-graphing and non-programmable calculators are permitted on tests, and exams.

General methodology used in conducting the course:

Interactive lecture, group work, reading, exercises, responses to questions on exercises, work on computers and possible presentations by students. Most class periods will begin with questions from students about the previous period's activities, reading assigned, related computer work, or exercises assigned.

Homework:

Assignments will be given but will not be collected. It is *very* important to do your homework regularly. Some homework exercises will reappear (with trivial modifications) on quizzes or tests.

Evaluation:

Test 1	Jun 6, 9:00am-10:20am	25%
Test 2	Jul 11, 9:00am-10:20am	25%
Final Exam	Aug 24, 8:30am-11:30am	50%

No make-up tests will be given:

If you need to miss a test, you *must* inform the professor in writing in advance and provide a legitimate reason with documentation (e.g. a health certificate) following as soon as possible. If a test is missed for a legitimate documented reason, the weighting of the final exam will be increased by the weighting of the test missed. Whether such reasons are legitimate will be determined by the professor. There are no supplemental examination privileges for this course.

Writing three or more exams on the same day: A student scheduled to write three final exams in one calendar day may apply to have one exam rescheduled on an alternate examination day. The determination of which exam shall be rescheduled and the date of the alternate exam (may be the last possible day of the examination period) shall be made by the Vice-Provost, Students and Registrar. Please download the appropriate form from http://www.uwindsor.ca/registrar and submit to the Office of the Registrar.

Exam Conflicts due to Observance of Religious Holidays: Students who are unable to write the final exam during the scheduled time slot because of a conflict with religious conviction must apply for an alternative exam. The Office of Registrar will schedule the alternative exam in another slot within the regular examination period. Please download the appropriate form from http://www.uwindsor.ca/registrar and submit to the Office of Registrar. Note: These applications must be submitted by the end of the fourth week of classes.

Math and Stats Learning Center(3125 ER):

Help from graduate teaching assistants will be available there. The hours for the centre are 10:00 - 17:00, Monday - Friday.

Remarks:

1. **Daily attendance is required and expected**.

2. Last day for registration, change of course and full-refund is May 25, 2015 (Monday).

3. Last day to voluntarily withdraw and the last day to receive partial tuition refund is Jul 21, 2015 (Tuesday).

4. Study week June 22 - 26, 2015(no classes).

5. Last day of class is Aug 12, 2015(Wednesday).

6. The Student Evaluation of Teaching will be administered during the last two weeks of classes.

7. The faculty of science has a form that students MUST use if they are ill for a test/midterm/exam.

Learning Outcomes

Upon completion of this course, students should be able to

  (i) evaluate the indefinite integrals (antiderivatives) of different types of functions such as algebraic functions, logarithmic functions, trigonometric functions, inverse functions etc.

 (ii) evaluate indefinite integrals by substitution method, by integration by parts, by trigonometric substitution, by partial fractions

(iii) evaluate the Riemann sums for simple functions

(iv) interpret the definite integrals as Riemann sum

 (v) understand the basic concept of the Fundamental Theorem of Calculus

(vi) evaluate definite integrals by the Fundamental Theorem of Calculus

(vii) evaluate the improper integrals

(viii) use indefinite integral and Fundamental Theorem of Calculus to find the area between two curves, volume of a solid, arc length of a curve, area of the surface of revolution of a curve

(ix) find the centroid and work

 (x) understand the convergence of a sequence

(xi) test a series for convergence by ratio test, root test, alternating series test, integral test, divergence test, comparison test, limit comparison test

(xii) determine the radius of convergence and interval of convergence of a power series

(xiii) use series to evaluate the values of π and trigonometric ratios