KEYANO COLLEGE
THE ESSENTIAL ELEMENT

Course Outline

UNIVERSITY STUDIES

MATH 1113A
Elementary Calculus I
Winter 2013

3 CREDITS
4 HOURS PER WEEK

INSTRUCTOR: Matthew Morin

Instructor Information

Name: Matthew Morin
Phone Number: 780-791-4831
Email: matthew.morin@keyano.ca
Office Number: S211E
Office Hours: Monday: 14:00 – 14:50
                  Tuesday: 14:00 – 14:50
                  Wednesday: 14:00 – 14:50
                  Thursday: 14:00 – 14:50
                  Friday: 14:00 – 14:50

Hours of Instruction

Tuesday	12:00 - 12:50	Room 112	(Lecture)
Wednesday	13:00 - 13:50	Room 267	(Lecture)
Thursday	13:00 - 13:50	Room 212	(Lecture)
	15:00 - 15:50	Room 233	(Tutorial)

Course Description

This course is an introduction to the differential and integral calculus of algebraic functions of a single variable. Topics include limits and continuity of functions, techniques and applications of differentiation and definition and properties of the definite integral.

Prerequisites

Math 30 or equivalent.

Required/Recommended Resources

Textbook: Calculus, Early Transcendentals; James Stewart (7th edition).

Moodle: Course information will be available through Moodle.
http://ilearn.keyano.ca

WebAssign: Subscription to WebAssign (http://webassign.net/) is required for the completion of homework and lab assignments.

Calculator: Any scientific calculator should be sufficient.

Course Outcomes

The student will be able to:
1. To understand the basic concepts of the derivative and the integral.
2. To apply calculus to concrete problems.
3. To deepen your skills at visualizing functions.

Evaluation

Assignments	Online Problems (WebAssign)	5%
	Traditional Problems	5%
	Presentation	5%
Tests	Quizzes	15%
	Midterm Examination	25%
	Final Examination	45%
Total:		**100%**

Assignments

In any mathematics course ***the best way "to learn" is "to do."*** The instructor can teach you about the course ideas and demonstrate the mechanics of solving the problems (and can make it look very easy), but in order to grow adept at solving these problems take a lot of practice (and can at times be a struggle). Although the assignments may not count for much of your final grade *they are essential in preparing you for the types of problems you will be expected to solve on the tests*.

The online assignments will be assigned on an approximately week-by-week basis and will be weighted equally. Assignments will be completed using *WebAssign*, a software program that our textbook uses. Students are responsible to pay attention in-class or check WebAssign often to keep apprised of the due dates of these assignments.

Even for these online assignments it is recommended that you work out these problems by hand (on paper) before attempting to submit your solution through WebAssign. It is strongly recommended that you keep all this written work together in a notebook so that you have it to refer to for studying purposes.

There will also be a few traditional (not online) assignments that are to be solved on paper and handed in for grading. (There are some types of problems that WebAssign does not handle very well.) This will also give you some more experience at writing out your solutions and for me to have a more-involved way of checking your progress.

During our tutorial hours we will be supplementing the lectures by looking at applying our concepts to specific applied problems. Over the semester each student will be expected to choose and present the solution to

(at least) two short problems. The list of presentation problems will be supplied near the start of term. Students are required to discuss with the instructor which problems they would like to present.

Tests

All tests will be written and are closed-book. No calculators are allowed, nor should they be needed. The topics covered by each test will be described in advance in-class and will be posted on Moodle. These tests are meant to test how well you have "mastered" the subject matter. Satisfactory completion of the relevant assignment problems is the very minimum amount of work that should prepare you for the types of problems that could appear on a test. Testing requires that you will need to be adept at solving these sorts of problems, so practicing the methods with additional problems is recommended.

Quizzes will be short (approximately 20 minutes) and will take place during tutorial times. The midterm exam will take place during a lecture hour (50 minutes).

Grading System

Standing	Letter Grade	Grade Points
Excellent	A+	4.0
	A	4.0
	A-	3.7
Good	B+	3.3
	B	3.0
	B-	2.7
Satisfactory	C+	2.3
	C	2.0
	C-	1.7
Poor	D+	1.3
Min Pass	D	1.0
Failure	F	0.0

Performance Requirements

Student Attendance

Class attendance is essential for two reasons. First, class attendance is the primary way that we, as instructors, can facilitate a student's learning experience. Second, attending class is a good way to keep informed of matters relating the administration of the course (e.g., the timing of assignments and exams). Ultimately, you are responsible for your own learning and performance in this course.

As is stated in the *Student Rights and Responsibilites* section of the Credit Calendar, "**Excessive or inexcusable absences can result in a poor or failing grade, loss or reduction of sponsor allowances, and/or probation or suspension**."

Student Preparation

It is the responsibility of each student to be prepared for all classes. To get the most out of the classroom experience, students should have read the appropriate section of the textbook prior to the class that it is covered.

Students who miss classes are responsible for the material covered in those classes and for ensuring that they are prepared for the next class, including the completion of any assignments and/or readings that may be due.

Plagiarism and Cheating

Every student expects to be treated and evaluated fairly in a course. Plagiarism and cheating robs everyone of this right.

No student may submit words, ideas or data of another student or person as his or her own in any writing, project, assignment, quiz, electronic presentation, exam etc. Any work used that is not the student's own must be clearly cited as belonging to someone else. There are penalties for using other's work and not citing it. The Student's Rights & Responsibilities document clearly outlines these penalties and the appeal process.

- No learner can obtain information from another student during an exam.
- No learner can bring unauthorized information (paper or electronic) into an exam or quiz.
- No student can submit work done in another course for grading in this course without the written prior approval of the course instructor.
- No student can submit copyright protected or commercially produced materials as part or all of an assignment without proper citation & permission.

COLLEGE POLICIES

Equality, Equity and Respect

The Keyano College is committed to providing an environment of equality, equity and respect for all people within the College community. All members of this community are considered partners in developing teaching and learning contexts that are welcoming to all. Faculty, staff, and students are encouraged to use inclusive language to create a classroom atmosphere in which students' experiences and views are treated with equal respect and valued in relation to their gender, ethnic and cultural background, and sexual orientation.

Students should consult:
http://www.keyano.ca/Committees/IRA/Individual_Rights_Policy.asp

Accommodation for Students with Disabilities

Disability Support Services: Learner Assistance Program

If you have a documented disability or you think that you would benefit from some assistance from a Disabilities Counsellor, please call or visit the Disability Supports Office 780-792-5608 to book an appointment (across from the library). Services and accommodations are intended to assist you in your program of study, while maintaining the academic standards of Keyano College. We can be of assistance to you in disclosing your disability to your instructor, providing accommodations, and supporting your overall success at Keyano College.

Specialized Supports and Duty to Accommodate

Specialized Support and Duty to Accommodate are aligned with the office of Disability Support Services: Learner Assistance Program (LAP) guided by federal and provincial human rights legislation, and defined by a number of Keyano College policies. Keyano College is obligated by legislation to provide disability-related accommodations to students with identified disabilities to the point of undue hardship.

APPROXIMATE COURSE SCHEDULE

Week	Dates	Topic	Chapter Sections
1	Jan. 7—Jan. 11	Preliminaries / Review	Chapter1, Appendix B, D
2	Jan. 14—Jan. 18	Limits, Limit Laws	2.1, 2.2
3	Jan. 21—Jan. 25	Continuity, Limits at Infinity, The Derivative	2.3, 2.5, 2.6,
4	Jan. 28—Feb. 1	The Derivative, Derivative Rules	2.7, 2.8, 3.1
5	Feb. 4—Feb. 8	Derivative Rules	3.2, 3.3, 3.4,
6	Feb. 11—Feb. 15	Implicit Differentiation, Derivatives of Logarithmic Functions	3.5, 3.6
7	Feb. 18—Feb. 22	**Midterm**	
	Feb. 25—Mar. 1	*Reading Week*	
8	Mar. 4—Mar. 8	Applications of Differentiation, Related Rates	3.7, 3.8, 3.9
9	Mar. 11—Mar. 15	Minimum and Maximum Values, MVT	4.1, 4.2
10	Mar. 18—Mar. 22	Curve Sketching	4.3, 4.5
11	Mar. 25—Mar. 29	Optimization Problems, Antiderivatives	4.7, 4.9
12	Apr. 1—Apr. 5	Area/Distance Problem, Definite Integrals	5.1, 5.2,
13	Apr. 8—Apr. 12	FTOC, Indefinite Integrals	5.3, 5.4,
14	Apr. 15—Apr. 19	Substitution Rule	5.5
	Apr. 22—Apr. 30	**Exam Period**	

Please Note: This course outline may be modified to facilitate unforeseen time constraints. Date and time allotted to each topic is subject to change.

IMPORTANT DATES TO REMEMBER

Jan. 7	Winter Semester Begins
Jan. 11	Last day to add classes, Winter Semester Fees due
Jan. 18	Last day to drop for academic programs
Last day to withdraw from full year courses without academic penalty
Feb. 15	Last day to withdraw with a 50% refund
Feb. 18	*College Closed* (Family Day)
Feb. 25 – Mar. 1	*Reading Week* (No Classes for academic programs)
March 8	Last day to withdraw without academic penalty
March 29	*College Closed* (Good Friday)
April 1	*College Closed* (Easter Monday)
April 19	Last day of classes
April 22 – 30	FINAL EXAM PERIOD.

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Matthew Morin, Instructor   **Date**

Reviewed and approved by:

_____   _____

Louis Dingley, Chairperson   **Date**

_____   _____

Guy Harmer, Dean   **Date**