

## DETAILED MATH 1LT3 COURSE OUTLINE

If you plan to apply for a program (such as pharmacy, optometry, dentistry, etc. ) that requires calculus, and are asked to present a detailed course outline, then go [here](#) and use the information provided (you can print the page, or direct the school to visit the web page at <http://ms.mcmaster.ca/lovric/1LS3/1LS3courseoutlineph.html>).

As well, you can visit the Science Career Services (BSB/127) where you will be able to obtain information about course equivalences for various schools, professional degree programs, etc. You can also visit their [webpage](#), to see what's there and to make an appointment to talk a counselor.

\*\*\* The outline of activities and the marking scheme are for general guidance only. The instructor reserves the right to modify parts of either as circumstances may dictate. \*\*\*

## MATH 1LT3: CALCULUS II FOR THE LIFE SCIENCES Course Information Winter 2018

**\*\* Note: You are expected to check the webpage often, at least before each lecture (if you think you will not be able to do it, talk to your lecturer as soon as possible).**

**\*\* Another Note: This course is not on AVENUE! All course information will be posted on this webpage and/or announced in lectures.**

Instructor:	Office:	Email:
Erin Clements	HH/425	<a href="mailto:clemene@math.mcmaster.ca">clemene@math.mcmaster.ca</a>

Teaching Assistant:	Office:	Email:
Peter Sinclair	Math Help Centre	<a href="mailto:sinclapt@math.mcmaster.ca">sinclapt@math.mcmaster.ca</a>

\*\*\* The **Math Help Centre** is a learning space where you can get free help from experienced tutors - no appointment necessary! It is located in the basement of Hamilton Hall (HH/104). For further information, click [here](#).

### Lectures:

Section	When	Where
C01	Monday, 9:30am - 10:20am Tuesday, 10:30am - 11:20am Thursday, 9:30am - 10:20am	JHE 376

### Tutorials:

Note: Tutorials begin the week of January 8th.

Section	When	Where
T01	Wednesday, 1:30pm - 2:20pm	BSB 147

**\*\* Note: Lectures AND tutorials are integral parts of the course and you should plan to attend them regularly.**

### Course Description:

This course is a continuation of Calculus for Life Sciences I and serves to strengthen mathematical foundations and introduce important techniques and ideas which have many current applications in the life sciences. Specifically, the course will focus on analyzing and solving differential equations, applying calculus to functions of several variables, and studying important introductory concepts in probability and statistics. Applications will be chosen for their relevance to the life sciences.

### Resources:

1. Math 1LS3 textbook.

"Calculus for the Life Sciences: Modelling the Dynamics of Life", by F. R. Adler and M. Lovric, Second Canadian Edition, published by Nelson Education, 2015. ISBN10: 0-17-653078-9. ISBN13: 978-0-17-653078-5.

2. Functions of Several Variables Module.

This is a paperback module to accompany the Math 1LS3 textbook available separately in the bookstore or sold together with the Math 1LS3 textbook in a bundle.

3. Probability and Statistics Module.

This is a paperback module to accompany the Math 1LS3 textbook available separately in the bookstore or sold together with the Math 1LS3 textbook in a bundle.

4. Student Solutions Manual for the textbook (optional).

Selected solutions to the odd-numbered exercises in the text. Note: Final answers to odd-numbered exercises are at the back of the textbook. This manual provides detailed solutions to these exercises.

5. Solutions to the odd-numbered questions for the two modules are free; the links are posted under the SOLUTIONS link on the course web page.

### Homework assignments:

As in Math 1LS3, there will be assignments each week for you to complete as homework, but not hand in for credit. It is important to work regularly on these assignments to further your understanding of the material and to be able to follow the lectures. Test questions will resemble the assignment questions in terms of coverage and difficulty. Assignments will be posted on the course webpage at the beginning of each week and solutions will be posted at the end of the week.

### Tests:

There will be three term tests, each 60 minutes in length. Details (e.g., material that will be covered, test locations, etc.) will be announced on the course webpage about a week before each test. The standard McMaster calculator Casio fx 991MS+ may be used during the tests. Note: You must bring your student ID to each test!!

### Tentative Test Dates/Times:

Test 1: January 31, 7pm - 8pm

Test 2: March 1, 7pm - 8pm

Test 3: March 28, 7pm - 8pm

**Final Examination:**

There will be a cumulative final exam during the April exam period. Date/time/location will be scheduled by the Registrar and made available to you in your Mosaic account. Details (e.g., material that will be covered, how to study, etc.) will be announced on the course webpage several weeks before the exam. The standard McMaster calculator Casio fx 991MS+ may be used during final exam. Note: You must bring your student ID to the final exam!!

**Course Evaluation:**

Tests	60%
Final Exam	40%

The instructor reserves the right to change the weight of any portion of this marking scheme. For students in good academic standing, other weights might be considered. In either case, the final mark will be computed using this weighting and the new weighting(s). The highest score for a particular student will be their final grade.

At the end of the course the grades may be adjusted but this can only increase your grade and will be done uniformly. The grade equivalence chart published in the Undergraduate Calendar will be used to convert between percentages and letter grades.

**Marks and Mark Corrections:**

As the term progresses, all test marks will be posted on the course webpage. For reasons of privacy, all posted grades will be labeled with only the last five digits of your student number. It is your responsibility to check for errors in the grades before the day of the final exam, and to report any discrepancies to your instructor. No errors will be corrected unless reported by this time.

**In case of difficulty/problems:**

Contact your instructor (in person, or by email) as soon as possible. Failing that, talk to a student adviser in \*your\* faculty. They can help you with all kinds of issues and academic inquiries (such as longer or repeated absences, requests for deferral of exams, course selection, adding or dropping courses, getting in and out of various programs, and so on). If you are in Science, check the [Associate Dean's Office web page](#), or go to the Associate Dean's Office in BSB-129.

**\*\* Please Note the Following Policies and Statements \*\*****Modification of Course Outlines**

The instructor and University reserve the right to modify elements of the course during the term. The University may change the dates and deadlines for any or all courses in extreme

circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. Any significant changes should be made in consultation with the Department Chair. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

### **McMaster Student Absence Form (MSAF)**

In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar Requests for Relief for Missed Academic Term Work. Please note these regulations have changed beginning Fall 2015. You can find information at [mcmaster.ca/msaf/](http://mcmaster.ca/msaf/). If you have any questions about the MSAF, please contact your Associate Dean's office.

Note: When calculating final grades, I will only include the best two out of three test marks for each student (i.e., your lowest test mark will be automatically dropped). So, if you miss one test or use the MSAF for a test, the remaining two tests that you write will be weighted as 30% each.

### **Academic Accommodation of Students with Disabilities**

Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contacted by phone 905-525-9140 ext. 28652 or e-mail [sas@mcmaster.ca](mailto:sas@mcmaster.ca). For further information, consult McMaster University's Policy for Academic Accommodation of Students with Disabilities.

### **Academic Accommodation for Religious, Indigenous and Spiritual Observances**

Students requiring academic accommodation based on religion and spiritual observances should follow the procedures set out in the Course Calendar or by their respective Faculty. In most cases, the student should contact his or her professor or academic advisor as soon as possible to arrange accommodations for classes, assignments, tests and examinations that might be affected by a religious holiday or spiritual observance.

### **Academic Dishonesty:**

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at <http://www.mcmaster.ca/academicintegrity>.

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.

2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.