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## MAT1330 Section B (Fall 2017) Calculus for the Life Sciences I

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**Description of the Course:** Discrete dynamical systems: equilibrium points, stability, cobwebbing. Derivatives: product and quotient rules, chain rule, derivative of exponential, logarithm and basic trigonometric functions, higher derivatives, curve sketching. Applications of the derivative to life sciences. Integrals: indefinite and definite integrals, fundamental theorem of calculus, antiderivatives, substitution, integration by parts. Applications of the integral to life sciences.

**Prerequisite:** One of MAT1339, Ontario 4U Calculus and Vectors (MCV4U) or an equivalent. The courses MAT1330, MAT1300, MAT1308, MAT1320 cannot be combined for credits.

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### How to learn Calculus

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**Attend the lectures:** Make sure you go to class and take good notes.

LEC	Monday	10:00–11:30	MHN 033
LEC	Wednesday	8:30–10:00	MHN 033

**Attend the DGDs:** This is your Discussion Group, led by a graduate student TA. Prepare by doing the posted exercises, and use your time well by asking questions! You are registered to **one** of the following DGD sections:

DGD B01	Tuesday	10:00–11:30	TBT 070
DGD B02	Wednesday	10:00–11:30	LMX 390
DGD B03	Wednesday	13:00–14:30	STE J0106
DGD B04	Thursday	11:30–13:00	FTX 361

**Stay up-to-date with Virtual Campus:** The course webpage is on **Virtual Campus** (powered by Brightspace) of the University of Ottawa. Announcements, Homework assignments, DGD questions, test/homework solutions, and more will be posted there. You will need to check Virtual Campus regularly.

**Check the website:** There is also a common MAT1330 webpage here:  
<http://mysite.science.uottawa.ca/mnevins/MAT1330/>

**Stay mathematically fit! Do lots of exercises:**

Practice! Do homework exercises, textbook exercises, DGD exercises, and any other suggested exercises. Work on examples from class to see if you can remember how to solve them on your own. Calculus is not a course where last-minute memorization is enough to succeed. The more time you spend regularly working on the exercises, the stronger your results will be. Although it may seem counter-intuitive, you should spend time working on the exercises *before* you try to fully understand the theory.

**Use the textbook:**

▶▶▶ [this textbook information was updated/clarified on Sept. 4](#)◀◀◀  
The recommended textbook is

*Calculus For The Life Sciences: Modelling the Dynamics of Life, 2nd edition*  
by F. Adler & M. Lovrić.

There are several editions of this textbook, some available used, some with F. Adler as sole author. Any of them will work for this course. You will use the textbook to see more examples and to do the list of suggested exercises. **Note:** You may also find two add-on modules which are optional for MAT1332 in the Winter term: *Linear Algebra* and *Functions of Several Variables*. The 2nd Edition of the Adler/Lovrić textbook is available at the [Agora Student Bookstore](#) and at the [uOttawa Campus Bookstore](#) (in the University Centre).

**Get instant feedback from your MapleTA homework:**

Homework assignments are to be completed online using MapleTA. You will need to purchase a license for MapleTA in order to log in, and you'll need to familiarize yourself with the syntax for MapleTA (more details to be given later). Once you get used to it, you will have the satisfaction of having your homework assignment results immediately.

**Ask for help:**

Ask for help when you need it (before things become too overwhelming). Talk to your instructor and TA. We are here to help. Don't be afraid to ask questions during lectures and DGDs. Feel free to email questions too.

**Visit your professor's Office Hours:**

Whenever you need concepts clarified or would like to discuss the course, please drop in to my Office Hours (to be announced soon). Feel free to email me to make appointments on other days/times if needed.

**Visit the Math Help Centre:**

In addition to the DGDs, lectures, and professor's office hours, you can get help at the Math Help Centre, located in TBT C-115. For more details, go to <http://science.uottawa.ca/en/faculty-services/undergraduate-studies#MAT>

**Accessibility:**

The University of Ottawa is committed to ensure that persons with disabilities have equal access to its services and events. If you are in need of accommodation during this course due to a disability, please consult with Access Services as soon as possible: <http://sass.uottawa.ca/en/access>

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## How you will be evaluated

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**MapleTA homework worth 10%:** Weekly (approximately) homework assignments are to be completed on-line using MapleTA. Students are required to purchase a license for MapleTA. More details on this are given later.

**2 Tests worth 20% each:** The tests will be written in class on the following two dates:

**Test 1:** Wednesday, October 4, 2017

**Test 2:** Wednesday, November 8, 2017

**Final Exam worth 50%:** There will be a 3-hour final exam, scheduled during the Exam Period (Dec. 8–21, 2017). The Final Exam will cover all the material taught in the course and is worth 50% of your final grade. (The final exam schedule will be posted around reading week; do not book a flight home based on guessing your exam schedule.)

### **Important Exceptions:**

- ◇ In order to pass the course (i.e. to obtain letter a letter grade of D or higher), you must obtain a mark higher than 45% on your Final Exam.
- ◇ If your mark on the Final Exam is 40% or lower, then you will fail the course (F), regardless of your other marks.
- ◇ If your mark on the Final Exam is 45% or lower, then your final grade will be E at best, or else F, depending on the marks of your other term work.

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## Policies for tests

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**Test procedures:** You should bring your student card to tests. Students may not enter after or leave before 20 minutes have passed from the beginning of a test. Questions about grading should be submitted to the professor within 5 working days of the date that the graded tests are ready for students to pick up.

**Calculators:** The only calculators allowed during tests and the exam are one of the following models: Texas Instruments TI-30, Texas Instruments TI-34, Casio fx-260, or Casio fx-300. Any other make/model of calculator brought to a test or exam **will be confiscated**; you will be left to write your test without a calculator if you do not have one of the approved models — no exceptions.

**Policy for missing a test:**

If you need to miss a test for a **valid/serious** reason, then you must email the professor **before** the test and provide proper justification (such as a certificate from UO Health Services or equivalent) within **5 working days** after your justification to miss class expires, in which case the weight of the missed test will be transferred to the weight of the final exam.

**Note.** Your justification/documentation must be an original hard copy, *not* an electronic copy, *not* a photocopy. Otherwise, you will be assigned a grade of 0 on that test.

**Policy for Electronic Devices:**

Cellular phones, unauthorized electronic devices, calculators or course notes are **not** allowed during tests and exams. Phones and devices (including Smartwatches) must be turned off and put away in your bag. Do not keep them in your possession, such as in your pockets. **If caught with such a device or document, academic fraud allegations may be filed which may result in you obtaining a 0 (zero) for the exam.** Therefore, come to your exams with a plan of how to store your device away from your person.

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## MapleTA information

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**MapleTA license:**

Purchase your one-year MapleTA license from [here \(click this link\)](https://webstore.maplesoft.com/?purchasetype=student&promocode=UOTTAWA2017FA&location=Canada), or go to <https://webstore.maplesoft.com/?purchasetype=student&promocode=UOTTAWA2017FA&location=Canada>

The cost for a one-year license is \$24.95+tax, and you will use the same license for MAT1332, assuming you take it in Winter 2018. When you purchase the license you will get a username and password.

**MapleTA login:**

After you own a license for MapleTA, you can login to your account from [here](#), or go to the uOttawa MapleTA portal: <http://place32.placementtester.com:8080/uottawa/login/login.do>

**Note.** Searching the web for MapleTA can and will lead you to login sites for other universities, which won't work.

**Warning:**

After you have bought your license, **you must change your profile on MapleTA to enter your uOttawa** student number, your “@uottawa.ca” email address, and your last name and first name. **If you do not do this**, then your grades will not get transferred to Brightspace and **you will get zero for your assignments.**

**Warning:**

The servers might be slow during peak times, such as a few hours before the deadline; you should not count on doing assignments at the last minute.

**MapleTA FAQ:**

You will need to familiarize yourself with the syntax for MapleTA. If you do not enter your answers for homework using the correct format/syntax that MapleTA understands, then MapleTA may reject your answers (even if they are mathematically correct). To avoid such frustrating situations, start by reading about MapleTA here: [MapleTA FAQ \(English\)](#). [MapleTA FAQ \(French\)](#).

When something does not work, please consult the FAQ *before* contacting your professor.

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## Important dates for MAT1330B

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Wednesday, <b>September 6</b>	first class
Wednesday, <b>September 13</b>	first DGD for DGD sections B02 and B03
Thursday, <b>September 14</b>	first DGD for DGD section B04
Tuesday, <b>September 19</b>	first DGD for DGD section B01
Wednesday, <b>October 4</b>	<a href="#">Test 1</a> in class
Monday, <b>October 9</b>	thanksgiving break
<b>October 22–28</b>	reading week break
Wednesday, <b>November 8</b>	<a href="#">Test 2</a> in class
Friday, <b>November 17</b>	last day to withdraw from a course
Wednesday, <b>November 29</b>	last DGD for DGD sections B02 and B03
Thursday, <b>November 30</b>	last DGD for DGD section B04
Tuesday, <b>December 5</b>	last DGD for DGD section B01
Wednesday, <b>December 6</b>	last class ←MONDAY SCHEDULE AT UOTTAWA!
<b>December 8–21, 2017</b>	final exam period

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## University of Ottawa Services and Policies

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**Academic Integrity.** Academic integrity means being responsible for the quality of your work, preparing it honestly, and respecting the intellectual community you are part of as a student. Every member of the University community has the moral obligation to learn and share knowledge with honesty and integrity. For more information, please see <http://www.uottawa.ca/vice-president-academic/academic-integrity>

**Academic Fraud.** Academic fraud refers to “an act by a student that may result in false academic evaluation of that student or another student”. Plagiarism and all forms of cheating are taken very seriously at the University of Ottawa. Please take the time to see <http://www.uottawa.ca/academic-regulations/academic-fraud.html>

**Accessibility.** The University provides academic accommodations for students with disabilities in accordance with the terms of the Ontario Human Rights Code. This occurs through a collaborative process that acknowledges a collective obligation to develop an accessible learning environment that both meets the needs of students and preserves the essential academic requirements of the University’s courses and programs. The University of Ottawa is committed to ensure that persons with disabilities have equal access to its services and events.

**Access Services.** The University of Ottawa accommodates students with disabilities through Access Services, a division of the Student Academics Success Service (SASS). SASS is a *free* network of services and programs designed to give you the tools and information you need to succeed. Delivered by professionals and fellow students who care about your success and your well-being, the programs and services of SASS complement your classroom learning and support you in achieving your academic and professional goals. Please note that there are deadlines for registering with Access Services. For more information, please visit <https://sass.uottawa.ca/en/access/>

**Sexual Violence.** The University of Ottawa will not tolerate any act of sexual violence. This includes acts such as rape and sexual harassment, as well as misconduct that take place without consent, which includes cyberbullying. The University, as well as various employee and student groups, offers a variety of services and resources to ensure that all uOttawa community members have access to confidential support and information, and to procedures for reporting an incident or filing a complaint. For more information, please visit <http://www.uOttawa.ca/sexual-violence-support-and-prevention/>

**Test/Exam Policy for Electronic Devices.** Cellular phones, unauthorized electronic devices, calculators or course notes are **not** allowed during tests and exams. Phones and devices (including Smartwatches) must be turned off and put away in your bag. Do not keep them in your possession, such as in your pockets. **If caught with such a device or document, academic fraud allegations may be filed which may result in you obtaining a 0 (zero) for the exam.** Therefore, come to your exams with a plan of how to store your device away from your person.