



MATH*1030 Business Mathematics

Summer 2021

Section: DE01

Department of Mathematics and Statistics

Credit Weight: 0.50

Course Details

Calendar Description

Primarily intended for business and economics students, this course is designed to introduce and reinforce the essential mathematical skills needed to understand, analyze, and solve mathematical problems related to business and economics. Topics covered include basic algebra; functions, including a review of exponential and logarithmic functions; sequences and series with financial applications; limits; continuity; and differential calculus including derivatives, higher order derivatives, and curve sketching.

Pre-Requisite(s): 4U Advanced Functions

Co-Requisite(s): None

Restriction(s): MATH*1080, MATH*1200 Not available to students registered in the BSC program.

Method of Delivery: Online

Final Exam

Release Date and Time: Monday, August 9 at 10:00 am ET

Submission Due Date and Time: Friday, August 13 at 10:00 pm ET

Location: Take-home final exam to be submitted via the **Dropbox** tool in CourseLink

Instructional Support

Instructor

Steven Gismondi

Email: gismondi@uoguelph.ca

Office: MACN510

Office Hours via **Microsoft Teams: Tuesdays 10:00 -11:00 EDT**. Please note that further details will be posted in the **Announcements**. See also **Communicating with Your Instructor**.

Teaching Assistant(s)

Name: TBA

Email: TBA

Learning Resources

Required Textbook

There is no required textbook for this course.

Course Website

[CourseLink](https://courselink.uoguelph.ca) (powered by D2L's Brightspace) is the course website and will act as your classroom. It is recommended that you log in to your course website every day to check for announcements, access course materials, and review the weekly schedule and assignment requirements.

<https://courselink.uoguelph.ca>

Learning Outcomes

Course Learning Outcomes

This course is designed for students interested in the application of mathematics in a business setting. Some of the topics covered include: the role of mathematics in business decisions; a review of basic algebra; methods of solving equations; sequences, series, and limits, and their application to finance; an introduction to derivatives and integrals; and systems of linear equations.

By the end of this course, you should be able to:

1. Use basic algebra to simplify and manipulate algebraic equations;
 2. Describe and manipulate elementary functions, including logarithmic functions, exponential functions, and linear, quadratic, and higher order polynomials;
 3. Sketch, identify, and interpret a wide variety of graphs;
 4. Construct and solve systems of linear equations derived from worded descriptions;
 5. Interpret the meaning of a limit, and be able to calculate limits involving simple functions and sequences;
 6. Describe the differences between sequences and series, and use formulas resulting from finite and infinite series to solve problems involving payments, deposits, and interest rates;
 7. Explain the geometric and practical meanings of a derivative, find derivatives of functions, and use derivatives to solve optimization problems; and
 8. Apply the mathematical methods covered in the course to solve real-world problems in finance, business, and economics.
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Teaching and Learning Activities

Course Structure

This course is divided into 12 units of study:

- Unit 01: Review of Algebra
- Unit 02: Linear Equations
- Unit 03: Quadratic and Higher Order Polynomial Equations
- Unit 04: Exponentials and Logarithms
- Unit 05: Systems of Linear Equations
- Unit 06: Sequences
- Unit 07: Series
- Unit 08: Applications to Finance
- Unit 09: Limits and Continuity
- Unit 10: Derivatives
- Unit 11: Curve Sketching
- Unit 12: Optimization

Schedule

It is strongly recommended that you follow the course schedule provided below. The schedule outlines what you should be working on each week of the course and lists the important due dates for the assessments. By following the schedule, you will be better prepared to complete the assessments and succeed in this course.

Unit 01: Review of Algebra

Week 1 - Thursday, May 13 to Sunday, May 23

Readings

- CourseLink: Unit 01 Notes

Activities

- Familiarize yourself with the course website by selecting **Start Here** on the navbar.
- Review **Outline** and **Assessments** on the course website to learn about course expectations, assessments, and due dates.
- Complete Unit 01 Exercises

Unit 02: Linear Equations

Week 2 - Monday, May 24 to Sunday, May 30

Readings

- CourseLink: Unit 02 Notes

Activities

- Complete Unit 02 Exercises

Assessments

- **Quiz 1** (Unit 01)
Opens: Thursday, May 27 at 12:00 pm ET
Closes: Sunday, May 30 at 11:59 pm ET

Unit 03: Quadratic and Higher Order Polynomial Equations

Week 3 – Monday, May 31 to Sunday, June 6

Readings

- CourseLink: Unit 03 Notes

Activities

- Complete Unit 03 Exercises

Assessments

- **Quiz 2** (Unit 02)
Opens: Thursday, June 3 at 12:00 pm ET
Closes: Sunday, June 6 at 11:59 pm ET

Unit 04: Exponentials and Logarithms

Week 4 – Monday, June 7 to Sunday, June 13

Readings

- CourseLink: Unit 04 Notes

Activities

- Complete Unit 04 Exercises

Assessments

- **Quiz 3** (Unit 03)
Opens: Thursday, June 10 at 12:00 pm ET
Closes: Sunday, June 13 at 11:59 pm ET

Unit 05: Systems of Linear Equations

Week 5 – Monday, June 14 to Sunday, June 20

Readings

- CourseLink: Unit 05 Notes

Activities

- Complete Unit 05 Exercises

Assessments

- **Quiz 4** (Unit 04)
Opens: Thursday, June 17 at 12:00 pm ET
Closes: Sunday, June 20 at 11:59 pm ET

Unit 06: Sequences

Week 6 – Monday, June 21 to Sunday, June 27

Readings

- CourseLink: Unit 06 Notes

Activities

- Complete Unit 06 Exercises

Assessments

- **Quiz 5** (Unit 05)
Opens: Thursday, June 24 at 12:00 pm ET
Closes: Sunday, June 27 at 11:59 pm ET

Unit 07: Series

Week 7 – Monday, June 28 to Sunday, July 4

Readings

- CourseLink: Unit 07 Notes

Activities

- Complete Unit 07 Exercises

Assessments

- **Quiz 6** (Unit 06)
Opens: Thursday, July 1 at 12:00 pm ET
Closes: Sunday, July 4 at 11:59 pm ET

Unit 08: Applications to Finance

Week 8 – Monday, July 5 to Sunday, July 11

Readings

- CourseLink: Unit 08 Notes

Activities

- Complete Unit 08 Exercises

Assessments

- **Quiz 7** (Unit 07)
Opens: Thursday, July 8 at 12:00 pm ET
Closes: Sunday, July 11 at 11:59 pm ET

Unit 09: Limits and Continuity

Week 9 – Monday, July 12 to Sunday, July 18

Readings

- CourseLink: Unit 09 Notes

Activities

- Complete Unit 09 Exercises

Assessments

- **Quiz 8** (Unit 08)
Opens: Thursday, July 15 at 12:00 pm ET
Closes: Sunday, July 18 at 11:59 pm ET

Unit 10: Derivatives

Week 10 – Monday, July 19 to Sunday, July 25

Readings

- CourseLink: Unit 10 Notes

Activities

- Complete Unit 10 Exercises

Assessments

- **Quiz 09** (Unit 09)
Opens: Thursday, July 22 at 12:00 pm ET
Closes: Sunday, July 25 at 11:59 pm ET

Unit 11: Curve Sketching

Week 11 – Monday, July 26 to Sunday, August 1

Readings

- CourseLink: Unit 11 Notes

Activities

- Complete Unit 11 Exercises

Assessments

- **Quiz 10** (Unit 10)
Opens: Thursday, July 28 at 12:00 pm ET
Closes: Sunday, August 1 at 11:59 pm ET

Unit 12: Optimization

Week 12 – Monday, August 2 to Monday, August 9

Readings

- CourseLink: Unit 12 Notes

Activities

- Complete Unit 12 Exercises

Assessments

The grade determination for this course is indicated in the following table. A brief description of each assessment is provided below. Select **Content** on the navbar to locate **Assessments** in the table of contents panel to review further details of each assessment. Due dates can be found under the Schedule heading of this outline.

Table 1: Course Assessments

Assessment Item	Weight
Quizzes (Best 9 out of 10)	50%
Final Exam	50%
Total	100%

Assessment Descriptions

Quizzes

There will be 10 online quizzes occurring in weeks 2–11.

Final Exam

This course requires you to submit a take-home final exam to the **Dropbox** tool in CourseLink. Select **Content** on the navbar to locate **Assessments** in the table of contents panel to review further details of the final exam.

Note: You must achieve a passing grade in the Final Examination in order to pass this course. If your Final Examination grade is below 50% it will be your final grade in this course. For example, if you get 43% on the Final Examination, you will get 43% in this course – no matter how well you do in your quizzes.

Course Technology Requirements and Technical Support

CourseLink System Requirements

You are responsible for ensuring that your computer system meets the necessary [system requirements](#). Use the [browser check](#) tool to ensure your browser settings are compatible and up to date. (Results will be displayed in a new browser window).

<https://opened.uoguelph.ca/student-resources/system-and-software-requirements>

<https://courselink.uoguelph.ca/d2l/systemCheck>

Microsoft Teams System Requirements

This course makes use of **Microsoft Teams** as a video communication tool. A Webcam, a microphone and headphones/speakers are required. In order to use **Microsoft Teams**, you must meet the following technical requirements:

1. An internet connection – broadband wired or wireless (3G or 4G/LTE);
2. Speakers and a microphone – built-in or USB plug-in or wireless Bluetooth;
3. A webcam or HD webcam - built-in or USB plug-in;

Supported mobile platforms: Android 4.4 or later and iOS 10.0 or later.

Technical Skills

As part of your online experience, you are expected to use a variety of technology as part of your learning:

- Manage files and folders on your computer (e.g., save, name, copy, backup, rename, delete, and check properties);
- Install software, security, and virus protection;
- Use office applications (e.g., Word, PowerPoint, Excel, or similar) to create documents;
- Be comfortable uploading and downloading saved files;
- Communicate using email (e.g., create, receive, reply, print, send, download, and open attachments);
- Navigate the CourseLink learning environment and use the essential tools, such as **Quizzes**, **Discussions**, and **Grades** (the instructions for this are given in your course);
- Access, navigate, and search the Internet using a web browser (e.g., Firefox, Internet Explorer); and
- Perform online research using various search engines (e.g., Google) and library databases.

Technical Support

If you need any assistance with the software tools or the CourseLink website, contact CourseLink Support.

CourseLink Support

University of Guelph

Day Hall, Room 211

Email: courselink@uoguelph.ca

Tel: 519-824-4120 ext. 56939

Toll-Free (CAN/USA): 1-866-275-1478

Walk-In Hours (Eastern Time):

Monday thru Friday: 8:30 am–4:30 pm

Phone/Email Hours (Eastern Time):

Monday thru Friday: 8:30 am–8:30 pm

Saturday: 10:00 am–4:00 pm

Sunday: 12:00 pm–6:00 pm

Course Specific Standard Statements

Acceptable Use

The University of Guelph has an [Acceptable Use Policy](https://www.uoguelph.ca/ccs/infosec/aup), which you are expected to adhere to.

<https://www.uoguelph.ca/ccs/infosec/aup>

Communicating with Your Instructor

During the course, your instructor will interact with you on various course matters on the course website using the following ways of communication:

- **Announcements:** The instructor will use **Announcements** on the Course Home page to provide you with course reminders and updates. Please check this section frequently for course updates from your instructor.
- **Ask Your Instructor Discussion:** Use this discussion forum to ask questions of your instructor about content or course-related issues with which you are unfamiliar. If you encounter difficulties, the instructor is here to help you. Please post general course-related questions to the discussion forum so that all students have an opportunity to review the response. To access this discussion forum, select **Discussions** from the **Tools** dropdown menu.
- **Email:** If you have a conflict that prevents you from completing course requirements, or have a question concerning a personal matter, you can send your instructor a private message by email. The instructor will respond to your email within 72 hours.
- **Online meeting:** If you have a complex question you would like to discuss with your instructor, you may book an online meeting. Online meetings depend on the availability of you and the instructor, and are booked on a first come first served basis.

Netiquette Expectations

For distance education courses, the course website is considered the classroom and the same protections, expectations, guidelines, and regulations used in face-to-face

settings apply, plus other policies and considerations that come into play specifically because these courses are online.

Inappropriate online behaviour will not be tolerated. Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor or fellow students;
- Using obscene or offensive language online;
- Copying or presenting someone else's work as your own;
- Adapting information from the Internet without using proper citations or references;
- Buying or selling term papers or assignments;
- Posting or selling course materials to course notes websites;
- Having someone else complete your quiz or completing a quiz for/with another student;
- Stating false claims about lost quiz answers or other assignment submissions;
- Threatening or harassing a student or instructor online;
- Discriminating against fellow students, instructors, and/or TAs;
- Using the course website to promote profit-driven products or services;
- Attempting to compromise the security or functionality of the learning management system;
- Sharing your username and password; and
- Recording lectures without the permission of the instructor.

Late Policy

Extensions will be considered for medical reasons or other extenuating circumstances. If you require an extension, discuss this with the instructor as soon as possible and well before the due date. Barring exceptional circumstances, extensions will not be granted once the due date has passed. These rules are not designed to be arbitrary, nor are they inflexible. They are designed to keep you organized, to ensure that all students have the same amount of time to work on assignments, and to help to return marked materials to you in the shortest possible time.

Obtaining Grades and Feedback

Unofficial assessment marks will be available in the **Grades** tool of the course website.

Your instructor will have grades posted online within 2 weeks of the submission deadline, if the assignment was submitted on time. Once your assignments are marked you can view your grades on the course website by selecting **Grades** from the **Tools**

dropdown menu on the navbar. Your course will remain open to you for seven days following the last day of the final exam period.

University of Guelph degree students can access their final grade by logging into [WebAdvisor](#) (using your U of G central ID). Open Learning program students should log in to the [OpenEd Student Portal](#) to view their final grade (using the same username and password you have been using for your courses).

<https://webadvisor.uoguelph.ca>

<https://courses.opened.uoguelph.ca/portal/logon.do?method=load>

Rights and Responsibilities When Learning Online

For distance education (DE) courses, the course website is considered the classroom and the same protections, expectations, guidelines, and regulations used in face-to-face settings apply, plus other policies and considerations that come into play specifically because these courses are online.

For more information on your rights and responsibilities when learning in the online environment, visit [Rights and Responsibilities](#).

<http://opened.uoguelph.ca/student-resources/rights-and-responsibilities>

University Standard Statements

University of Guelph: Undergraduate Policies

As a student of the University of Guelph, it is important for you to understand your rights and responsibilities and the academic rules and regulations that you must abide by.

If you are a registered **University of Guelph Degree Student**, consult the [Undergraduate Calendar](#) for the rules, regulations, curricula, programs and fees for current and previous academic years.

If you are an **Open Learning Program Student**, consult the [Open Learning Program Calendar](#) for information about University of Guelph administrative policies, procedures and services.

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/>

<http://opened.uoguelph.ca/student-resources/open-learning-program-calendar>

Email Communication

As per university regulations, all students are required to check their uoguelph.ca e-mail account regularly: e-mail is the official route of communication between the University and its students.

Open Learning Program Students

Check your email account (the account you provided upon registration) regularly for important communications, as this is the primary conduit by which the Open Learning and Educational Support will notify you of events, deadlines, announcements or any other official information.

When You Cannot Meet Course Requirements

When you find yourself unable to meet an in-course requirement due to illness or compassionate reasons, please advise your course instructor **in writing**, with your name, ID number and email contact.

University of Guelph Degree Students

Consult the [Undergraduate Calendar](#) for information on regulations and procedures for Academic Consideration.

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Open Learning Program Students

Please refer to the [Open Learning Program Calendar](#) for information on regulations and procedures for requesting Academic Consideration.

<http://opened.uoguelph.ca/student-resources/open-learning-program-calendar>

Drop Date

University of Guelph Degree Students

Students will have until the last day of classes to drop courses without academic penalty. [Review the Undergraduate Calendar for regulations and procedures for Dropping Courses.](#)

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Open Learning Program Students

Please refer to the [Open Learning Program Calendar](#).

<http://opened.uoguelph.ca/student-resources/open-learning-program-calendar>

Copies of Assignments

Keep paper and/or other reliable back-up copies of all assignments: you may be asked to resubmit work at any time.

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of

the individual and the University community's shared commitment to an open and supportive learning environment.

University of Guelph Degree Students

Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact Accessibility Services as soon as possible.

For more information, contact Accessibility Services at 519-824-4120 ext. 56208, [email Accessibility Services](mailto:accessibility@uoguelph.ca) or visit the [Accessibility Services website](https://wellness.uoguelph.ca/accessibility/).

accessibility@uoguelph.ca

<https://wellness.uoguelph.ca/accessibility/>

Open Learning Program Students

If you are an Open Learning program student who requires academic accommodation, please [contact the Academic Assistant to the Director](#). Please ensure that you contact us before the end of the first week of your course (every semester) in order to avoid any delays in support. Documentation from a health professional is required for all academic accommodations. Please note that all information provided will be held in confidence.

If you require textbooks produced in an alternate format (e.g., DAISY, Braille, large print or eText), please [contact the Academic Assistant to the Director](#) at least two months prior to the course start date. If contact is not made within the suggested time frame, support may be delayed. It is recommended that you refer to the course outline before beginning your course in order to determine the required readings.

The provision of academic accommodation is a shared responsibility between OpenEd and the student requesting accommodation. It is recognized that academic accommodations are intended to “level the playing field” for students with disabilities.

jessica.martin@uoguelph.ca

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work

before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The [Academic Misconduct Policy](#) is detailed in the Undergraduate Calendar.

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Copyright Notice

Content within this course is copyright protected. Third party copyrighted materials (such as book chapters and articles) have either been licensed for use in this course, or have been copied under an exception or limitation in Canadian Copyright law.

The fair dealing exemption in Canada's Copyright Act permits students to reproduce short excerpts from copyright-protected materials for purposes such as research, education, private study, criticism and review, with proper attribution. Any other copying, communicating, or distribution of any content provided in this course, except as permitted by law, may be an infringement of copyright if done without proper license or the consent of the copyright owner. Examples of infringing uses of copyrighted works would include uploading materials to a commercial third party web site, or making paper or electronic reproductions of all, or a substantial part, of works such as textbooks for commercial purposes.

Students who upload to CourseLink copyrighted materials such as book chapters, journal articles, or materials taken from the Internet, must ensure that they comply with Canadian Copyright law or with the terms of the University's electronic resource licenses.

For more information about students' rights and obligations with respect to copyrighted works, review [Fair Dealing Guidance for Students](#).

http://www.lib.uoguelph.ca/sites/default/files/fair_dealing_policy_0.pdf

Plagiarism Detection Software

Students should be aware that faculty have the right to use software to aid in the detection of plagiarism or copying and to examine students orally on submitted work. For students found guilty of academic misconduct, serious penalties, up to and including suspension or expulsion from the University can be imposed.

Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the [COVID-19 website](https://news.uoguelph.ca/2019-novel-coronavirus-information/) and circulated by email.

<https://news.uoguelph.ca/2019-novel-coronavirus-information/>

Illness

The University will not normally require verification of illness (doctor's notes) for the Fall 2020, Winter 2021, and Summer 2021 semesters. However, requests for Academic Consideration may still require medical documentation as appropriate.