

Math 116 Sections 2 and 22
Applied Calculus for Business
Course Policy – Spring 2023
Classroom Location: Biol Sci West, Rm 219
Meeting Times: MoWeFr 9:00AM - 9:50AM

Instructor: Jared McBride

Office: Math 610

Phone: 480-695-5627

E-mail: jaredm@arizona.edu

Office Hours: Tue 9a, Wed 5p, Thur 4p (each for one hour)

Required Materials:

- Webassign (online homework) for *Applied Calculus, 10th ed.*, Soo T. Tan, Cengage Learning.
- Graphing calculator (see below for specific details).
- Laptop/computer

Main websites: <http://d2l.arizona.edu>

<https://math116.math.arizona.edu/>

As we enter the spring semester, the health and well-being of everyone in this class is the highest priority. Accordingly, we are all required to follow the university guidelines on COVID-19 mitigation. Please visit <https://covid19.arizona.edu> for the latest guidance.

Classroom Attendance

- If you feel sick, or if you need to isolate or quarantine based on [University protocols](#), stay home. Except for seeking medical care, avoid contact with others and do not travel.
- If you test positive for COVID-19 and you are participating in on-campus activities, you must report your results to Campus Health. To learn more about the process for reporting a positive test, visit the [Case Notification Protocol](#).
- Notify your instructor(s) if you will be missing a course meeting or an assignment deadline.
- Non-attendance for any reason does **not** guarantee an automatic extension of due dates or rescheduling of examinations or assessments. Instead, dropped assignments have been built into the policies.
- Please communicate and coordinate any request directly with your instructor.
- If you must miss the equivalent of more than one week of class, you are required to contact the Dean of Students Office DOS-deanofstudents@email.arizona.edu to share documentation about the challenges you are facing.
- Voluntary, free, and convenient [COVID-19 testing](#) is available for students on Main Campus.
- COVID-19 vaccine is available for all students at [Campus Health](#).
- Visit the [UArizona COVID-19](#) page for regular updates.

Catalog Course Description

Introductory topics in differential and integral calculus, with particular emphasis on understanding the principal concepts and their applications to business. Microsoft Excel and graphing calculators will be used as tools for further understanding these concepts. Except as per University policy on repeating a course, credit will not be given for this course if the student has credit in a higher level math course. Such students may be dropped from the course.

Course Prerequisites

PPL 60+ or MCLG 88+ or SAT I MSS 620+ or ACT MATH 26+ or one recent course from MATH 112 (C or higher), 113, or 120R. Either MIS 111 or ABE 120 also required. Test scores expire after 1 year. Some students need to take Math 100, then Math 112 first.

Course Format and Teaching Methods

Math 116 is a 3 credit hour course. Students will meet in person three days per week except when there are no class meetings due to University holidays or University Reading Days. The holidays and reading days are: January 16, March 6-10, and May 4.

Course Objectives

- To apply mathematical tools to obtain quantitative information that is relevant to business decisions.
- To promote problem-solving and critical thinking skills.
- To prepare students for subsequent work in the Business College and for their future careers in business.
- To apply the use of computer technology in solving mathematics problems.
- To help strengthen students' general academic skills.

Learning Outcomes

Upon completion of this course, students should be able to:

1. Find derivatives of power, polynomial, exponential, logarithmic functions and combinations of these functions.
2. Find antiderivatives of power and exponential functions.
3. Solve problems related to demand, revenue, cost, and profit functions algebraically and graphically.
4. Solve business application problems using derivative and integral techniques.
5. Evaluate definite integrals using the Fundamental Theorem of Calculus, area, and the graphing calculator.

Communication with Students

Announcements and important course information may be sent out via official University email or through D2L. It is the student's responsibility to check for messages and announcements regularly.

Makeup Policy for Students Who Register Late

Students who register for the class after the first class meeting may not be able to make up missed assignments. Exceptions may be considered by the student's instructor.

Class Recordings:

For any possible lecture recordings, which are used at the discretion of the instructor, students must access content in D2L only. Students may not modify content or re-use content for any purpose other than personal educational reasons. All recordings are subject to government and university regulations. Therefore, students accessing unauthorized recordings or using them in a manner inconsistent with UArizona values and educational policies are subject to suspension or civil action.

Calculators

A graphing calculator (such as the TI-83, 84, or 86) is required for this course. Calculators that perform symbolic manipulations (such as the TI-89 or TI-92 and certain models of the TI-Nspire) cannot be used. Students must supply their own calculator for midterm exams and the final exam. In general, cell phones may not be used for exams. For midterm exams and the final exam, the only program allowed in your calculator is the QUADRATIC FORMULA program. Also note that it is your responsibility to learn to use the calculator appropriately. Questions about using the calculator will not be answered during an exam.

Webassign

A computer grading program called Webassign will be used for homework problems assigned from the textbook. The course textbook (ebook) can be found in Webassign. Webassign can be accessed through the University of Arizona's D2L website (<http://d2l.arizona.edu>)

Students will NOT need to purchase access to Webassign. Students will have already paid for Webassign through Inclusive Access.

Students may only **register for Webassign** by enrolling through <http://d2l.arizona.edu>. When registering for Webassign, students will need to enter a valid email address and password. If you have previously used a Webassign product, you should use your previous login credentials. If you have not used a Webassign product before, you are **STRONGLY**

encouraged to use your University of Arizona email address.

Course materials are being delivered digitally via D2L through the Inclusive Access program. Please access the material through D2L on the first day of class to make sure that there are no issues with delivery so any problems can be addressed quickly.

You automatically have access to the course materials FREE through January 24, 2023. You **must** take action (even if you have not accessed the materials) to opt-out if you do not wish to pay for the materials, and choose to source the content independently. **The deadline to opt-out is January 24, 2023.** If you do not opt-out and choose to retain your access, the cost of the digital course materials will appear on your Bursars account. Please refer to the Inclusive Access FAQs at <https://shop.arizona.edu/textbooks/Inclusive.asp> for additional information.

Homework

Homework will represent 150 course points, or 25% of the course grade. Your instructor will provide you with a homework policy indicating how these points will be distributed. Your instructor will assign online homework as well as written homework. Your instructor may also give quizzes and/or in-class activities.

Late homework is generally not accepted. Students who register for the class after the first class meeting may not be able to make up missed assignments. Exceptions may be considered by the student's instructor. Grading disputes regarding homework must be addressed within one week after the homework has been returned.

1. Online homework will be assigned using Webassign.

The due dates for all assignments are posted in Webassign - it is your responsibility to know when the assignments are due. Late online homework will generally not be accepted.

Written homework will be assigned regularly and typically submitted electronically. Your instructor will provide more details about how written homework will be submitted. The written homework problems could come from the Webassign homework, the textbook, or the study guides. The problems will emphasize business applications and the grading will take particular note of the written explanations and interpretations, as well as the mathematical notation. While students are permitted to work together on their written work, the work submitted must be one's own. Copying work from another student will not be tolerated. Students who copy another person's work are violating the university's Code of Academic Integrity and may be subject to penalties described in the Code.

2. Students are expected to complete the following procedures to receive full points on their written work assignments.

- Show and clearly explain the method(s) used to solve the problem as well as providing correct interpretations for each solution. Proper mathematical notation should be used and the student's work should be neat and well-organized in the final draft that is submitted. Points will be awarded for correctness and completeness. Simply giving an answer is not acceptable and will receive little or no credit.
- Clearly indicate the final answer.
- No late homework is generally accepted.

Unit Exams

There will be online 3 midterm exams given through D2L. Each exam is worth 100 course points. All exams are closed-book and closed-notes. The tentative dates for the exams are **February 10th, March 20th, and April 24th**. Your instructor will give you more information regarding the process for taking the online exams.

Any changes to the exam dates will be announced in advance by your instructor.

Issues related to the grade received on the exam need to be discussed within 1 week of the exam being graded. Study guides for the midterms will be posted as PDF documents on the Business Calculus website and in D2L.

Final Exam

There is a mandatory comprehensive final exam, worth 150 points of your course grade. It is a common department exam and it is scheduled for **Thursday, May 11th. from 1:00 pm – 3:00 pm**. The location of the final exam will be provided in the D2L course site at a later date.

The study guide for the final exam is posted as a PDF document on the Math 116 website and in D2L.

If a student earns a higher percentage on the final exam than one of the unit exams, then the student's lowest exam score will be replaced by the final exam score scaled to 100 points.

- Note: You must complete the final exam to qualify for this policy. And, regardless, you must take the final exam.

Examples illustrating this policy.

Example 1:

- Test percentages are: 80%, 85%, 75%.
- Final Exam percentage is 90%
- New test percentages would be: 80%, 85%, **90%**. (Test 3 gets replaced)
- Final Exam percentage remains 90%

Example 2:

- Test percentages are: 80%, 0%, 75%. (Test 2 was missed due to COVID-19 or any other reason)
- Final Exam percentage is 90%
- New test percentages would be: 80%, **90%**, 75%. (Test 2 gets replaced)
- Final Exam percentage remains 90%

Example 3:

- Test percentages are: 80%, 85%, 75%.
- Final Exam percentage is 70%
- New test percentages would be: 80%, 85%, 75%. (No test score gets replaced since the final exam is lower than all tests.)
- Final Exam percentage remains 70%

Missed Exams

Due to the Final Exam replacement of the lowest unit exam, no makeup unit exams will be given in this course.

Exceptions to this policy will be made for Dean's excused absences and religious holidays recognized by the university. In the case of the need to miss an exam because of a Dean's excused absence or religious holiday, students will need to contact their instructor one week prior to the exam to set up alternative accommodations.

In the case that a student misses more than one unit exam, it is their responsibility to contact the instructor within 24 hours of the class period in which the exam was given. Make-up exams will be administered only at the discretion of the instructor and a penalty of up to 20% may be applied to the exam score. If a student is allowed to make up a missed exam, they must take it at a mutually arranged time. No further opportunities will be extended. Failure to contact the Mathematics Department and/or instructor as stated above or inability to produce sufficient evidence of a LEGITIMATE reason may result in a grade of zero on the exam.

The University final exam schedule and rules relating to final examinations may be found at:
[Final Exams Spring 2023 | Office of the Registrar \(arizona.edu\)](#)

Grades				You are Guaranteed a Grade of			
Homework/Quizzes	150 points	25%		A	if you earn at least 540 points (90%)		
Exam 1	100 points	16.67%		B	if you earn at least 480 points (80%)		
Exam 2	100 points	16.67%		C	if you earn at least 420 points (70%)		
Exam 3	100 points	16.67%		D	if you earn at least 360 points (60%)		
Final Exam	150 points	25%					
Total Possible Points	600 points	100%					

Please note that neither exam scores nor final grades will be curved. No extra credit or bonus points are offered in this course.

A grade of Incomplete will be given only at the instructor's discretion, according to University Policy as described at <https://catalog.arizona.edu/policy/grades-and-grading-system#incomplete>.

Withdrawal

A student may drop the course with a deletion from transcript through January 24, 2023, using UAccess. A student may withdraw with a grade of "W" through March 28, 2023, using UAccess. Students should consult their academic advisor before withdrawal from any course.

<https://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal>

Classroom Behavior Policy

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.). Students are asked to refrain from disruptive conversations with people sitting around them during lecture. Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be asked to leave and may be reported to the Dean of Students. The use of personal electronics such as laptops, iPads, and other such mobile devices is distracting to the other students and the instructor. Their use can degrade the learning environment.

Additional Resources for Students

UA Academic policies and procedures are available at <http://catalog.arizona.edu/policies>

Campus Health

<http://www.health.arizona.edu/>

Campus Health provides quality medical and mental health care services through virtual and in-person care.
Phone: 520-621-9202

Counseling and Psych Services (CAPS)

<https://health.arizona.edu/counseling-psych-services>

CAPS provides mental health care, including short-term counseling services.
Phone: 520-621-3334

The Dean of Students Office's Student Assistance Program

<http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>

Student Assistance helps students manage crises, life traumas, and other barriers that impede success. The staff addresses the needs of students who experience issues related to social adjustment, academic challenges, psychological health, physical health, victimization, and relationship issues, through a variety of interventions, referrals, and follow up services.

Email: DOS-deanofstudents@email.arizona.edu

Phone: 520-621-7057

Survivor Advocacy Program

<https://survivoradvocacy.arizona.edu/>

The Survivor Advocacy Program provides confidential support and advocacy services to student survivors of sexual and gender-based violence. The Program can also advise students about relevant non-UA resources available within the local community for support.

Email: survivoradvocacy@email.arizona.edu

Phone: 520-621-5767

Academic Advising

If you have questions about your academic progress this semester, please reach out to your academic advisor (<https://advising.arizona.edu/advisors/major>). Contact the Advising Resource Center (<https://advising.arizona.edu/>) for all general advising questions and referral assistance. Call 520-626-8667 or email to advising@.arizona.edu

Life Challenges

If you are experiencing unexpected barriers to your success in your courses, please note the Dean of Students Office is a central support resource for all students and may be helpful. The [Dean of Students Office](#) can be reached at (520) 621-2057 or DOS-deanofstudents@email.arizona.edu.

Physical and Mental-Health Challenges

If you are facing physical or mental health challenges this semester, please note that Campus Health provides quality medical and mental health care. For medical appointments, call (520) 621-9202. For After Hours care, call (520) 570-7898. For the Counseling & Psych Services (CAPS) 24/7 hotline, call (520) 621-3334.

University-wide Policies Link

Links to the following UA policies are provided here: <https://academicaffairs.arizona.edu/syllabus-policies>

- **Absence and Class Participation Policies**
- **Threatening Behavior Policy**
- **Accessibility and Accommodations Policy**
- **Code of Academic Integrity**
- **Nondiscrimination and Anti-Harassment Policy**
- **Subject to Change Statement**

Tentative Weekly Schedule

Week	Dates	Topics Covered	Webassign Assignments Due*
1	1/11-1/15	Slopes and Equations of Lines, Linear Functions, Properties of Functions	
2	1/16-1/22	Quadratic, Polynomial, and Rational Functions	1.4
3	1/23-1/29	Applications of Functions, Limits	2.1, 2.2
4	1/30-2/5	Limits, Rates of Change, Definition of the Derivative	2.3, 2.4
5	2/6-2/12	Definition of the Derivative (continued)	2.5, 2.6
6	2/13-2/19	Power, Product, and Quotient Rules	
7	2/20-2/26	Chain Rule, Marginal Functions, Elasticity	3.1, 3.2
8	2/27-3/5	Increasing and Decreasing Functions, Relative Extrema, Absolute Extrema	3.3, 3.4
9	3/6-3/12	Spring Break	
10	3/13-3/19	Applications of Extrema	4.1, 4.4
11	3/20-3/26	Exponential and Logarithmic Functions	4.5, 5.1
12	3/27-4/2	Derivatives of Exponential and Logarithmic Functions, Compound Interest	5.2, 5.3
13	4/3-4/9	Antiderivatives, Area and the Definite Integral	5.4, 5.5
14	4/10-4/16	The Fundamental Theorem of Calculus	6.1, 6.3
15	4/17-4/23	The Area Between Two Curves	6.4, 6.6
16	4/24-4/30	Continuous Money Flow	
17	5/1-5/7	Review for Final	6.7

*Note: Due dates for assignments will be posted in Webassign or at an online location by the instructor.