MATH 125 –Calculus I
Departmental and University Policies
Fall 2019

The information in this document applies to all sections of MATH 125. Your instructor will post a syllabus detailing policies specific to your section. You are responsible for the information in both documents.

Catalog Course description: An accelerated version of MATH 122B. Introduction to calculus with an emphasis on understanding and problem solving. Concepts are presented graphically and numerically as well as algebraically. Elementary functions, their properties and uses in modeling; the key concepts of derivative and definite integral; techniques of differentiation, using the derivative to understand the behavior of functions; applications to optimization problems in physics, biology and economics. A graphing calculator is required for this course.

Course Prerequisites: Math placement exam PPL 90% or SAT I MSS 700+ or ACT Math 31+ or AP AB score 3+. For more information see http://math.arizona.edu/academics/placement.

Course Structure: Math 125 is a three credit course which meets in person for either three days or two days per week depending on the scheduled start time of the section.

Course Goals and Objectives:
- To help students understand the calculus concepts of differentiation and the definite integral.
- To help students apply prerequisite skills in addition to calculus formulas and rules in order to compute derivatives and antiderivatives.
- To help students construct well-written solutions to mathematical problems and to provide practical interpretations of answers.
- To promote problem solving and critical thinking skills through the application of calculus concepts.
- To promote, utilize, and understand the connections between the representations of functions: concepts are explored numerically, graphically, algebraically, and in the context of applications.

Learning Outcomes: Upon successful completion of this course, students should be able to
- Use derivatives and limits to analyze and graph algebraic and transcendental functions.
- Select and apply models and differentiation techniques to applications involving, but not limited to, optimization and related rates.
- Apply the fundamental Theorem of Calculus to evaluate integrals.
- Use estimation techniques to approximate rates of change, area, and total change.

Course Webpages: https://d2l.arizona.edu for access to course content information and materials, https://calculus.math.arizona.edu for general information and additional resources.

Text and WebAssign: Calculus Single Variable; Sixth Edition by Hughes-Hallett et al.; published by Wiley and access to the online homework system, WebAssign. This package is being delivered digitally via D2L through the Inclusive Access program. You automatically have access to the course materials free through September 8. 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 for this course is 9:00pm MST, September 8. If you do not opt-out and choose to retain your access, the cost of the digital course materials will appear on your March Bursar's account. For more information, visit the FAQs page at https://shop.arizona.edu/textbooks/Inclusive.asp. *Please see your instructor's syllabus for information about section specific materials.*

Calculators: A graphing calculator is an important tool that will be used in this course. We recommend models in the TI-83 or TI-84 series. Models that can perform symbolic calculations (also known as CAS) are NOT allowed on exams, including the final exam. CAS models include (but are not limited to) the TI-89, TI NSpire CAS, HP 50g, and Casio Classpad 330. Students are not allowed to share calculators during exams. *Please see your instructor's syllabus for information about section specific policies for calculator usage on exams or quizzes.*

Communication: Announcements and important course information may be sent out via your official UA email, through D2L, or through the WebAssign email feature. It is your responsibility to check for messages and announcements regularly. *Please see your instructor's syllabus for his/her preferred mode of communication.*

Absence and Class Participation: Attending lectures and participating in this course are vital to the learning process. As a result, you are expected to attend every scheduled class meeting. *Please see your instructor's syllabus for section specific information in addition to the University policies below.*
- The UA's policy concerning Class Attendance, Participation, and Administrative Drops is available at: http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop.
- The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable, http://policy.arizona.edu/human-resources/religious-accommodation-policy.
- Absences for groups of more than three students that are pre-approved by the UA Dean of Students (or Dean Designee) will be honored. See: http://policy.arizona.edu/employmenthuman-resources/attendance.

Expected Classroom Behavior: 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 (unless the conversation is directed by the instructor, i.e. group work). 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 lecture or discussion and may be reported to the Dean of Students. See https://policy.arizona.edu/education-and-student-affairs/disruptive-behavior-instructional-setting. *Please see your instructor's syllabus for any additional policies specific to your section.*

Accessibility and Accommodations: At the University of Arizona we strive to make learning experiences as accessible as possible. If you anticipate or experience barriers based on disability or pregnancy, please contact the Disability Resource Center (520-621-3268, https://drc.arizona.edu/) to establish reasonable accommodations. Please be aware that the accessible table and chairs in our room should remain available for students who find that standard classroom seating is not usable.

Homework: (100 points) Homework will be submitted in multiple formats throughout the semester. WebAssign will be used for problems assigned primarily from the text. Hand-written homework showing all work with proper notation will also be submitted. These problems will come from the text and/or from a set of problems created by your instructor. Your instructor may also give quizzes as part of the homework component. *Please see your instructor's syllabus for information specific to your section and how your homework grade will be computed.*

In-Class Exams: (400 points) Four exams will be given in sections meeting MWF. Three exams will be given in sections meeting TR. All electronic devices that transmit wireless signals must be turned off during all exams. In general, there will be no make-up exams in the course. However, in complex and unusual circumstances which are beyond your control, a make-up exam may be given on a case-by-case basis. Dean's excuses for university related activities and religious holidays recognized by the university will be honored. *Please see your instructor's syllabus for the dates of your exams, how points will be distributed across exams, policies regarding missed exams, and any other information specific to your section.*

Final Exam: (200 points) The final exam is a comprehensive common exam given to all sections of Math 125 and 122B. It is scheduled for Tuesday, December17 from 1:00 – 3:00 pm. Additional information and a study guide can be found at https://calculus.math.arizona.edu. The location of the final exam will also be posted later in the semester at this site. The University's Exam regulations will be strictly followed https://www.registrar.arizona.edu/courses/final-examination-schedule-fall-2019

Grades: Your final course grade will be determined by a percentage of the 700 total possible points in the course. There are no extra credit or bonus points earned in this course.

		You are guaranteed a grade of:
Homework	100 points	A if you earn at least 630 points (90%)
In-class exams	400 points	B if you earn at least 560 points (80%)
Final Exam	200 points	C if you earn at least 490 points (70%)
Total possible points	700 points	D if you earn at least 420 points (60%)

Note: A grade of C or better in Math 125 or 122B is a necessary prerequisite for Math 129 (Calculus II). Students who receive a D in Math 125 or 122B will receive credit for the course towards graduation requirements, and will be able to use their course for the general education math requirement, but will not be automatically qualified to register for Math 129.

Withdrawing from the course: Withdrawals must be made in accordance with University policy https://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal. You may drop the class without a W through September 8 using UAccess. The class will appear on your UAccess record, but will not appear on your transcript. You may withdraw with a W through

November 3 using UAccess. The University allows withdrawals after November 3, but only with the Dean's approval. Late withdraws are dealt with on a case by case basis, and requests for late withdraw without a valid reason may or may not be honored. The deadline for submitting a petition for a late withdrawal is November 24.

Incompletes: Incompletes must be made in accordance with University policy https://catalog.arizona.edu/policy/grades-and-grading-system#incomplete.

Code of Academic Integrity: Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: http://deanofstudents.arizona.edu/codeofacademicintegrity and http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity.

Nondiscrimination and Anti-harassment Policy: The University is committed to creating and maintaining an environment free of discrimination; see http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy .

Threatening Behavior Policy: The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See. http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students

Crisis resources: Campus Health offers counseling services and resources for students covering a wide range of issues regarding mental health; see https://health.arizona.edu/crisis-resources-and-hotlines

Tentative Schedule: Suggested calendars for MWF and TR classes can be found at https://calculus.math.arizona.edu. These calendars are guidelines and may differ from the one used by your instructor. *Please see your instructor's syllabus, especially for information about exam dates.*

Changes to the Course Syllabus: Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor; see http://policy.arizona.edu/faculty-affairs-and-academics/course-syllabus-policy-undergraduate-template.

The following topics and assignments are based on the MWF pace. *Please see your instructor's syllabus for additional assignments and/or quizzes, and due dates.*

Week	Start Date	Topics to be Covered	Assignments *
1	Aug 26	Limits & continuity, Measuring speed	Limits
2	Sep 2	Derivative at a point, Derivative function	2.1, 2.2
3	Sep 9	Interpretations of derivatives, Second derivative, Differentiability	2.3, 2.4, 2.5, 2.6
4	Sep 16	EXAM 1, Power, polynomial, and exponential rules	3.1
5	Sep 23	Product, quotient, and chain rules	3.2, 3.3
6	Sep 30	Trigonometric, inverse, and implicit function rules	3.4, 3.5, 3.6
7	Oct 7	Linear approximations, EXAM 2, Using 1st & 2nd derivatives	3.7, 3.9
8	Oct 14	Optimization & modeling	4.1
9	Oct 21	Families of functions & modeling	4.2, 4.3
10	Oct 28	Rates & related rates, L'Hopital's Rule	4.4, 4.6
11	Nov 4	EXAM 3, Measuring distance	4.7
12	Nov 11	The definite integral, The Fundamental Theorem & interpretations	5.1, 5.2
13	Nov 18	Theorems about definite integrals, Antiderivatives,	5.3, 5.4, 6.1
14	Nov 25	Differential equations, the 2nd Fundamental Theorem	6.2, 6.3
15	Dec 2	Integration by substitution, EXAM 4	6.4, 7.1
16	Dec 9	Review	
17	Dec 16	FINAL EXAM (Dec 17 1-3 pm)	

The following topics and assignments are based on the TR pace. *Please see your instructor's syllabus for additional assignments and/or quizzes, and due dates.*

Week	Start Date	Topics to be Covered	Assignments *
1	Aug 26	Limits & continuity, Measuring speed	Limits
2	Sep 2	Derivative at a point, Derivative Function, Interpretations of derivatives, Second derivative,	2.1, 2.2, 2.3
3	Sep 9	Differentiability, Power, polynomial, and exponential rules	2.4, 2.5, 2.6
4	Sep 16	EXAM 1, Product and quotient rules	3.1, 3.2
5	Sep 23	Chain and trigonometric rules	3.3, 3.4
6	Sep 30	Inverse and implicit function rules, Linear approximations	3.5, 3.6, 3.7
7	Oct 7	Using 1st & 2nd derivatives, Optimization	3.9, 4.1
8	Oct 14	Optimization & modeling	4.2
9	Oct 21	Optimization & modeling, EXAM 2	4.3
10	Oct 28	Families & modeling, Rates & related rates	4.4
11	Nov 4	L'Hopital's Rule, Measuring distance, the definite integral	4.6, 4.7
12	Nov 11	The Fundamental Theorem & interpretations, Theorems about definite integrals	5.1, 5.2, 5.3
13	Nov 18	Antiderivatives, Differential equations, the 2nd Fundamental Theorem	5.4, 6.1, 6.2
14	Nov 25	Integration by substitution	6.3
15	Dec 2	Integration by substitution, EXAM 3	6.4, 7.1
16	Dec 9	Review	
17	Dec 16	FINAL EXAM (Dec 17 1-3 pm)	