



MAT220 Calculus and Analytic Geometry I
Spring 2009
Section 17769, 9:45-11:50AM, Tue/Thur CM453

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Textbook: *Calculus (Single Variable), Fourth Edition*, by Hughes-Hallett, Gleason, et al., published by Wiley & Sons, 2005.

Course Description: Limits, continuity, differential and integral calculus of functions of one variable. Prerequisites: Grade of "C" or better in (MAT150 or MAT151 or MAT152 and MAT182) or MAT187 or equivalent or satisfactory score on district placement exam.
Note: Students may receive credit for only one of the following: MAT220 or MAT221.

Course Competencies:

1. Analyze the behavior and continuity of functions using limits.
2. State the definition and explain the significance of the derivative.
3. Compute the derivative using the definition and associated formulas for differentiation.
4. Solve application problems using differentiation.
5. State and explain the significance of the Fundamental Theorem of Calculus.
6. Compute anti-derivatives, indefinite and definite integrals of elementary functions.
7. Read and interpret quantitative information when presented numerically, analytically or graphically.
8. Compare alternate solution strategies, including technology.
9. Justify and interpret solutions to application problems.
10. Communicate process and results in written and verbal formats.

Attendance is expected. You are to be in class every day it is scheduled. You may be withdrawn after 2 absences. You are expected to be in class on time and to stay the full length of class. If you have a legitimate need to leave class early, please notify me before class begins.

Grading: Grades will be determined by the standard scale:

<u>Percentage of Total Points</u>	<u>Semester Grade</u>
$90 \leq x < 100$	A
$80 \leq x < 90$	B
$70 \leq x < 80$	C
$60 \leq x < 70$	D
$0 \leq x < 60$	F

Your grade is simply the percentage of points earned out of the total points possible. There will be four 100 point exams and one 50 point gateway. I may also include quizzes and other projects throughout the semester. The final exam will be worth 150 points. I will collect homework at each exam and each assignment (if done *completely*) will be worth 1 point. **You must achieve a score of 80% on the gateway exam to receive a passing grade in the course.** If you do not score at least 80% you are allowed two more attempts to pass at the 80% level. Only the score for the first attempt will count towards your overall grade.

Final Exam: The final exam is required. Any student who does not take the final exam will automatically receive an “F” grade in the course.

Tests: I will accept no late exams (or quizzes). If you must be absent on an exam date you need to contact me prior to the absence.

Homework: I do not collect homework on a daily basis, but you need to maintain a notebook of the homework assignments. I will collect these notebooks on exam days.

Hand-In Assignments: I may periodically assign problems or projects which will count towards your overall grade. It is important that you attend class so that you don't miss handouts or announcements about these hand-in assignments.

Graphing Calculator: A graphing calculator is required for the course. The suggested calculators are the TI-83 or TI-84 models. Calculators with QWERTY keyboards, or those which have symbolic algebra capability, such as the TI-89 or TI-92, cannot be used during a quiz or test.

Tutoring: Drop-in tutoring is available for you in the Math/Science Center (480-423-6145) located in CM 441A. Tutoring is free and no appointment is necessary.

General Conduct: I expect that you will conduct yourself in a responsible, mature, and academically honest manner. Students who exhibit improper conduct are subject to disciplinary action as explained in the Scottsdale Community College General Catalog and Student Handbook. A student who is caught cheating on a test will receive a grade of zero for that test and disciplinary action will be taken in accordance with SCC policies.

Special Considerations: Please let me know right away if you have any kind of documented disability so that I can be aware of and accommodate special needs you may have. Students who have special needs should also contact the Disability Resources and Services Office at 480-423-6517.

Disclaimer: The instructor reserves the right to modify this syllabus to better meet the needs of the students.

To establish a positive learning environment for this class:

As an instructor, I am expected to be professional, courteous, respectful, and empathetic to students – and to

- Begin and end class on time,
- Be prepared for each class session,
- Provide academic feedback and grade assignments in a timely manner,
- Be available for individual consultation, and
- Clarify assignments and inform students of any adjustments to the class schedule.

As a student, you are expected to be reflective, courteous, respectful, and empathetic to classmates, instructor, and other College staff assisting you in your learning – and to

- Be in class and be on time,
- Be prepared for class sessions,
- Participate in class activities,
- Follow instructions and complete assignments,
- Keep up with and turn in assignments by the due dates,
- Put forth your best effort,
- Ask questions when you don't understand,
- Maintain knowledge of your grade status,
- Contact instructor right away about concerns or situations that interfere with your success in the class, and
- Comply with policies found in College catalog and student handbook.

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Week of	Tuesday	Thursday
Jan 19	1.1, 1.2, 1.3	1.4, 1.5
Jan 26	1.6, 1.7	1.8, Review
Feb 2	Review, Exam 1	2.1, 2.2
Feb 9	2.3, 2.4	2.5, 2.6
Feb 16	3.1, 3.2	3.3, 3.4
Feb 23	3.5, Review	3.6, Exam 2
Mar 2	3.7, 3.8	3.9, 3.10
Mar 9	4.1, 4.2, 4.3	4.3, 4.4
Mar 16	SPRING	BREAK
Mar 23	4.5, 4.6	4.6, Review
Mar 30	Exam 3, 4.7	5.1, GW Review
Apr 6	GW Exam, 5.2	5.3, 5.4
Apr 13	6.1, 6.2	6.3, 6.4
Apr 20	7.1, Review	Review, Exam 4
Apr 27	7.2	8.1
May 4	8.2	Quiz, Final Review
May 11	Final Exam, May 12, 9:30-11:20	

Mar 6: Last Day for Withdrawal without Instructor's Signature

Apr 27: Last Day Student Initiated Withdrawal Accepted

MAT 220 (Sp, 09) Assignments (4th edition): *Do homework on loose-leaf paper, with name and assignment labeled in top right corner. Submit work that is commensurate with the expectations of the instructor.*

Sec	T: In-class tasks	H: Homework problems
1.1	T/ 8, 10, 26, 29	H/ 3, 11, 13, 25, 29, 39
1.2	T/ 2, 3, 6, 13, 18, 22, 24, 30,	H/ 1, 4, 5, 7, 9, 11, 17, 21, 23, 31, 34, 39
1.3	T/ 2, 6, 10, 12, 22, 26, 30, 40, 44, 54	H/ 3, 5, 13, 15, 21, 25, 33, 35, 43, 52
1.4	T/ 4, 10, 16, 26, 30, 33, 34, 36, 40	H/ 5, 7, 11, 25, 29, 31, 32, 37, 43, 46
1.5	T/ 16, 20, 24, 28, 34, 38, 44	H/ 15, 19, 23, 25, 27, 43, 45
1.6	T/ 8, 12, 16, 18, 21	H/ 9, 13, 15, 17, 23, 29
1.7	T/ 2, 6, 8, 12, 18, 20, 22	H/ 5, 7, 17, 19, 23
1.8	T/ 2, 8, 20, 30, 38	H/ 1, 4, 5, 13, 31, 39
2.1	T/ 4, 6, 11, 12, 14, 18	H/ 1, 3, 5, 7, 13, 15, 19

Required Review: pp. 48 – 52/ 1, 3, 6, 7, 11, 15, 19, 27, 33, 35, 37, 38
 Additionally, review concepts and skills as needed on an individual basis.

Note: Exams in this course are cumulative in nature.

EXAM 1: Submit all homework in a stapled, labeled packet *prior* to the exam.

2.2	T/ 7, 10, 12, 14, 21, 34	H/ 1, 8, 9, 13, 15, 19, 25, 33, 39
2.3	T/ 1, 2, 6, 22, 28, 30, 38, 40	H/ 21, 29, 32, 33, 41, 42
2.4	T/2, 6, 14,	H/ 3, 13, 17, 19
2.5	T/ 2, 8, 10, 11, 19	H/ 3, 7, 9, 18, 21, 23
2.6	T/ 1, 4	H/ 10, 11
3.1	T/ 4, 12, 18, 28, 34, 36, 42, 58, 62	H/ 17, 23, 25, 31, 35, 43, 55, 63, 67
3.2	T/ 2, 8, 16, 18, 36	H/ 5, 11, 17, 19, 37, 39
3.3	T/ 4, 6, 14, 18, 28, 46, 54	H/ 9, 13, 21, 27, 53
3.4	T/ 4, 6, 14, 18, 26, 48	H/ 9, 15, 25, 29, 45, 53, 66
3.5	T/6, 14, 25, 33, 46	H/ 5, 9, 17, 35, 44, 45

Review TBA

EXAM 2: Submit all homework in a stapled, labeled packet *prior* to the exam.

3.6	T/ 6, 16, 20	H/ 1, 13, 17, 19, 23, 29, 33
3.7	T/ 2, 20, 28	H/ 3, 11, 21, 25, 29
3.8	T/ 2, 6, 14	H/ 1, 3, 7, 13, 15, 30

3.9	T/ 11	H/ 1, 25
3.10	T/ TBA	H/ 3, 4, 11, 17
4.1	T/ 8, 12, 26, 36	H/ 7, 9, 11, 14, 24, 31, 33, 39
4.2	T/ 8, 16, 20, 26	H/ 5, 13, 19, 23, 25
4.3	T/ 9, 19, 21	H/ 7, 11, 20, 25, 35
4.4	T/ 4, 8, 18	H/ 1, 3, 5, 7, 21
4.5	T/ 11, 16, 18, 23	H/ 12, 14, 17, 19, 32
4.6	T/ 4, 24, 32	H/ 15, 19, 32, 33

Review TBA

EXAM 3 **Submit all homework in a stapled, labeled packet *prior* to the exam.**

4.7	T/ 22, 26	H/ 17, 21, 27, 28, 31
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GATEWAY EXAM (minimum 80% required to pass the course with a grade of C or better) Review Sheets given in class. Maximum of three test attempts..

5.1	T/ 4, 8, 22	H/ 11, 15, 19, 23, 25
5.2	T/ 2, 12, 14, 18, 24	H/ 1, 3, 5, 7, 13, 15, 21, 27
5.3	T/ 2, 6, 12, 14, 28, 30	H/ 1, 3, 13, 17, 25, 21, 32
5.4	T/ 4, 8, 22, 32	H/ 7, 9, 21, 34, 35, 36, 37, 38, 39
6.1	T/ 2, 8, 10, 22	H/ 1, 3, 7, 9, 11, 15, 18, 23
6.2	T/ 4, 6, 8, 49, 50, 60, 68, 82	H/ 1, 5, 15, 19, 25, 46, 58, 61, 63, 67, 81
6.3	T/ 6, 8, 12	H/ 1, 3, 9, 11, 15, 19, 22
6.4	T/ 3, 12, 18	H/ 1, 4, 9, 13, 15, 19
7.1	T/ 14, 18, 34, 54, 60	H/ 7, 17, 23, 35, 55, 59, 65

Review TBA

EXAM 4 **Submit all homework in a stapled, labeled packet *prior* to the exam.**

7.2	T/ 4, 8, 18	H/ 5, 9, 15, 46, 56
8.1	T/ 9	H/ 23, 28
8.2	T/ 4, 20, 34	H/ 1, 5, 21, 35, 36