

**Chattahoochee Technical College**  
**Syllabus**  
**MAT-195 / CRN: 10311**  
**Summer 2008**

**Instructor:** Mr. Dennis Missavage

**Credit Hours:** 5  
**Class Hours / Week:** 4

**Prerequisite:** MAT-194 with a "C" or better

**Course Description:** This is a basic course in differential calculus. The course begins with an introduction to the limit concept, the calculation of limits, and continuity. The derivative concept is then developed along with the rules for differentiation and applications to rate problems in physics and chemistry. Differentiation of algebraic and trigonometric functions is included. The differentiation of composite functions, higher derivatives, and implicit differentiation is also covered. The course concludes with coverage of the Mean Value Theorem, and the First and Second Derivative Tests.

**Competency Areas:**

Calculation of Limits

Differentiation of Algebraic and Trigonometric Functions

Application of the Derivative Concept

**Performance Objectives / Requirements:**

To complete MAT-195 the student will be required to:

1. Calculate limits of functions.
2. Understand the definition of continuity.
3. Differentiate algebraic and trigonometric functions.
4. Solve physics and chemistry problems involving rates of change.
5. Be able to use the Chain Rule.
6. Be able to perform implicit differentiation.
7. Be able to calculate higher derivatives.
8. Solve related rate problems.
9. Use Newton's Method to find the zeros of a function.
10. Understand and be able to apply the Mean Value Theorem.
11. Be able to use the First Derivative Test.
12. Be able to use the Second Derivative Test.
13. Be able to determine critical numbers and points of inflection.
14. Be able to construct linear approximations to functions and work with differentials.

**Text: Single Variable Calculus**, Sixth Edition by James Stewart (2008), Brooks / Cole Publishing Company

**Homework via WebAssign: WebAssign Access Code Card** (Available in the bookstore or online with a credit card.

**Optional Supplement: Stewart's Calculus**, Sixth Edition, **Student Solutions Manual**, (2008) by Daniel Anderson, Daniel Drucker, and Jeffery A. Cole, Brooks / Cole Publishing Company

**Optional Supplement: Stewart's Calculus**, Sixth Edition, **Study Guide**, (2008) by Richard St. Andre

**Graphing Utility Required: TI-83, TI-84, or TI-86**

**Office: Physics Laboratory** (Room #B121)

**Office Hours:**

<b>4:30 p.m. - 6:00 p.m.</b>	<b>M T W R</b>
<b>1:00 p.m. - 3:00 p.m.</b>	<b>Most Saturdays</b>
<b>Or by appointment</b>	

**Telephone & e-mail:**

<b>Physics Lab</b>	<b>(770) 528-4589</b>
<b>E-Mail</b>	<b>Private Message / Via WebAssign</b>
<b>Office Phone</b>	<b>(770) 528-4589</b>

**Method of Evaluation:**

<b>Three Tests</b>	<b>45%</b>
<b>Homework</b>	<b>20%</b>
<b>Quizzes &amp; Group Work</b>	<b>15%</b>
<b>Project</b>	<b>5%</b>
<b>Comprehensive Final Exam</b>	<b>15%</b>

**"Missed Test Policy"**: If a student misses a test and has a valid excuse, then it is the student's responsibility to make arrangements to make up the test missed.

**Retesting:** Some retesting may be available for the three tests subject to the following guidelines.

1. The instructor must agree to the retesting
2. Maximum score on a retest cannot exceed 70%
3. Retest grades cannot be used to achieve an overall course grade more than "C"
4. Retesting is **not** available for the Comprehensive Final Examination

**“Missed Quiz” or “Missed In-Class Group Work” Policy:** There is **no** make-up for missing a quiz or group work. A grade of **zero** will be recorded.

**Attendance Policy:** **CLASS ATTENDANCE IS EXPECTED.** Attendance will be taken at each class meeting. Notify your instructor before you must miss a class. If you miss a class without notification, please contact your instructor or one of your classmates to obtain the assignments missed. **Late to class, leaving before the end of class, temporary absence from class, and returning from break late are each equivalent to one-third of an absence.**

**Stopped Attending Policy:**

After a student has attended a class at least one time, he/she is considered to be on the class roster. Your instructor is required to submit students who have stopped attending as this status occurs. The definition of “stopped attending” for this course is:

- A student who has missed 3 consecutive days of a class that meets twice per week.
- It is the student’s responsibility to contact the instructor if s/he is to be absent from class or has missed class. It is the instructor’s decision as to whether to allow the student to return to class or to submit the student as “stopped attending” if the student misses the above defined number of classes.
- Students submitted as “stopped attending” are not eligible to be reinstated into the course; they will receive a grade of F for the courses, unless the student withdraws from the course using the appropriate withdrawal procedure.

**Withdrawal From Class: Withdrawal is a student option.**

**NOTICE FOR STUDENTS WHO STOP ATTENDING  
CLASSES**

1. **STUDENTS must initiate withdrawal from a course(s) by completing the appropriate form through the STUDENT SERVICES OFFICE.**
2. **Instructors WILL NOT initiate withdrawal for students who stop attending any course(s). Withdrawal is a STUDENT option.**
3. **STUDENTS withdrawing from a course(s) after the drop/add period (July 1<sup>st</sup> – July 3<sup>rd</sup>) through the end of the 5<sup>th</sup> week of the quarter (August 6<sup>th</sup>) will receive a grade of “W.”**
4. **STUDENTS withdrawing from a course(s) during the 6<sup>th</sup>, 7<sup>th</sup> or 8<sup>th</sup> week of the quarter (through August 27<sup>th</sup>) will receive a grade of “WP” or a “WF.”**
5. **STUDENTS who have not withdrawn or do not attend class after the end of the 8<sup>th</sup> week of the quarter (August 27<sup>th</sup>) WILL NOT be withdrawn by the instructor and WILL receive the appropriate letter grade (A, B, C, D, or F).**

**Tutoring:** Assistance is available for MAT-195 in the CTC Learning Center.

**Plagiarism:** Plagiarism is the representation of another person’s ideas or writing as one’s own. The penalty for plagiarism may be the failure of the course. Academic dishonesty

includes cheating, plagiarism, and providing false information to CTC. This may result in disciplinary action. See current catalog.

**Academic Dishonesty (Cheating):** No student shall receive, attempt to receive, knowingly give or attempt to give unauthorized assistance in the preparation of any work required to be submitted for credit as part of a course (including examinations, laboratory reports, essays, themes, term papers, etc.). This may also result in disciplinary action.

**Equity Statement:** Offensive statements regarding one's race, sex, creed, national origin, physical ability, or mental ability are not appropriate in this course. These statements may be considered a violation of CTC's standard of conduct, as stated in the current catalog, and may result in disciplinary action.

**Accommodations:** Students who need accommodations are asked to arrange a meeting with their instructor during the first week of class or as soon as possible. Bring a copy of your Accommodations Memo and an Instructor Verification Form to that meeting. An Accommodations Memo may be obtained from the Office of Disability Services. The phone number of the Office of Disability Services is (770) 528-4529.

**Food and Drink:** Food and drink are **not** permitted in the classroom or laboratory.

**Work Ethics:** A work ethics grade of 0, 1, 2, or 3 will be assigned to students in all courses. The work ethics grade will be displayed on the student's official transcript but will *not* affect the academic grade point average. The work ethics grade is designed to evaluate and encourage good work ethics.

**Warranty:** Any graduate of Chattahoochee Technical College who is determined to be deficient in a competency identified in the state program standard shall be retrained at no cost upon the request of a graduate or the employer in conjunction with a graduate. This warranty is valid for two consecutive years following the date of graduation.

**Telephones: All types of communication devices are not permitted in the Physics Laboratory/Classroom. These devices include but are not limited to the following:**

1. Cell telephones
2. Ear telephones
3. Pagers
4. Headphones
5. Laptop computers / Notebook computers

**Additional prohibited items include:**

1. iPods
2. MP3 players
3. Electronic video games
4. Digital cameras

**These devices are to be turned off and not available for use during lecture, laboratory, and while working in the physics laboratory/classroom. This last statement means:**

1. Not before class
2. Not during class
3. Not during break
4. Not after class
5. Not during office hours
6. Not during my planning periods
7. Not during the Saturday tutorial period
8. “not available for use” means the devices are to be stored away in book bags or purses. They are not to be left on the table while in the laboratory. I recommend that you leave these devices in your automobile before coming into the laboratory.

**Failure to comply with the above regulations will result in a reduced work ethics grade and a reduced final course grade:**

1. Work ethics grade reduced to either a 1 or 0
2. Final course letter grade reduced by one letter grade (Example: “B” reduced to “C”)

**Grading System:**

The following grading system is used college-wide:

Grade	Final Numerical Score %	Standard	Numerical Equivalency
A	90 – 100	Excellent	4
B	80 – 89	Good	3
C	70 – 79	Satisfactory	2
D	60 – 69	Poor	1
F	0 – 59	Failing	0
WF		Withdrew Failing	0
WP		Withdrew Passing	Not Computed
W		Withdrew	Not Computed
I		Incomplete	Not Computed

**Tentative Daily Schedule**

<b>Date</b>	<b>Topics</b>
July 2	Orientation & Section 2.2
July 7	Sections 2.2 & 2.3
July 9	Sections 2.3 & 2.5
July 14	Sections 2.5 & 3.1
July 16	Sections 3.1 & 3.2
<b>July 21</b>	No Class→Work on Homework & Project & Read Section 3.3
<b>July 23</b>	No Class→Work on Homework & Project & Read Section 3.3
July 28	Section 3.3 & Review
<b>July 30</b>	<b>Test #1</b>
August 4	Sections 3.4 & 3.5
<b>August 6</b>	<b>Last day to withdraw and receive a "W"</b>
August 6	Sections 3.6 & 3.7
August 11	Sections 3.7 & 3.8
August 13	Sections 3.8 & 3.9
August 18	Sections 3.9 & 4.1
August 20	Section 4.1 & Review
<b>August 25</b>	<b>Test #2</b>
August 27	Sections 4.2 & 4.3
<b>August 27</b>	<b>Last day to withdraw and receive a "WP" or "WF"</b>
<b>September 1</b>	<b>Holiday</b>
September 3	Section 4.3 & 4.8 & Review
<b>September 8</b>	<b>Test #3 &amp; Review</b>
<b>September 10</b>	<b>Comprehensive Final Examination</b>

The above test dates are tentative and subject to change upon notification. This syllabus for MAT-195 is subject to change.

Revised: July 1, 2008

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