MATH 181
Calculus I
Spring 2012 Syllabus

Instructor: John M. Newman, Ed.D.
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Office Hours: Tuesday, Wednesday, and Thursday 2:00pm – 5:00pm
and by appointment.

Course Information

Course Number:	Math 181
Course Discipline:	Mathematics
Course Description:	The fundamental concepts of analytic geometry and calculus functions, graphs, limits, derivatives, integrals, and certain applications.
Course Prerequisites:	MATH 126 and MATH 127, MATH 128, or three years of high school algebra and trigonometry, or sufficient placement—any combination within two years or sufficient placement test score.
Course Location:	WCC 108
Course Times:	Tuesday and Thursday: 7:00-8:45pm
Course Credits:	Four (4) Credits

Textbooks

Required Textbooks: *Single Variable Calculus, 7th Edition*
James Stewart - McMaster University
ISBN-10: 0538497831 ISBN-13: 9780538497831
Textbook only! No access code needed.

Additional Materials: Scientific Calculator

Learner Outcomes and Measurements

Outcomes

Upon completion of this course, the student will:

- perform limits using the definition of the limit
- perform limits using limit laws
- perform tests for continuity and identify and type discontinuities
- find derivatives using the definition
- find derivatives using formulas, the product and quotient rules, and the chain rule
- find derivatives implicitly

- apply differentiation in several ways (velocity, related rates, and optimization problems)
- perform a linear approximation
- identify when the Mean Value Theorem applies, and use it properly
- find horizontal asymptotes and sketch various curves, including rational functions
- find higher derivatives and apply them to optimization and concavity problems
- find antiderivatives and indefinite integrals
- use partitions to find definite integrals
- use the Fundamental Theorem of Calculus
- perform integration by substitution

Measurements

- Written Examination – Chapter Tests and Final Examination
- Weekly Quizzes
- Homework Assignments

Students will be tested for knowledge and skill attainment through written tests, weekly quizzes, and Homework assignments. All of the previous will be comprised of questions taken from handouts, reading assignments, homework and lectures.

Method of Instruction

Math 181 will utilize several methods of instruction. They will include:

- Classroom lecture.
- Classroom discussions.
- Electronic interaction via WebCampus.
- Student written work.

Course Requirements

Math 181 will consist of:

- Daily exercises
- Class participation
- Weekly quizzes
- Written homework assignments
- Chapter tests
- Final exam

Policy Statements

Attendance Policy:

Class attendance is essential for student success; therefore, students are expected to report promptly and regularly to all their classes. Each class meeting builds the foundation for subsequent class meetings. Without full participation and regular class attendance, students will find themselves at a severe disadvantage for achieving success in a college mathematics course.

Attendance will be taken and may be reported to financial aid agencies. Attendance may also be used to determine the last day a student attended class if a student drops the class without doing a formal withdrawal. The instructor reserves the right to drop any student that exceeds the number of unexcused absences that is deemed excessive by NSHE policy and stated in the Academic Standards section of the GBC catalog.

Work Policy:

All course work is due on the assigned date and time.

LATE WORK WILL BE ACCEPTED UP TO THREE (3) DAYS AFTER THE DUE DATE FOR UP TO 50% CREDIT MAXIMUM. NO CREDIT AFTER THREE DAYS.

All work from outlying sites must be submitted electronically in PDF format. **FAXES WILL NOT BE ACCEPTED**. The instructor assumes no responsibility for making sure you receive any course material for which you were absent. Contact another class participant ahead of time to collect class materials and take notes. Make arrangements to get such materials before the next class meeting date. You are expected to return to the next class fully prepared for the class with assignments ready. Please understand and accept that there is considerable investment of time to be successful in any college course. As a minimum standard, each credit hour for a college course requires two hours of homework. Please take into consideration a minimum of 6 hours per week homework requirement (outside of class) when planning your semester and personal schedule. Also, do not expect that your mere presence in the classroom will earn you a passing grade. You must be a participant and not just a spectator. The amount and degree of effort you put into your work will be reflected in your final grade!

THE LAST DAY TO DROP A CLASS FOR NO GRADE IS FRIDAY, APRIL 27th.

Make-up Policy:
I do not give make-up work. If you miss an exam then your score will be replaced with the score you receive on the final exam. If you miss two exams then the second exam score will be a zero.

Homework Policy:
I do not collect the daily homework but I do go over it every class period. It is your decision to have it completed for each class and ask questions on what you do not understand. If you do all your homework, you will do well in the class. If you do not do the homework odds are pretty good that you will not pass the class. Be sure to keep up to date. If you get too far behind this semester, you will have difficulty catching up; especially if you are taking other classes, and/or working.

Student Responsibilities:
It is the student's responsibility to:
1. read and understand the contents of the Great Basin College catalog.
2. become familiar will all GBC policies and procedures.
3. be aware of all university deadlines, including dates for registration, change of registration and fee payment.
4. contribute to the maintenance of a campus environment conducive to intellectual curiosity, civility and diversity.
5. keep GBC informed of changes in address, phone number, enrollment changes which might affect financial aid awards and/or any other circumstances which could affect satisfactory progress toward a degree.

Student Expectations
Students are expected to:
1. attend class and complete all assignments in accordance with the expectations established by their instructors and programs of study.
2. conduct themselves in the classroom in a manner which contributes to a positive learning environment for all.

3. familiarize themselves with all GBC policies and procedures.
4. ask questions and seek clarification, direction and guidance to any class assignment, GBC policy or procedure which is unclear.

Students may be expected to complete class requirements beyond the published meeting times. This varies by course and instructor.

Policy of Academic Integrity: The NSHE Code (Board of Regents Handbook 6.2.2q) expressly forbids all acts of academic dishonesty, including but not limited to "cheating, plagiarism, falsifying research data or results, or assisting others to do the same". Academic honesty is expected in this course. All student work must be original and authentic. Any acts of cheating, copying, and/or plagiarizing are violations of the NSHE code of conduct and will be taken seriously. Students who cheat, copy another's work, or plagiarize from the Internet or other sources will fail the course regardless of other course work and are subject to dismissal from the academic institution.

Classroom Conduct:
I expect everyone who attends class to participate and be respectful in class. Do not read materials for other classes, do homework, chat to other students, listen to iPods, text message, sleep, eat your breakfast, lunch, or dinner, or read newspapers while attending class. Everyone who attends this class has an investment (financially, time, and futuristic goals) in being here. No one is forcing you to take this class. If you do not wish to be here and participate in class the answer is simple. Do Not Come. Please take ownership of your education in attending every class on time, participating every day, doing the best you can on assignments and tests, and not make excuses for any shortcomings you may encounter.

The Bottom Line. To do well in this course, you need to be organized, plan your time well, study your notes and handouts outside class, finish all the homework, and pay attention to directions. You don't have to be a math whiz — good work habits count for more than native math ability. If you want to do well, you'll do the work. If you don't, you're just wasting time.
GBC is a learning-centered institution. The faculty are here to help you, **but learning is your job**.

"Always bear in mind that **your own resolution to succeed, is more important than any other one thing**." —Abraham Lincoln, 5 Nov 1855

Students with Disabilities:
GBC supports providing equal access for students with disabilities. An advisor is available to discuss appropriate accommodations with students. Please contact the ADA Officer (Julie Byrnes) in Elko at 775.753.2271 at your earliest convenience to request timely and appropriate accommodations.

Grading Policy and Grading Scale

Grades for Math 127 are based upon the following:
Quizzes: 10 – 25 points each.
Homework Assignments: 10 points each.
SUBMITTED IN SINGLE FILE PDF FORMAT
Chapter Tests: 100 points each.

Grading Scale	
A	95% – 100%
A-	90% – 94%
B	85% – 89%
B-	80% – 84%

Final Exam: 200 points.
Quizzes, Tests, and Exams will be given in both electronic and written form. Your lowest test score will be replaced with your final exam score **only** if it is to your advantage.

C	75% – 79%
C-	70% - 74%
D	65% - 69%
D-	60% - 64%
F	Below 60%

Please keep the following in mind: Your grade is determined by grade points. Points are earned by demonstrating what you have learned, not by what you have endured during this course.

Course Outline/Content/Schedule

Tentative Schedule of Class Meetings – Spring 2012
The instructor reserves the right to modify the schedule at any time during the semester.

Week	Date	Chapter, Section &Topic
1	Jan. 24	Syllabus – Course Requirements – Precalculus Review
	Jan. 26	1.1 Four Ways to Represent a Function. 1.2 Mathematical Models: A Catalog of Essential Functions.
2	Jan. 31	1.3 New Functions from Old Functions. 1.4 The Tangent and Velocity Problems.
	Feb. 2	1.5 The Limit of a Function. 1.6 Calculating Limits Using the Limit Laws.
3	Feb. 7	1.7 The Precise Definition of a Limit. 1.8 Continuity.
	Feb. 9	**Test I – Chapter 1**
4	Feb. 14	2.1 Derivatives and Rates of Change. 2.2 The Derivative as a Function.
	Feb. 16	2.3 Differentiation Formulas. 2.4 Derivatives of Trigonometric Functions.
5	Feb. 21	2.5 The Chain Rule.
	Feb. 23	2.6 Implicit Differentiation.
6	Feb. 28	2.7 Rates of Change in the Natural and Social Sciences. 2.8 Related Rates.
	Mar. 1	2.9 Linear Approximations and Differentials. 3.1 Maximum and Minimum Values.
7	Mar. 6	3.2 The Mean Value Theorem. 3.3 How Derivatives Affect the Shape of a Graph.
	Mar. 8	3.4 Limits at Infinity; Horizontal Asymptotes.

8	Mar. 13 Mar. 15	3.5 Summary of Curve Sketching. 3.7 Optimization Problems. *3.8 Newton's Method. (time permitting) 3.9 Antiderivatives.
9	Mar. 20 Mar. 22	4.1 Areas and Distances. 4.2 The Definite Integral. **Test II – Chapters 2 & 3**
	Mar. 27 Mar. 29	**Spring Recess – No Classes**
10	Apr. 3 Apr. 5	4.3 The Fundamental Theorem of Calculus. 4.4 Indefinite Integrals and the Net Change Theorem. 4.5 The Substitution Rule.
11	Apr. 10 Apr. 12	5.1 Areas Between Curves. 5.2 Volumes. 5.3 Volumes by Cylindrical Shells.
12	Apr. 17 Apr. 19	5.4 Work. 5.5 Average Value of a Function.
13	Apr. 24 Apr. 26	6.1 Inverse Functions. 6.2 Exponential Functions and Their Derivatives.
14	May 1 May 3	6.3 Logarithmic Functions. **Test III – Chapters 4 & 5**
15	May 8 May 10	6.4 Derivatives of Logarithmic Functions. 6.5 Exponential Growth and Decay.
Finals Week	May 15	**Comprehensive Final Exam**

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