MATH 2413 - Calculus I Syllabus

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Materials: Calculus, Volume 1 OpenStax CNX.This text my be retrieved at https://openstax.org/details/books/calculus-volume-1

Suitable writing instruments and paper for taking notes and completing assignments. Graphing paper is recommended but not required. Calculators with exponential and logarithmic functions are required. Graphing Calculators are permitted but not required (NOTE: the TI-89, TI-92, TI-*n*spire and above are *not* permitted). Knewton Alta will be required for doing homework.

Additional Resources: The following are additional resources helpful in learning calculus:

- "The Essence of Calculus" YouTube channel 3blue1brown
- "Calculus: Single Variable" by Robert Ghrist YouTube channel Penn Online Learning
- "Funny Little Calculus Text" (FLCT) by Robert Ghrist available free through the Google-Play store.

Please note that there are no "silver bullet" resources. The only way to learn and master calculus is to do as much calculus as possible.

Core Curriculum: This course satisfies the following Core Objectives: Communication Skills:

- Develop, interpret, and express ideas through written communication
- Develop, interpret, and express ideas through oral communication
- Develop, interpret, and express ideas through visual communication

Critical Thinking:

- Generate and communicate ideas by combining, changing, and reapplying existing information
- Gather and assess information relevant to a question
- Analyze, evaluate, and synthesize information

Empirical and Quantitative Competency Skills:

- Manipulate and analyze numerical data and arrive at an informed conclusion
- Manipulate and analyze observable facts and arrive at an informed conclusion

Expected Learning Outcomes: At the end of this course, students should be able to competently perform the following:

- 1. Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals.
- 2. Draw graphs of algebraic and transcendental functions considering limits, continuity, and differentiability at a point.
- 3. Determine whether a function is continuous and/or differentiable at a point using limits.
- 4. Use differentiation rules to differentiate algebraic and transcendental functions.
- 5. Identify appropriate calculus concepts and techniques to provide mathematical models of real-world situations and determine solutions to applied problems.
- 6. Articulate the relationship between derivatives and integrals using the Fundamental Theorem of Calculus.

IT IS THE RESPONSIBILITY OF THE STUDENT TO BE FAMILIAR WITH SOUTH PLAINS COLLEGE POLICIES. BELOW ARE ITEMS SPECIFIC TO THIS COURSE

Assessment: Grading will be done according to the standard 10 percent scale (i.e. 100% - 90% is an A, etc.) with assignments weighted according to the following:

Participation	20%
Exams	60%
Final Exam	20%

Class Attendance: Students are expected to be in class and prepared for the day's lesson. Students are responsible for the material covered in this course, whether or not they are in class for any reason. A student missing 4 consecutive classes or 5 individual class days without continuing notification will be dropped from the course. Please note that state law only allows for 6 withdrawn courses total.

Participation: Participation consists of homework, quizzes, and all other graded assignments that are not exams.

Homework: Knewton Alta will be used in this course. Homework is expected to be done daily. Written assignments may also be given as necessary where long-form answers are required, work needs to be shown, or Knewton Alta is not sufficient. Any long-form answers must have all work shown in an organized fashion, and all answers must be given in complete, grammatically correct sentences that convey a logical thought process and answer the question or address the issue. Late work is not accepted. Homework done online may be attempted as many times as you wish before the due date. Knewton Alta is an adaptive learning program. So even though you are allowed to attempt problems as many times as you like, a sufficient number of incorrect answers will bring up topics that cover prerequisite material to the questions you were working on. Getting

correct answers after will bring the difficulty level (and content) back up to where it is supposed to be for the homework. It may certainly be the case that what started as 15 problems has become 25 or more because the earlier material is not properly understood. Please be conscientious when doing your homework to avoid moving too far backward in the assignments. If there are problems, please contact me - this is one of the main purposes of office hours.

Quizzes: Quizzes will be given as necessary to determine the collective standing of the class. Quizzes will usually be announced in advance, but this is not a requirement; pop-quizzes may be assigned.

Exams: There will be four midterm exams given during this course. During exams cell phones, laptops, and other such objects should be turned off and put away. There is no tolerance for violations. Students who break these rules will be asked to leave the exam (counted as an absence) and receive a zero for their exam grade. *Makeup exams are not given*.

Final Exam: The final exam is comprehensive, and a required part of the course. Failure to take the final exam results in an automatic F. The Final Exam will be held in this classroom on Monday, December 9, from 8 am - 10 am

Extra Credit: Extra Credit assignments are not offered in this course. Occasionally bonus problems may appear on exams.

Civility in the classroom: Students are expected to assist in maintaining a classroom environment that is conducive to learning. Given that students may be asked to present material as a part of the course, and contribute openly in class, troublesome behavior will not be tolerated. At a minimum, this includes use of cell phones, making offensive remarks, reading newspapers, arriving late, leaving early or engaging in any other form of distraction. Infractions will be dealt with proportionally to the offense, and may include dismissal from that class period (which will count as an absence on your attendance record). Tobacco products are not permitted in the classroom.

Honesty: "Scholastic dishonesty" includes but is not limited to cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student. Incidents of academic dishonesty will be promptly reported and dealt with.

Campus Resources: Students have access to tutoring in M116 on the Levelland campus, or Building 4 on the Reese campus. Knewton Alta also has videos and other instructional resources, including the ability to create sample quizzes and tests, found in the "Study Plan" section. You may access other videos on blackboard by logging in with the username "mvideos" (the password is "mvideos" as well.) There is also YouTube, Khan Academy, and many other online sources. I will be available for tutorial sessions before classes begin (on the days we meet for class).

Sexual Misconduct: By law all faculty members are mandated reporters of any incidents of sexual misconduct. That means that faculty cannot keep information about sexual misconduct confidential if you share that information. Dr. Lynne Cleavinger, the Director of Health & Wellness, can advise you confidentially as can any counselor in the Health & Wellness Center. They can also help you access other resources on campus and in the local community. You can reach Dr. Cleavinger at 716-2563 or lcleavinger@southplainscollege.edu or go by the Health and Wellness Center. You can schedule an appointment with a counselor by calling 716-2529.

Campus Concealed Carry: Campus Concealed Carry - Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to the SPC policy at:

http://www.southplainscollege.edu/human_resources/policy_procedure/hhc.php

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

ADA Compliance: Levelland Campus – Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance to federal law, a student requesting accommodations must provide acceptable documentation of his/her disability. For more information, call or visit the Disability Services Office in the Student Services Building, 806-716-2577.

Reese Center and Lubbock Center – Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance to federal law, a student requesting accommodations must provide acceptable documentation of his/her disability. For more information, call or visit the Disability Services Office in Rooms 809 and 811, Reese Center Building 8, 806-716-4675.