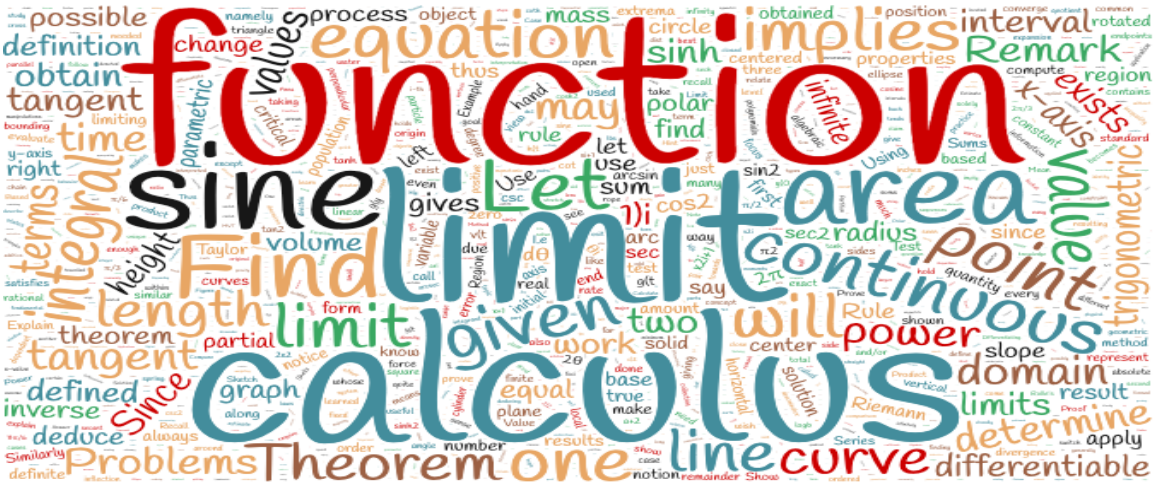
Math G180: Calculus 1 (ID: 41546)
Golden West College
Spring Semester 2024



Instructor: Gary Kirby
Email: gkirbyjr@gwc.cccd.edu
Office Location: Math Sci - 103
Sessions: Tuesday & Thursday 8:55 am - 11:00 am in Math Sci - 113

Student Hours: Tuesday & Thursday 11:00 am - 12:00 pm in Math Sci - 103. Please feel free to come to my office during these times, unannounced, if you have any questions regarding the content, or your grade, or simply just do work/study. These hours are dedicated specifically to you. If these days/times do not work for you let me know and we can schedule an in-person or virtual appointment.

Description: 4 units. This course is the first course in a three-course sequence designed for mathematics, science, and engineering majors. Topics include differential and integral calculus of a single variable: functions; limits and continuity; techniques and applications of differentiation and integration; Fundamental Theorem of Calculus. (The student should plan to complete the first three semesters of calculus at Golden West College to maintain continuity.) UC credit limitations: MATH G140 and MATH G180 combined: maximum credit, 1 course.

Course Student Learning Outcomes (SLOs): The successful student will be able to:

a. Calculate limits when they exist and explain why, when they do not exist.

b. Compute derivatives of polynomials, rational, algebraic, exponential, logarithmic, or trigonometric functions,

c. Evaluate definite and indefinite integrals

Course Objectives: Upon satisfactory completion of this course, the student will be able to

1. Find the limit of a function at a real number.

2. Determine the continuity of a function at a real number.
3. Find the derivative of a function as a limit,
4. Find the equation of a tangent line to a function,
5. Compute the derivatives using differentiation formulas.
6. Use differentiation to solve applications such as related rate problems and optimization problems.
7. Differentiate expressions and equations implicitly.
8. Graph functions using methods of calculus.
9. Evaluate a definite integral as a limit.
10. Evaluate integrals using the Fundamental Theorem of Calculus.
11. Apply integration to find area.

Materials:

- All necessary content materials to succeed in this course will be provided by your instructor through Canvas. The following documents will be provided on Canvas:
  - Your instructor's written content on the material. This material encompasses all key details any standard calculus text would provide along with problem sets (w/o solutions).
  - Guided course notes. We will go through these in class and reference your instructor's written content material.
  - Links to various open resource texts.
  - Various applets/visuals/videos corresponding to the content.
- Recommended supplemental texts:
  - Openstax: Calculus Vol. 1, by Strang and Herman This text is downloadable as a free pdf and available for iBooks and Kindle. If you desire a handheld version, you may purchase it for approximately $33.50 through the site.
  - Active Calculus 2018 Ed. by Boelkins. This is a very nice OER text. Comes in an interactive HTML format, downloadable pdf, or purchase handheld for approximately $20.95.
  - Single Variable Calculus: Early Transcendentals 8th ed. by Stewart. This is the most used calculus text in the nation. Quite pricey (approx. $150) but does a very good job of explaining and breaking down the material.
  - Ximera Calculus 1 is a free online interactive calculus text. You are able to practice and solve problems within the content presented. Definitely, a great site when you need a quick review of material and/or preparing for an exam.

- ◇ Any standard scientific calculator is sufficient. A graphing calculator is allowed, but way beyond what is necessary to succeed in this course.

Grading: Grades will be determined using the following criteria:

A: 90% or Above B: 80 – 89.9% C: 70 – 79.9% D: 60 – 69.9% F: Below 60%

With a course grade breakdown through two items, Activities/Discussion and Quizzes.

Activities & Discussions	(35%)
Quizzes	(65%)
Total	(100%)

Attendance and Participation: Active participation in this course is vital to your success. This is a 4 unit course, meaning a great deal of material will be discussed and requires a great deal of time and effort, every day. Outside of watching content videos, reviewing any necessary prerequisites, and our scheduled meeting sessions you are expected to be spending, on average, 4 or more hours a day outside of class to the learning of content.

If you are ever unable to attend one or more of our sessions, it would be greatly appreciated if you contact me beforehand to notify me of your absence. A missed activity or assessment due to an uninformed absence means no makeup will be provided. If your grade is ever below passing, please reach out for assistance. I and GWC want you to succeed and there are resources and services to help you achieve your educational goals. But, there needs to be a willingness to meet me halfway followed by dedicating time and effort, in and outside of class, to improvement.

Academic Dishonesty: Academic dishonesty includes but is not limited to, the following: Cheating, Plagiarism, Collusion, and/or other dishonest conduct. Students are expected to abide by ethical standards in preparing and presenting material that demonstrates their level of knowledge and which is used to determine grades. Such standards are founded on basic concepts of integrity and honesty. Students share the responsibility for maintaining academic honesty and are expected to:

1. Refrain from acts of academic dishonesty.
2. Refuse to aid or abet any form of academic dishonesty.
3. Notify instructors and/or appropriate administrators about observed incidents of academic dishonesty.

You may receive an “F" for the assignment and/or for the course in any case of academic dishonesty and report to college officials. A grade of “F" assigned to a student for academic dishonesty is final and shall be placed on the transcript. If the student withdraws from the course, a “W" will not replace an “F" assigned for academic dishonesty. Academic disciplinary actions taken by the instructor based on alleged cheating may be appealed as specified in the College's Instructional Grievance Policy. You are advised to read the sections on the Student Code of Conduct and Academic Honesty in the college catalog.

Artificial Intelligence

AI is improving every day and will transform how a lot of work, especially writing and education, is done. Turning in an assignment that is primarily, or completely written by an AI, is not doing your own work, and in violation of academic integrity standards. Due to the recent rise in popularity, the instructor may allow the use of AI in this course according to the following guidelines. These have been generated and edited using the help of ChatGPT for its use in a college course that includes critical thinking. Here are Chat GPT's thoughts to use it while maintaining academic integrity and critical thinking:

- The use of AI generated content will be allowed on all assignments EXCEPT for assessments or assessment corrections.
  - Students should primarily use AI to help organize thoughts and writing.
  - Students are highly discouraged from using them in any way for discussion posts, however, as the primary point of the discussions is to get practice writing and thinking on your own.
- Any use of AI writers MUST be cited.
  - Include which one used, when used, where it has been used it in your assignment, and any other relevant information.
  - Failure to acknowledge when and where a student has used them will result in a 0 on the assignment.
  - The ability to resubmit the assignment is at the instructor's discretion.
- Failure to meet the citation requirements in the assignments will result in a 0.
  - This is to ensure that students are doing their own work as AI cannot do this part of the assignment properly.
  - The ability to resubmit the assignment is at the instructor's discretion.
- AI writers are tools for expanding one's understanding but should not be used as a replacement for your own critical thinking and analysis and thus should not be relied upon to do the bulk of an assignment.
- Do not trust AI and do not expect it to give you anything with real substance. You are responsible for your work, and you should double-check anything and everything it gives you.
- Use AI as a starting point for discussion and analysis. Rather than accepting its responses uncritically, use them as a jumping-off point for further exploration and critical thinking. Consider how the responses align with or challenge your existing beliefs and theories.
- Avoid relying solely on AI for answers to open-ended questions. While AI can provide useful insights, they may not be able to fully address the complexity of the issues. Use your own critical thinking skills and additional research to explore these issues in more depth.
- Finally, remember that AI writers are machine learning tools designed to simulate human conversation. They are not a substitute for human interaction or discussion. Always seek out opportunities to engage with your peers and instructors to deepen your understanding of important concepts.

Disability accommodations: Students with disabilities who believe they may need accommodations are encouraged to contact the Disabled Student Programs and Services (DSPS) as soon as possible in order to ensure that, if DSPS finds them qualified, such confidential accommodations are made in a timely fashion. Contact DSPS: Phone (714) 895-8721 (v) | Email: dsps@gwc.cccd.edu | Website: www.goldenwestcollege.edu/dsps/

This syllabus is subject to change at any time.