

Last Revised 1/15/26

Welcome to the Math 005 course! This preparatory calculus course format was designed to better prepare you for college mathematics courses by utilizing technology.

WHEN AND WHERE DO WE MEET?

The course will be delivered as a combination of in-person and online. There will be two weekly fifty-minute in-person classes in your discussion section with your primary instructor (your discussion section instructor), but no traditional lectures. Your discussion section is the one with the “D” at the end, such as MATH-005-02D. Check the registration for your Math 005 discussion section for details on when and where you will meet. Your work on ALEKS (more below about this) is entirely online.

WHO IS MY INSTRUCTOR AND HOW DO I GET IN TOUCH WITH THEM?

Instructional team: Our instructional team aims to make your learning experience a rich and successful one this semester. In addition to David Hambley as the course coordinator, we have both Lecturers (discussion section instructors) and Undergraduate Learning Assistants (LAs) on the instructional team. Our goal is to support your understanding of, and keep you highly engaged with, the course content. While the main job of each Lecturer is to serve as the primary instructor for their discussion sections (by running the discussion sections, grading, holding office hours, etc.), the main job of a Learning Assistant is to help you, the students. LAs will help each Lecturer facilitate active learning and collaboration activities in the classroom, but they have nothing to do with grading in the course. LAs will focus on your processing of new content and hopefully help you learn how to learn more effectively.

Your primary instructor’s name is listed with your discussion section registration information. For most of your questions, it’s best to start with your primary instructor.

Math 005 Office Hours: You may have any Math 005 questions answered at office hours. The schedule (available soon on CatCourses) will be valid from January 26 through May 7, 2026. This time is set aside for *you*, so drop-in to chat, consult, and/or collaborate. You will find the schedule on the Getting Help page on our CatCourses site.

Online help: Feel free to post general questions under Discussions on CatCourses, or for more personal concerns it’s best to contact your primary instructor (your discussion section instructor) directly.

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WHAT’S THIS COURSE ABOUT?

We believe that there are two major aspects of learning mathematics. One is the acquisition of necessary content knowledge and technical skills, such as the graphing of a quadratic function and being able to factor it. The other is the understanding of how these bits of knowledge and skills fit together into a coherent theory and how we can apply that theory to solve real problems. For example, what kinds of problems call for a quadratic function as a

model? These two aspects are closely intertwined. Without knowing properties of quadratic functions, how can we recognize a situation where one is needed? On the other hand, the need to solve real-world problems provides incentives for us to acquire and even develop more knowledge.

The key to developing fundamental mathematical skills is tons of practice on one's own. Therefore, you will shoulder the major responsibility for this part. You will strengthen your ability to deal with algebraic, exponential, logarithmic, and trigonometric functions by solving problems on ALEKS, watching lecture videos, and reading the textbook. However, you are not alone in your effort. You will find plenty of support and help from your instructor as well as from your classmates, to which you have convenient access in discussion section, office hours, and in the Discussions area on CatCourses.

Aside from academic work, another important reason to go to college is the people. Getting to know your fellow students and professors, making friends, learning from and teaching each other, and developing social connections are all essential parts of your college life. Do not think of these activities as taking time away from your studying. Rather, being surrounded by like-minded peers can only improve your academic performance. The course is designed to help you form human connections.

Some Course Details:

This course is worth 4 units of credit. Consistent with UC Merced's [credit hour policy](#), you should expect to work an average of 12 hours per week on Math 005 this semester to achieve the learning outcomes and earn a passing grade in this course. You will spend 2 of these hours participating in the weekly discussion section. The remaining 10 hours should be allotted to working through problems in ALEKS and preparing for quizzes and exams. Some weeks may require more work and others less, but on average please plan to devote 10 hours per week to your success in Math 005.

The home for Math 005 is our course site on CatCourses at catcourses.ucmerced.edu. This is where you find course documents like this syllabus, course information such as times and locations to find your instructor, access to your gradebook, as well as a link to the other online component, ALEKS.

Through our Math 005 Course Home Page on CatCourses, you have access to a web-based learning and assessment system called ALEKS, where you will spend a great deal of your study time. You will gain basic mathematical content knowledge and practice basic skills by working out exercise problems on ALEKS, reading relevant text, and watching related mini-lecture and tutorial videos. This is also where you have access to an eTextbook as an additional resource. A significant portion of each exam will be taken in ALEKS as well. Your efforts and performance on ALEKS directly make up 30% of your course grade, and the exams make up another 45% of your course grade. This should give you an idea how integral ALEKS is for your learning this semester. A smart starting practice is to spend about one hour every day, five days per week, working on math, principally in ALEKS, and adjust this time as you find what works for you.

When you, your fellow students, and your primary instructor meet in class (discussion section), you will work to make connections among different ALEKS exercises to piece together a coherent theory, and you will apply the knowledge and skills that you have mastered to solve application problems. You will work in groups during discussion section.

You will also have quizzes on class days, accounting for 20% of your course grade. Participation in discussion section, and sometimes outside of class, makes up the remaining 5% of your course grade.

Please remember that the Math 005 instructors are here to help should you run into difficulty at any point in your study. You may stop by the scheduled Math 005 office hours to have your questions answered. For more immediate concerns, you may post your questions on CatCourses or e-mail your primary instructor. The instructors will monitor the postings and answer questions on CatCourses daily.

WHAT WILL I LEARN?

Learning Objectives: This course is designed to prepare you for subsequent calculus courses. Upon successful completion of this course, you will understand:

- How to manipulate different mathematical expressions.
- The notion of a function as a mathematical object and its characteristics.
- How functions can be used to model real-world problems and data.
- How to communicate quantitative information and mathematical concepts in speaking and in writing.

Learning Outcomes: Upon successful completion of this course, you will be able to:

- Appropriately manipulate algebraic, trigonometric, exponential, and logarithmic expressions to solve given problems.
- Represent a function using a formula, a graph, a table, and in words, and determine its characteristics, such as domain, range, symmetry, periodicity, asymptotes, whether it is invertible, average rate of change, etc.
- Define different families of functions and list their properties, including polynomial, rational, trigonometric, exponential, and logarithmic functions.
- Select appropriate functions to model data and phenomena in natural and social sciences, and discuss the practical implications of such models.
- Communicate clear and precise mathematical statements in writing and in speech.
- Work individually and in groups to solve mathematics problems.

HOW DO I ACCESS THE COURSE COMPONENTS?

You will find all course information, materials, instructions, assignments, etc. on the course web site on CatCourses at catcourses.ucmerced.edu, along with a link to ALEKS. The following are some tools that will help you with your course work.

ALEKS: This is a web-based, artificially intelligent assessment and learning system. It can diagnose the strengths and weaknesses in your knowledge structure and map out a logical picture of what you need to study and what you are ready to study. We expect you to spend a lot of time here. Both video and text instructions on ALEKS can be found at the course web site. This is also where you can access the eTextbook as an additional resource.

Text and videos: The textbook is *Precalculus*, 2nd edition, by John Coburn. When you register in our course on ALEKS, you get access to the electronic version (eTextbook) of the textbook with videos included for the duration of the course. Most ALEKS exercises include links to the relevant section in the eTextbook, and to relevant tutorial and lecture videos. You may also purchase a hard copy of the textbook.

Discussion Sections: We will meet twice each week for discussion section. Your primary instructor will organize and facilitate discussions with help from a learning assistant. This is the only scheduled class time.

HOW IS MY GRADE DETERMINED?

Your grade will be determined from your scores as follows.

- **45% –Exams**
 - 15% on each of the three exams. Each of the exams is partially in class (written) and partially outside of class on the same exam days (on ALEKS).
- **15% –Progress Goals on ALEKS**
 - 2.5% per set of goals
 - Progress Goal 1 is to complete 80% or more of the topics in “Module 1-A” by 11:59 PM on Thursday, January 29. Extra credit will be given for progress over 80% by the deadline (the extra credit to be recorded after the deadline and made part of the grade calculation at the end of the semester).
 - For each of the remaining 5 Progress Goals, you are asked to complete all topics in the specified module on ALEKS. For example, if you complete all topics in objective “Module 1-B” by 11:59PM on Thursday, February 12, then you will get full credit for Progress Goal 2. If you don’t reach the goal, there is partial credit for the progress you made.
 - Your lowest Progress Goal score will be dropped at the end of the semester.
- **15% –Effort Goals on ALEKS**
 - 2.5% per set of goals
 - For each of the 6 Effort Goals, you demonstrate your efforts either by your progress as measured in the related Progress Goal or by putting in an average of 5 or more hours per week on ALEKS since the prior goal deadline. This means that your Effort Goal score will be greater than or equal to your related Progress Goal score (with the exception of Effort Goal 1 where there is no extra credit available).
 - Your lowest Effort Goal score will be dropped at the end of the semester.
- **20% – Quizzes**
 - There will be graded quizzes given in discussion section 6 times over the semester. Each quiz is based on problems from the most recent worksheet.
 - Your lowest quiz score will be dropped at the end of the semester.
- **5% – Participation**

- This will include participation in discussion section in one or more ways and could include other activities over the semester such as surveys. Your primary instructor will determine how this works in your discussion section.
- Your lowest Participation score will be dropped at the end of the semester.

Missed quizzes or exams: The general policy is that there are no “make-up” quizzes or exams for this course. If you have an unusual situation, such as a prolonged illness, contact your primary instructor as soon as possible to explore options.

No calculators are allowed for all in-class quizzes and exams. For online exams on ALEKS, an online calculator is provided when appropriate.

50% Cap Rule on exams: Each exam will have two parts: one part in-class and the other taken on ALEKS outside of class time. Since only the in-class part is proctored, your score on the ALEKS part of each exam has a maximum of 50% above your performance on the in-class part of that exam. For example, let's assume a student gets 12 of 40 points on Exam 1B (the in-class part of the first exam). That's 30% of the possible points. Then 30% plus 50% means that student's Exam 1A (the ALEKS part of the first exam) score can't exceed 80% of the possible points, which is 48 of the possible 60 points on Exam 1A. If that student scores above 48 on Exam 1A, their score would be lowered to 48 points.

You must average 70% overall to pass this class. The final letter grade will be assigned as follows:

A	93 - 100%
B	83 – 86.99%
C	73 – 76.99%
D	63 – 66.99%

A-	90 – 92.99%
B-	80 – 82.99%
C-	70 – 72.99%
D-	60 – 62.99%

B+	87 – 89.99%
C+	77 – 79.99%
D+	67 – 69.99%
F	Less than 60%

WHAT ARE MY RESPONSIBILITIES AS A CLASS MEMBER?

Our classroom is a place where all students need to be engaged in learning. Please be professional, respectful and polite. Listen to your instructor, the learning assistant, and to your fellow students when they are talking. It is OK to disagree during a discussion, but it is NOT ACCEPTABLE to belittle or insult other participants. Be ready to concentrate on math and discuss the day's material.

SOME ADVICE

Study Time: This course requires a solid effort. Mathematics is not a spectator sport. Doing a lot of math is the only way to learn it. Statistics from prior semesters shows that many students needed to spend more than ten hours per week working on ALEKS in order to understand the material and pass the course. It is a good practice to set aside a designated time period every day to work on our course.

Notes: We recommend that you keep a notebook for your work on ALEKS topics. One approach that has been used successfully is to write down what you need to know for each topic to solve that problem type, and separately have scratch paper for your calculations as you work through problems on ALEKS.

Participation in Discussion: Learning from people is often more efficient than learning alone. Active participation in discussion section will help you uncover oversights, clarify confusions concepts, and retain what you have learned. Research shows that people remember roughly:

- 10% of what they read
- 20% of what they hear
- 30% of what they see
- 50% of what they see and hear
- 70% of what they discuss with others.

Seeking help: There are a lot of course materials online, but that does not imply you have to learn solely from computers. Please do not hesitate to contact your primary instructor with any questions or concerns related to your course grade, or to attend the office hours of any of the Math 005 instructors for help with the course material. Another great resource for help with course material is the Math Center (<https://mathcenter.ucmerced.edu>).

WHAT POLICIES SHOULD I BE AWARE OF?

Dropping the course: The last day for dropping the course online is Monday, February 9, 2026. The last day to withdraw from the course with a 'W' on your transcript is Thursday, April 7, 2026.

Academic Integrity Policy and Practices: Academic integrity is the foundation of an academic community and without it none of the educational or research goals of the university can be achieved. All members of the university community are responsible for its academic integrity. Existing policies forbid cheating on examinations, plagiarism, and other forms of academic dishonesty. The UC Merced Academic Honesty Policy and Adjudication Procedures are available on the website <https://osrr.ucmerced.edu>.

WHAT IF I HAVE SPECIFIC LEARNING NEEDS OR DISABILITIES?

We strive to ensure that all students can thrive in our course and we're happy to provide individuals with disabilities reasonable accommodations to help support success. If you anticipate requiring accommodations to participate in class activities or meet course requirements, please notify your primary instructor (your discussion section instructor) as early as possible, and also contact the UCM Student Accessibility Services office (<https://access.ucmerced.edu>) to obtain their assistance and coordination in working with this course.

Accommodation Process

1. The student meets with SAS and provides documentation and completes their registration forms.
2. SAS evaluates needs and determines appropriate accommodation(s).
3. SAS communicates accommodations to the instructor. The student arranges to meet with their instructor to discuss the approved accommodation(s) and make appropriate arrangements.
4. The student schedules proctoring through SAS as needed for assessments covered by accommodations.

We will also make every effort to accommodate all students who, because of religious obligations, have conflicts with scheduled exams and assignments. Please contact your primary instructor during the first week of class regarding any potential academic adjustments or accommodations that may arise due to religious beliefs during this term.