



## COLLEGE NAME

Crafton Hills College

## COURSE NAME

- Calculus I and II
- Math for Early Education
- Statistics

## UNITS

- Calculus I: 4 units
- Calculus II: 4 units
- Math for Early Education: 3 units
- Statistics: 3.5 units lecture, 0.5 units lab

## REGISTRATION

No separate course required

## PLACEMENT

- Follows AB 1705 guidelines
- Calculus II requires a C or better in Calculus I

## SCHEDULE

No concurrent course



## TEXTBOOK

- OpenStax Calculus I and II
- Teaching Elementary Mathematics (LibreTexts)
- Class Workbook for Math-142, 4th edition

## COURSE MANAGEMENT SYSTEM

Canvas

## GRADING

Note that all assignments, other than MyOpenMath, are complete or incomplete. You either complete it at a college level or you don't. You're welcome to go back and fix anything that is incomplete. There will be feedback in the gradebook for any assignment that is marked incomplete. You can address that feedback and resubmit for a new grade.

**Your overall grade in the course will be calculated using the following weights:**

- Worksheets: **15%**
- Projects: **50%**
- Discussion Boards: **15%**
- MyOpenMath: **20%**

**You'll have a typical Grading Scale:**

- **A = 90-100%**
- **B = 80-89%**
- **C = 70-79%**
- **D = 60-69%**
- **F = Below 60%**

### **Regrading for Full Credit**

I'll support you, and I'll also hold you to high standards. This encourages learning in the course rather than just surviving the course. Check the gradebook for detailed feedback on assignments.



Here is a [video on how to see and respond to feedback](#)

Every time you request a regrade, you'll need to reflect:

👉 *What did you change, and how does it respond to the feedback?*

That reflection goes in your Regrade Form. A reflection on the feedback is required **every time**.

If your assignment is marked Incomplete, it just means it's not there yet. You're encouraged to revise and resubmit. Here's how the process works:

- **1st Regrade:** Write your reflection and complete the Regrade Form.
- **2nd Regrade:** Write your reflection, get a *peer review*, and then submit the form.
- **3rd Regrade:** Write your reflection, visit the **Tutoring Center**, and have a tutor sign off before submitting

## What About Late or Missing Work?

Late work is accepted as long as the missing work form is completed. No late work is accepted without the form and failing to complete the form will result in being dropped from the course. If you plan on missing an assignment, the missing assignment form must be completed, or you will be dropped from the course. **Note that any work for our class cannot be turned in past the conclusion of the course.** The later you turn in work the tighter the turn around to implement feedback. **Work turned in at the last minute may not receive a grade, and be eligible for a rework, before the course is over.** 📄

## ACTIVE LEARNING

Calc: Students watch instructional videos before class

Stats: Complete worksheets

Early Ed: Watch assignment integrated videos.

## GROWTH MINDSET

- **Late work flexibility** – submit missing or late assignments to learn and improve.



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- **Regrades with reflection** – revise work using feedback to deepen understanding.
  - **Embedded tutoring** – get guidance and support throughout the course.
  - **Discussion boards** – practice ideas, get peer input, and refine thinking.
  - **Projects with revisions** – focus on learning and analysis, not just correctness.

## EXAMPLE ASSIGNMENT

### Project One: Draft – Descriptive Statistics

#### Purpose

- Share your project plan and receive feedback before the final version
- Student-created projects require prior approval

Project Option	What to Include	Why You Might Pick It
Integration Method Zine (Applied)	<ul style="list-style-type: none"><li>- At least 4 integration methods</li><li>- Real-world or creative contexts</li><li>- Scenario/setup for each method</li><li>- Fully worked examples</li><li>- Explanation of why each method was used</li></ul>	This option is perfect if you're in lab-based STEM courses. It lets you take experiments or projects you're already doing and see how calculus directly applies. You'll practice connecting real-world data or problems to integration methods, which strengthens your understanding and helps you apply calculus in practical situations. It's hands-on, relevant, and helps you integrate what you already know with new concepts.

	<ul style="list-style-type: none"> <li>- Short reflections on challenges or usefulness</li> </ul>	
<p>Integration Method Zine (Conceptual/Theorem-Based)</p>	<ul style="list-style-type: none"> <li>- At least 4 methods</li> <li>- Explain origins/derivations (e.g., substitution from chain rule, integration by parts from product rule, partial fractions from algebraic identities)</li> <li>- Use visuals or metaphors to support understanding</li> </ul>	<p>This is ideal if you want to focus on the “why” behind calculus. You’ll dig into proofs, derivations, or theory-heavy explanations, which prepares you for advanced math, double majors in math or physics, or courses that require understanding how the rules of calculus are built. You can explain theorems in your own words or use visuals to make them accessible. This strengthens your reasoning and communication skills, not just calculation.</p>
<p>Write Your Own Exam (Exam Prep Practice)</p>	<ul style="list-style-type: none"> <li>- 8–10 problems covering at least 4 methods</li> <li>- Complete solutions for each problem</li> <li>- Include common mistakes (C-level examples and why they might be common)</li> </ul>	<p>This option is great for students in exam-heavy majors like engineering. It teaches you to anticipate the kinds of problems that could appear on a test, design questions that are challenging, and explain your reasoning behind each choice. You’ll practice problem-solving, critical thinking, and exam strategies: skills that help you not just pass a test, but really</p>



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	- Explain why each problem was designed	understand and communicate math effectively.
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## Discussion Post

### Step 1: Choose a topic

Select one project option

### Step 2: Create your post

Include:

- Full project outline (all sections in order)
- Description of visuals (graphs, props, etc.)
- Math placeholders where needed
- At least one fully developed section
- Enough detail for peers to visualize the final project

End with two feedback questions:

1. One about the math
2. One about presentation or visuals

Tech Expectations

- Uses your real voice (no silent videos)
- Combines visuals and voice in one file
- Is a functional, click-and-play video
- Explains the method step-by-step with context
- Focuses on explanation, not surface summaries
- Is structured, engaging, and thoughtful

### Step 3: Peer responses

- Respond to at least two peers



- Feedback must be:
  - Specific
  - Constructive

## A Day in Class

### **Modules & Preparation (Online or Before Class)**

Many of my classes are structured online with modules that provide context for why you're learning specific topics, what we're learning, and hands-on opportunities to practice. Completing these modules is essential for engaging fully in class. For in-person students, watching videos on the topics prior to class is required, along with submitting at least one question. Simply stating "I don't have any questions" is not acceptable; students are encouraged to come up with their own inquiries or imagine what someone else might ask. I address these questions during our example and theorem discussions or at the opening conversation, depending on vibes.

### **Opening Conversation (10–20 min)**

In each in-class lecture, we typically start with a conversation to actively engage students. This is especially necessary in calculus courses, where many students enter with preconceived negativity toward the subject. After the year 1705, students often feel overwhelmed by the quantity and complexity of information they need to absorb.

During our initial discussions, we explore topics like:

- **Mathematical History:** The story of Archimedes and significant contributions from various cultures that are not exclusively Eurocentric.
- **Concepts of Infinity and Calculus:** Addressing the origins and philosophical underpinnings of these concepts.
- **Campus Resources:** Encouraging students to ask for help and assess whether it was received, discuss how institutional structures can impact their learning, or how socioeconomic challenges related to housing and food security impact instruction methods.

### **Examples & Theory (40–50 min)**



Once the class is engaged, we transition to working through examples. I present one or two illustrative examples that demonstrate key concepts, allowing us to gradually build out the related theorems. This approach helps students develop confidence in their ability to tackle complex problems, such as integration by parts, before we delve into the formal explanations.

After working through these examples, students are given time to practice on their own, which fosters self-efficacy as they successfully solve problems themselves.

### **Group Work & Quizzes (40–50 min)**

By the end of the first hour or so, I direct students to whiteboards, where they can complete pen-and-paper homework or a worksheet relevant to the topic. This hands-on approach reinforces their learning and enables immediate feedback. The embedded tutor and I make rounds. Music is played and students are encouraged to eat, get some sun, or walk around if they seem disengaged.

Once a week, our lectures include a quiz, which students work on collaboratively during the last 20 to 25 minutes of class. The peer review process is critical; students sign off on their classmates' work, which encourages them to support one another and reinforce their learning.

Quizzes are designed to be redoable, so if a quiz is returned with insufficient detail or mistakes, I encourage students to discuss it with me and their peers. We often hold conversations about the importance of constructive peer review, drawing parallels to real-world incidents such as the JPL mission to Mars or the Columbia space shuttle disaster. Discussions also encompass historical contexts, such as the origins of statistics, eugenics, and examples like the Tuskegee trials, which provide crucial insights into the implications and responsibilities of peer reviewing.

### **Real-World Consequences & Reflection (Ongoing)**

Students are encouraged to reflect on feedback from both peers and instructors, ask questions if peer reviews are unclear, and engage fully in the collaborative process. This creates a learning environment where mistakes are viewed as opportunities for growth, reasoning is visible, and everyone contributes to each other's success. I remind students that no one works in



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isolation. No company demands perfection; it's often the interactions among peers that lead to success, not the efforts of a perfect employee.