

# Mathematics Orientation!

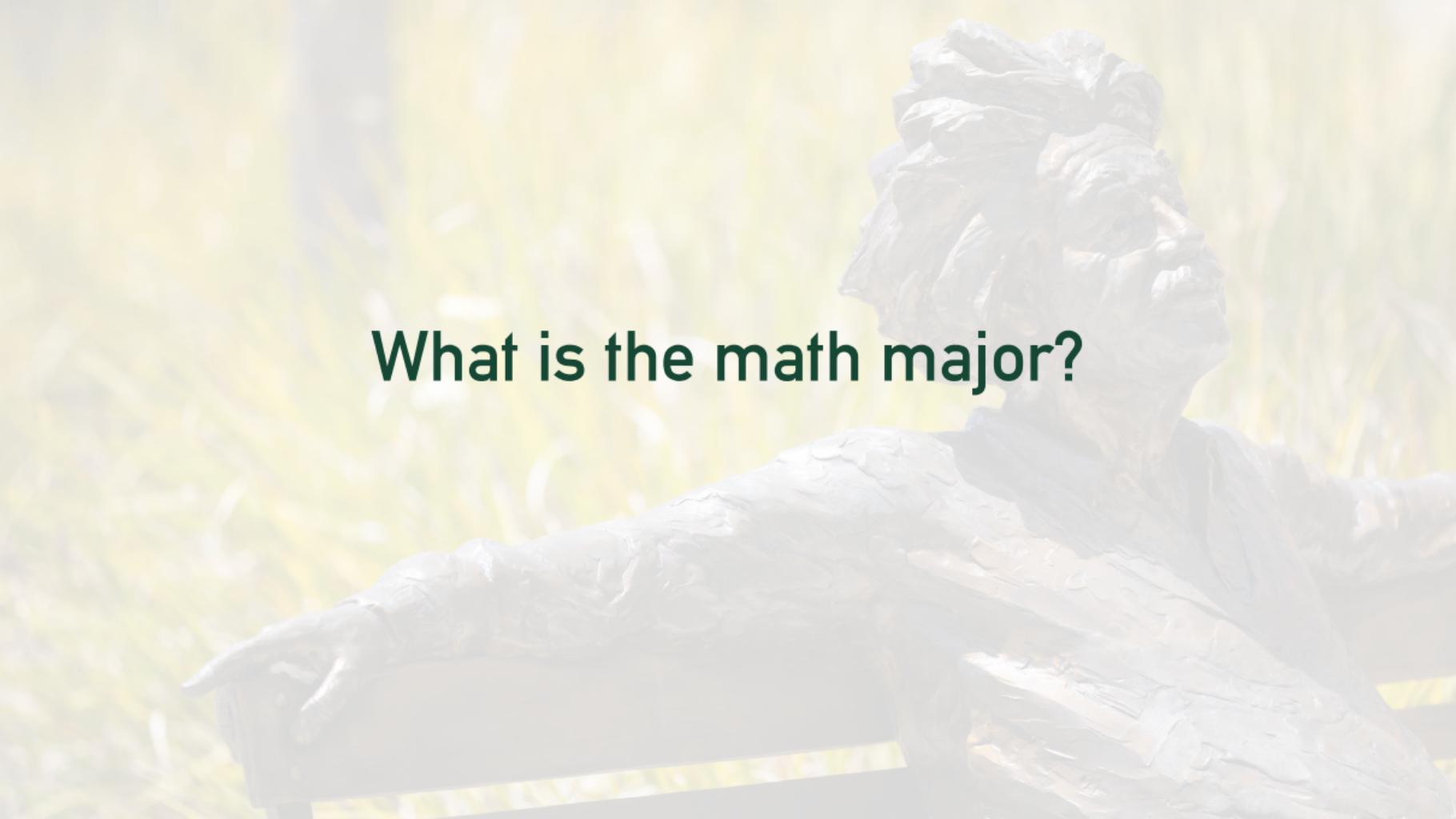
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Professor Tony Mendes  
Cal Poly Mathematics Department

## Who are you?

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1. Why are you a mathematics major?
  
2. Do you have a career direction?

A large, sprawling pile of crumpled black plastic bags, possibly trash or recycling, occupies the lower half of the frame. The bags are tightly packed and layered, creating a textured, dark shape against a bright, out-of-focus background.

What is the math major?

# Mathematics is not calculations!

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Mathematics majors

- Explain why things are true (that is a proof!)
- Engage in abstract and creative problem solving
- Know the foundations of adjacent subjects (Phys, CS, Stats, Econ, Engineering,...)

## Cornerstone mathematics courses:

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- Linear Algebra (Math 206/306/406)
- Real Analysis (Math 412/413/414)
- Abstract Algebra (Math 481/482/483)

## We have many excellent offerings

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- Differential Equations (Math 242/344/416/418)
- Combinatorics/Graph Theory/Discrete (Math 335/336/435)
- Geometry/Topology (Math 404/440/442/443)
- Numerical Analysis/Optimization (Math 451/452/453)

## The major is more than coursework!

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- Research/senior projects with faculty
- Competitions
- Clubs (both in/outside math department)
- Mathematics tutoring/workshop/grading jobs
- Math lounge/community/networking

A scenic landscape featuring rolling green hills under a clear blue sky. The foreground is filled with tall, green grass and wildflowers. In the background, more hills stretch towards the horizon under a bright sun.

**Everything has Pros and Cons**

## Math Major Pros

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- Superior logic, reasoning, and analytical abilities
- Varied career options, especially with a minor
- Interesting and intellectually challenging
- High demand for K-12 teachers, CSET waiver

## Math Major Cons

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- General purpose major, not trained for anything specific
- Need to sell your abilities to earn entry level positions
- Not what some expect (abstract, proof writing)
- PhD/academic career path is extremely challenging

## Cal Poly Math Major Pros

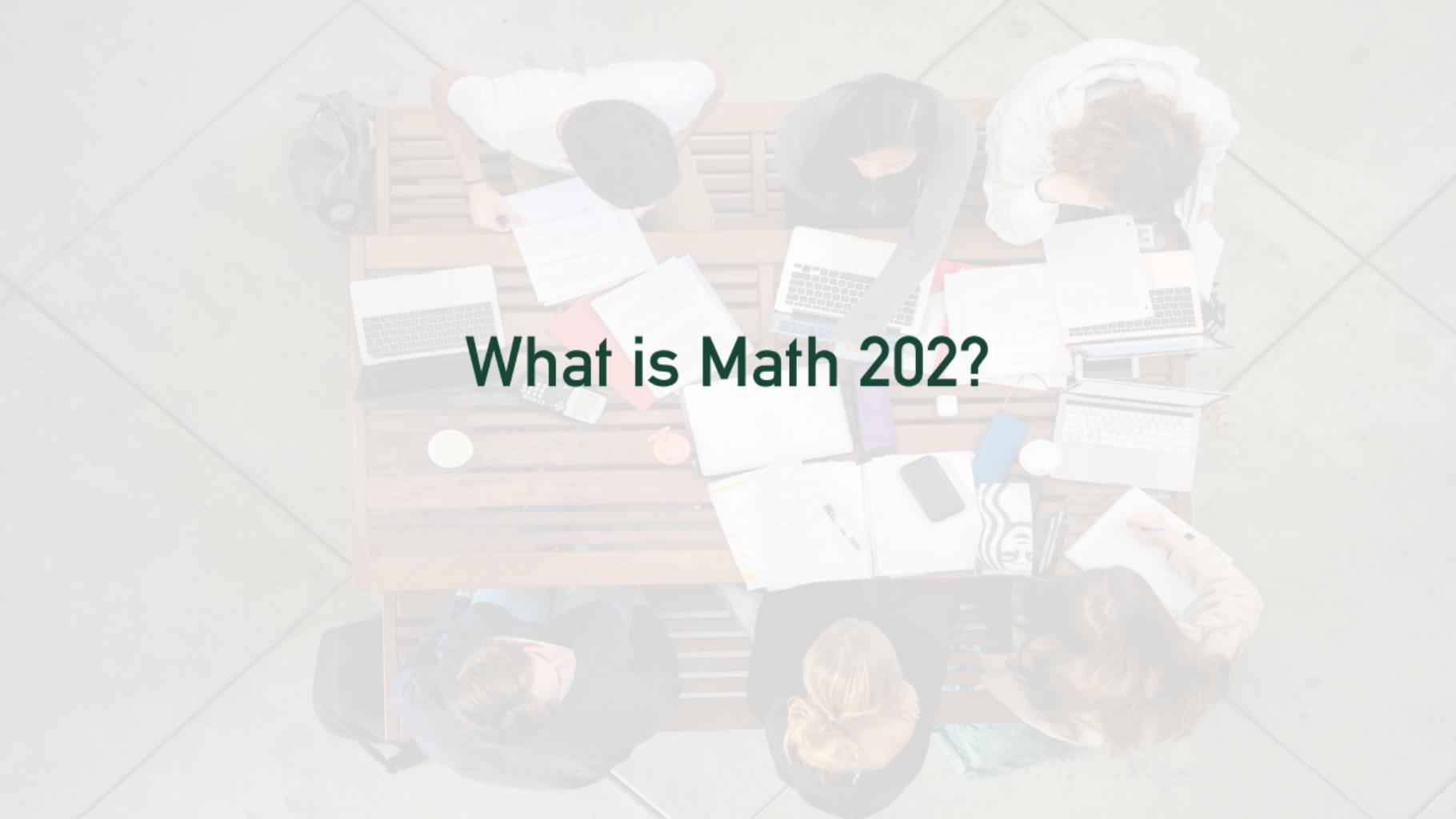
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- Wide variety of courses/research opportunities
- Small class sizes/major with large, excellent faculty
- 4 + 1 program/graduate school preparation
- Department level scholarships
- Tutoring/grading/workshop job opportunities

## Cal Poly Math Major Cons

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- Course planning is confusing
- Some facilities are dated/not optimal
- Cal Poly/SLO can be expensive, esp. for out of state
- Not many local mathematics career opportunities



# What is Math 202?

## What is Math 202?

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- Guest speakers will come (please talk to them!)
- Write resume and visit the job fair (sign up soon!)
- Create a valid graduation plan

## What is Math 202?

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Course information is on Canvas and

<https://anthonymendes.github.io/202.html>