



# The Humanizing Online STEM Academy

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Mesa PCAB Equity Spotlight 4/4





# Humanizing Online STEM Academy

- Funded by a grant from the **CA Education Learning Lab**, administered by **Foothill-DeAnza Community College District**
- 6-weeks, asynchronous online PL program in Canvas
- Practical technology application paired with research-based practices
- Taught by “warm demander” facilitators
- Upon completion, participants receive an **\$1,800 stipend\*** and a digital badge issued by CVC/@ONE





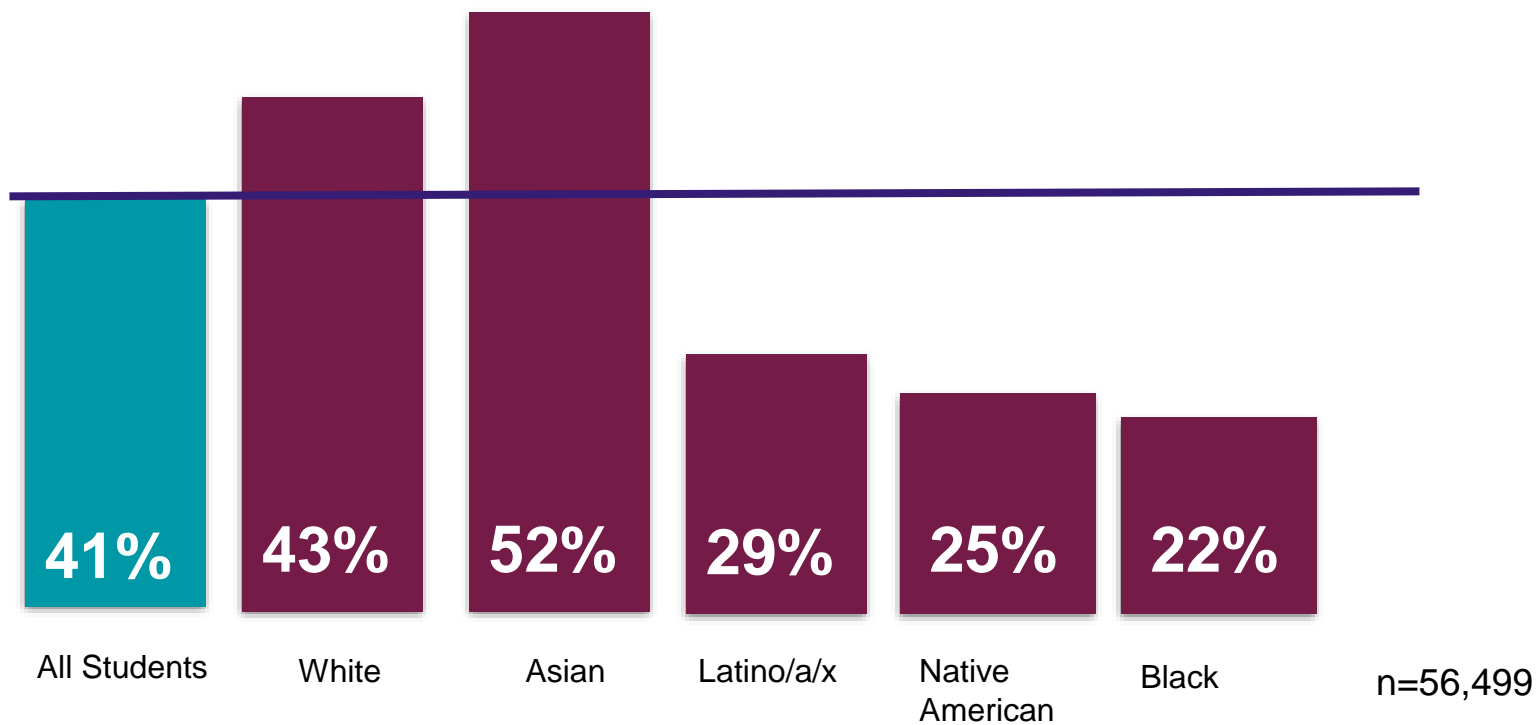
# Humanizing Online STEM Academy

## Participating Colleges

- Saddleback College
- Foothill College
- Modesto Junior College
- San Francisco State University
- Cal Poly Humboldt
- Southwestern College
- CSU Channel Islands
- Kern Community College District
- Butte College
- Fresno State
- Cuyamaca College
- Grossmont College
- **San Diego Mesa College** 🏰🏰🏰
- Sierra College
- Ventura College



# Percentage of students (nationally) who enter college with a STEM major and complete a STEM degree within 6 years.



Eagan, K., Hurtado, S., Figueroa, T. Hughes, B. (2014). Examining STEM pathways among students who begin college at four-year institutions [Commissioned paper]. Washington, D.C.: National Academy of Sciences.



Slide by Michelle Pacansky-Brock, Lead PI, Scaling Humanized Online Teaching in STEM, a project administered by Foothill-DeAnza Community College District. HumanizeOL.org (2022). Shared with a CC-BY-NC license.



**When a flower doesn't  
bloom, you fix the  
environment in which it  
grows, not the flower.**

**-Alexander den Heijer**



Photo by Aaron Burden on Unsplash



Slide by Michelle Pacansky-Brock, Lead PI, Scaling Humanized Online Teaching in STEM, a project administered by Foothill-DeAnza Community College District. HumanizeOL.org (2022). Shared with a CC-BY-NC license.



# #1 Characteristic of Effective Teaching, according to STEM students:

An instructor who is open, approachable,  
and shows concern about student  
learning

Harper, R. P., Weston, T. J. & Seymour, E. Students' perceptions of good STEM teaching, In Seymour, E. & Hunter, A. B. (eds.) *Talking about Leaving Revisited*, 2019. Springer.



**The importance of instructor-student relationships *does not change* when students learn online.**

**But how instructors cultivate those relationships *does change*.**



# Kudos to our Mesa Colleagues for developing their:

## 8 ELEMENTS Of Humanized Online Teaching

### Liquid Syllabus



### Course Card & Humanized Homepage



### Getting to Know You Survey



### Self- affirming Ice Breaker



### Wisdom Wall



### Bumper Videos



### Microlectures






**What have we learned about the Academy's impact on faculty and online students in their humanized courses?**

## Preliminary Research Findings

# Post-Academy STEM Faculty Changes in Perceptions & Attitudes

Significant increase in five measures:

- 
1. Confidence in teaching online
  2. Perceptions of the role that an instructor plays in improving student achievement
  3. Perception of the role that an instructor plays in closing equity gaps
  4. Awareness of the differences students bring to a class
  5. Willingness to intentionally accommodate student differences

# Post-Academy STEM Faculty Changes in Teaching Behaviors

After the Humanizing Online STEM Academy, faculty were:

- More actively engaged in promoting:
  - Instructor-student social interaction
  - Student-student interactions
  - Student-content interactions
- More flexible with course policies and grading (7% increase from 3.76 to 4.01 mean,  $p=.03$ )
- More intentional about being approachable



# What are students' experiences like in Humanized Online STEM Courses?

Student satisfaction was high among all students.

Black, Hispanic, Native American and Pacific Islander students reported positive perceptions of their experiences in both the Week 2 survey and the end-of-the-course survey.

Significant increases were reported in two measures:

- Sense of belonging
- Student-student interactions





Mesa's Online Success Team

Let's support our colleagues doing this difficult work!  
**Allan Schougaard, Sumangala Rao Sudhakar, & Albert Cruz** are in progress right now in Cohort 5! 🎉🎉🎉

**Spots are still available!** Apply at [humanizeol.org/apply](https://humanizeol.org/apply)

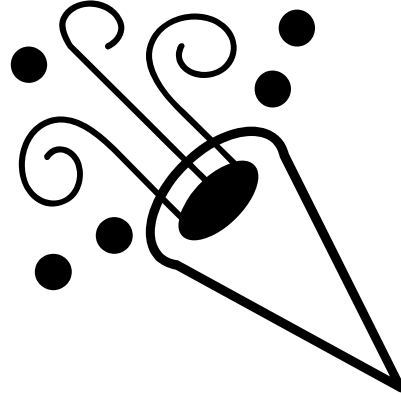
MOST has collected the Humanizing Showcases on our Toolkit: [bit.ly/mosttoolkit](https://bit.ly/mosttoolkit)

We'll be offering this training through at Mesa through our next MOST cohort: **Humanize** coming in July.



# Congrats to these 9 Mesa colleagues for completing the Humanizing Online STEM Academy!

- [Bulent Bas](#), Geology
- [Juan Bernal](#), Math
- [Tasha Frankie](#), Computer Science
- [Mary Gwin](#), Philosophy
- [Christina Huynh](#), Math
- [Sam Lee](#), Computer Science
- [Rachel Russell](#), Geographic Information Systems
- [Liya Sadovnikova](#), Human Anatomy
- [Kelly Spoon](#), Math



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# 1. Liquid Syllabus

## Examples from our Mesa Humanizing Rockstars:

- [GEOL 100 - Prof. Bulent Bas](#)
- [MATH 119 - Prof. Juan Bernal](#)
- [CISC 119 - Prof. Tasha Frankie](#)
- [PHIL 101 - Dr. Mary Gwin](#)
- [MATH 116 - Prof. Christina Huynh](#)
- [CISC 190 - Prof. Sam Lee](#)
- [GIS 104 - Prof. Rachel Russell](#)
- [BIOL 230 - Dr. Liya Sadovnikova](#)
- [MATH 119 - Prof. Kelly Spoon](#)

Sends the cue: "You are welcome here. I am in this with you."



- Sent before the class starts
- A public mobile-friendly webpage
- Written in supportive, hopeful language
- Includes verbal and non-verbal welcome cues
- Prepares students for success in week one
- Accessible (alt-text, color contrast, headings/subheadings, lists)



# Dr. Rachel Russell's Liquid Syllabus Example



## WELCOME!

I'm Rachel Russell and I will be your instructor for this course. I'm glad you are here! You can call me Rachel or Professor Russell, whatever feels more comfortable to you.

I've been the GIS professor at Mesa since 2015. I've been teaching (and learning!) GIS for about 13 years now.

As you get ready for this course, this site will be your quick reference for answers to many frequently asked questions. If you can't find the answer, reach out! I'll be happy to help.



## WHAT IS THIS CLASS ABOUT?



### 3. Humanized Homepage

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- [MATH 119 - Prof. Juan Bernal](#)
- [PHIL 101 - Dr. Mary Gwin](#)
- [MATH 116 - Prof. Christina Huynh](#)
- [CISC 190 - Prof. Sam Lee](#)
- [BIOL 230 - Dr. Liya Sadovnikova](#)
- [MATH 119 - Prof. Kelly Spoon](#)




- On day 1, greet students with a simple, clear, welcome
- Includes
  - Banner
  - Your warm, friendly photo or a brief welcome video
  - “Start here” link

# Prof. Bulent Bas


## Humanized Homepage Example

Humanizing Sandbox - B. Bas



Welcome  
to  
Physical Geology

Hello! My name is Bulent Bas and I am very excited to see you taking my class! During this 16-week course, I would like to take you on a journey to explore the hidden secrets of our beautiful planet Earth's inside and outside. You will be amazed by what you have discovered and learned about our home. I will be your tour guide. Welcome aboard!



Joined U.S. Navy in 1999  
After 22 years of Service (19 years active, 12 years reserve), I retired in 2021  
Have been teaching at community colleges since 2021  
Adjunct faculty at:  
• Southwestern College  
• San Diego Mesa College  
• San Diego Miramar College  
• Grossmont, San Marcos College  
Professor Bulent Bas (January 2022)

Weekly Modules:

- [Unit 1: Course Orientation \(START HERE\)](#)
- [Week 2, Chapter 3 - Introduction to Physical Geology](#)

Quick Links:

- [Support Resources](#)
- [FAQs/FAQs](#)

## 4. Getting to Know You Survey

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### Examples from our Mesa Humanizing Rockstars:

- [GEOL 100 - Prof. Bulent Bas](#)
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- A private exchange between you and each student
- Invite students to share about themselves
  - What are their aspirations?
  - What do they want to be called? Pronouns?
  - How are they feeling about the class?
  - What can you do to support their success?
  - What do they want you to know about them?
- Use this knowledge as context for your students' learning
- Check in with them with warm

# Prof. Juan Bernal's **Getting To Know You Survey** Example

*Please take few moments to fill out this survey. Your responses will be kept confidential. I will use the information you provide to help you succeed.*

*If you ever have any questions or concerns, please contact me through the Canvas Inbox or use my office phone: (619) 388-2892*

*Thank you!*

⋮ Question

In one word, describe how you are feeling about this class.

⋮ Question

What is the one thing that is most likely to interfere with your success in this class?

⋮ Question

Describe a positive and negative experience in math. It can't all be bad! :)

# 5. Self-affirming Ice Breaker

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- Student-student interaction
- Asynchronous video activity (using Flip, formerly known as Flipgrid)
- Support Multiple Means of Expression (UDL)
- Mitigate stereotype threat by shifting students' inner narrative to their values and valuing diversity



# 6. Wisdom Wall

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Sends the cue: “Learning is a process of growth. You can do this!”



- Student-student interaction
- Mitigates stereotype threat by positioning students as experts and connecting students with experts who are like them



# 7. Bumper Videos

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## Examples from our Mesa Humanizing Rockstars:

- [Magma Viscosity & Eruptive Styles](#) - Prof. Bulent Bas
- [Math 119 Elementary Stats](#)- Prof. Juan Bernal
- [CISC 119 \(Introductory\) Java Programming](#)- Prof. Tasha Frankie
- [PHIL 101 Symbolic Logic](#) – Dr. Mary Gwin
- [MATH 116 College & Matrix Algebra](#) - Prof. Christina Huynh
- [CISC 190 Java Programming](#)- Prof. Sam Lee
- [BIOL 230 Human Anatomy](#)- Dr. Sadovnikova
- [MATH 119 Statistics](#) - Prof. Kelly Spoon

- Brief, visually-oriented videos
- Set to music
- Clarify a sticky concept, introduce a new module/assignment

# 8. Microlectures

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## Examples from our Mesa Humanizing Rockstars:

- [Determining the Epicenter of an Earthquake](#) - Prof. Bulent Bas
- [Required Sample Size](#) - Prof. Juan Bernal
- [Code Explanation](#) - Prof. Tasha Frankie
- [Evaluate an Argument using a Truth Table](#) - Dr. Mary Gwin
- [Rates of Change and Difference Quotient](#) - Prof. Christina Huynh
- [Classes and Objects](#) - Prof. Sam Lee
- [Pulmonary and Systemic Circuits](#) - Dr. Liya Sadovnikova
- [A Course Tour of Microlectures](#) - Prof. Kelly Spoon



- Less than 10-minute instructional videos
- Aligned to learning objectives
- Visually-oriented
- Created with screencasting tool



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