The
STEMCENTER
at **Cañada College**

Impact of Cañada's STEM Minority-Serving Grants

April 20, 2022

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Rationale: California Community College STEM Pipeline

➢General pipeline to 4-year schools:
  ➢31% of UC, 52% of CSU grads are CC transfers

➢STEM Pipeline:
  ➢48% of UC STEM grads are CC transfers

https://www.ccleague.org/sites/default/files/exhibition_type_file/league_headlines/ff2017.pdf

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Who Has GANAS Served?

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Over the 5-year GANAS grant period, we served **2,219** unique students, including…

- ➢ **1,279** students who received one-on-one tutoring
- ➢ **782** students who participated in EPIC sessions
- ➢ **268** students who visited universities
- ➢ **1,464** students who participated in speaker series
- ➢ **210*** students who were matched with a peer mentor
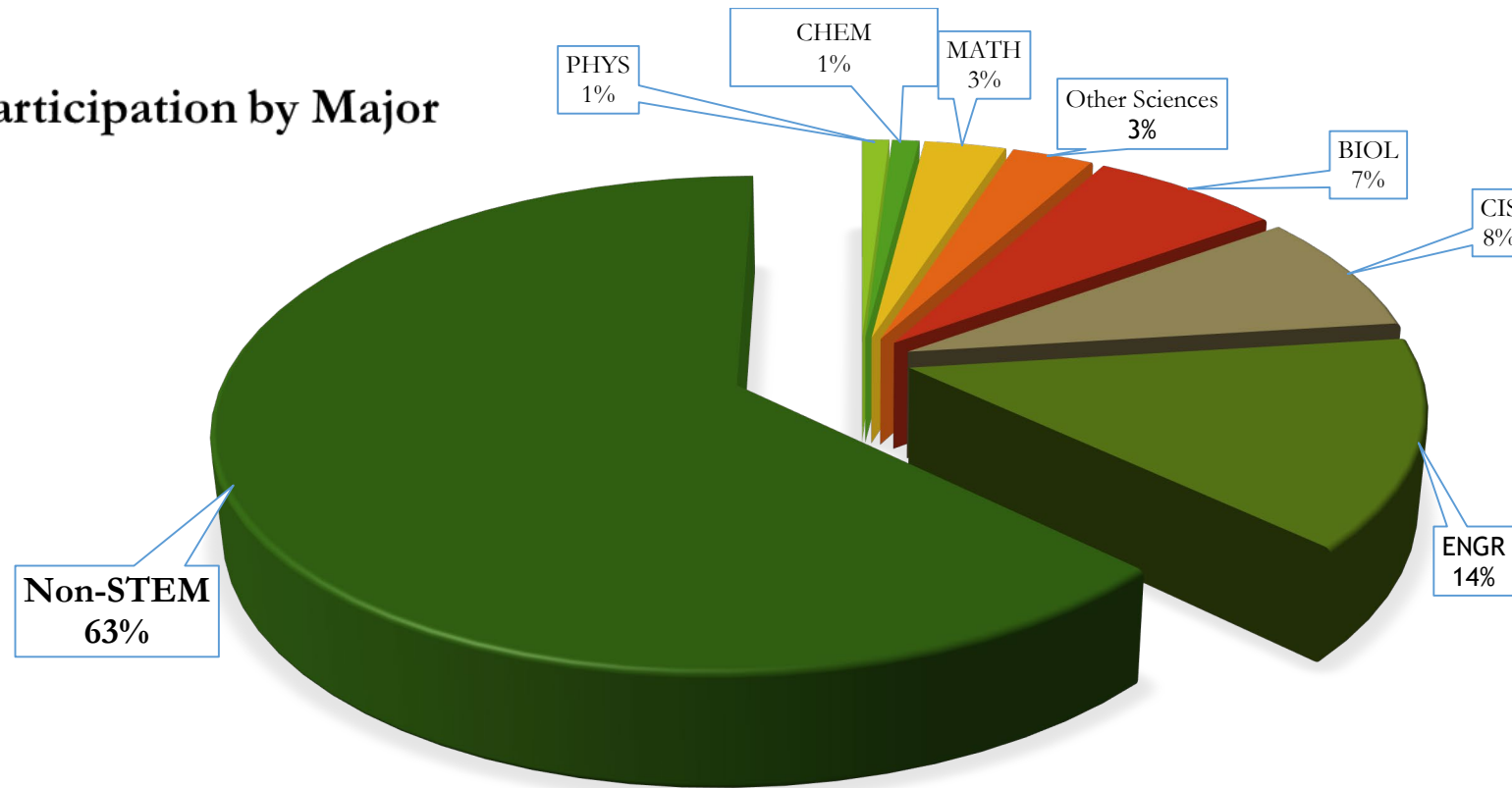
STEM Center Success Story

- Tamara Dorian
- Burlingame High School Class 2015
- Transferred to UCSC (Computer Science) 2018
- Graduated UCSC in 2020
- Currently works for Zendary (Tech Consulting)

 "The STEM Center campus tours and transfer days allowed me to fall in love with the UCSC campus"

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STEM Center Activities Benefit Whole Campus

Activity Participation by Major

- PHYS 1%
- CHEM 1%
- MATH 3%
- Other Sciences 3%
- BIOL 7%
- CIS 8%
- ENGR 14%
- Non-STEM 63%

Legend: PHYS, CHEM, MATH, Other Sciences, BIOL, CIS, ENGR, Non-STEM

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STEM Grants

Funding Source	Grant Name	# of Years	Current Year	Amount per Year
DoE – Title III, Part F	GANAS	5	6	$869,400
DoE – MSIEP (Individual)	INSPIRES	3	Done	$250,000*
MSEIP Sub-Award	CCEM	1	Done	$79,000*
DoE – MSIEP (Collaborative)	ASPIRES	3	Done	$300,000
NSF – S-Smart	ASCENT	5	4	$200,000* ($120,000 in student scholarships)
NSF-HSI-STEM IUSE	TRABAJO	5	2	$300,000*
CCCCO	MESA	3 year cycles	Unfunded	$70,000

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Institutional Capacity-Building Grants

<u>Goal of Title III & Title V HSI Grants:</u>

Strengthen the capacity of *institutions* that disproportionately enroll Latino students to improve Latino students' access and completion in higher education

Conceptualize → Build → Test → Institutionalize
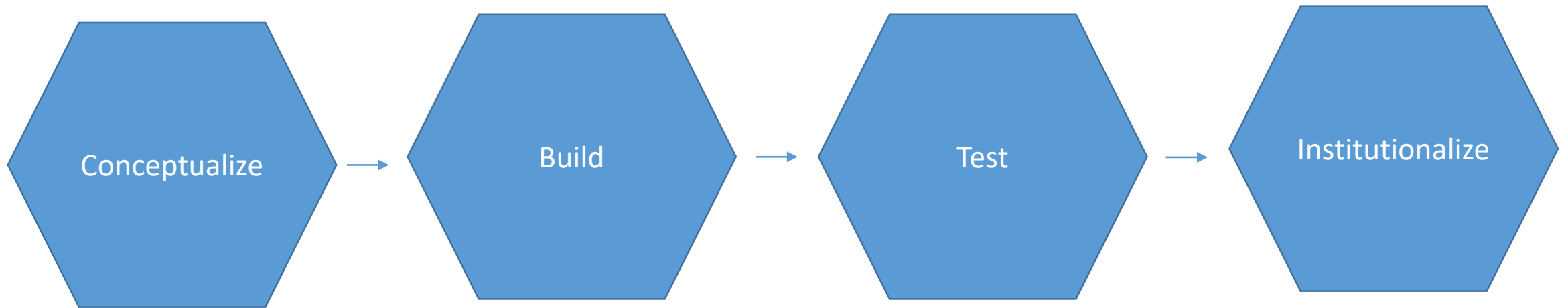
GANAS: <u>G</u>enerating <u>A</u>ccess to <u>N</u>avigate and <u>A</u>chieve in <u>S</u>TEM

Project Goals:

A) Increase the success rate for underrepresented students in foundational courses that are key to ***STEM pathways***. (Student)

B) ***Decrease the time to transfer*** by increasing the success in STEM pre-requisite courses with pre-semester and in-semester ***academic and study-skill assistance*** for students (Student)

C) Improve STEM faculty effectiveness in the classroom through pedagogies and strategies that ***promote student engagement and improve learning***.(Faculty)

D) Strengthen ***relationships and articulation*** with 4-year universities. (Institution)

The Four Pillars of Guided Pathways

1) Create clear curricular pathways to employment and further education

2) Help students choose and enter their pathway

3) Help students stay on their path

4) Ensure that learning is happening with intentional outcomes

California Community Colleges Chancellor's Office

1) Create Clear Curricular Pathways to Employment and Further Education

➢First-year pathways

➢First-year cohort

➢NSF Scholars Program

First Year STEM Pathway and Cohort

➢ Guide students in registering for foundational STEM classes
➢ Steer students to relevant college resources
➢ Create cohorts of students to promote interconnectedness

2) Help Students Choose and Enter Their Pathway

➢ STEM Summer Explorers

➢ Speaker Series

➢ Classroom Visits to Job Site

➢ Job Shadow Program

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STEM Explorers

➢ Strand within "COLTS-Con"

➢ Hands-on STEM workshops led by STEM faculty

➢ Group presentations and one-on-one meetings with STEM Counselor

➢ Introduction to campus support services

➢ Institutionalized: GP FYE 2021

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STEM Speaker Series

➤ Features local STEM professionals from diverse backgrounds and educational paths

➤ 7-8 weekly sessions per semester

➤ Open to members of the community

➤ Institutionalized: GP CE Spring 2022

3) Help Students Stay on Their Pathway

➢Dedicated STEM Counseling

➢Retention Activities

➢University Visits

➢Conferences

➢Internships

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Dedicated STEM Counseling, Retention Activities and Transfer Support

➤ Students met with a STEM Counselor periodically to monitor progress towards goals

➤ Retention activities keep students on track:
  ➤ Early Alerts
  ➤ "Ask Me Anything", Drop-In Hours
  ➤ Peer Mentoring

➤ Workshops help students apply to transfer in a STEM major

➤ Institutionalized: GP Success Teams AY21-22

University Visits

➤ STEM-focused visits to universities
➤ Pre-trip workshops to prepare students
➤ 5-6 per semester


University Visits
Stem Fieldtrips

Preview Workshop Monday, September 10th 4:00pm I Bldg. 2-10	**San Jose State University** I STEM Day **Saturday, September 15th** 8:00am-4:00pm
Preview Workshop Monday, October 15th 2:30pm I Bldg. 9-206	**UC Berkeley** **Friday, October 19th** 7:00am-5:00pm
Preview Workshop Monday, October 29th 2:30pm I Bldg. 9-206	**UC Davis** I STEM Day **Friday, November 2nd** 7:00am-5:00pm
Preview Workshop Monday, November 5th 2:30pm I Bldg. 9-206	**UC Santa Cruz** **Friday, November 9th** 7:00am-5:00pm
Preview Workshop Monday, November 26th 2:30pm I Bldg. 9-206	**Cal Poly, San Luis Obispo** **Friday, November 30th** 6:30am-7:00pm

Sign in today!
tinyurl.com/Fall2018UniversityVisits

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Conferences

➢ Opportunities for students to attend and present at professional conferences
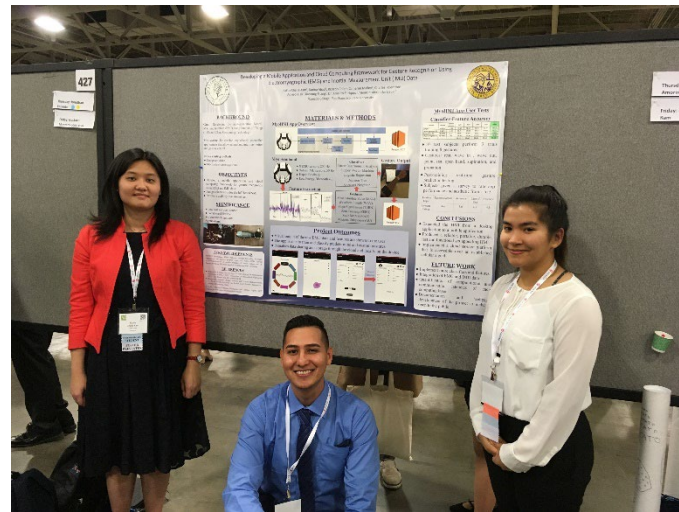
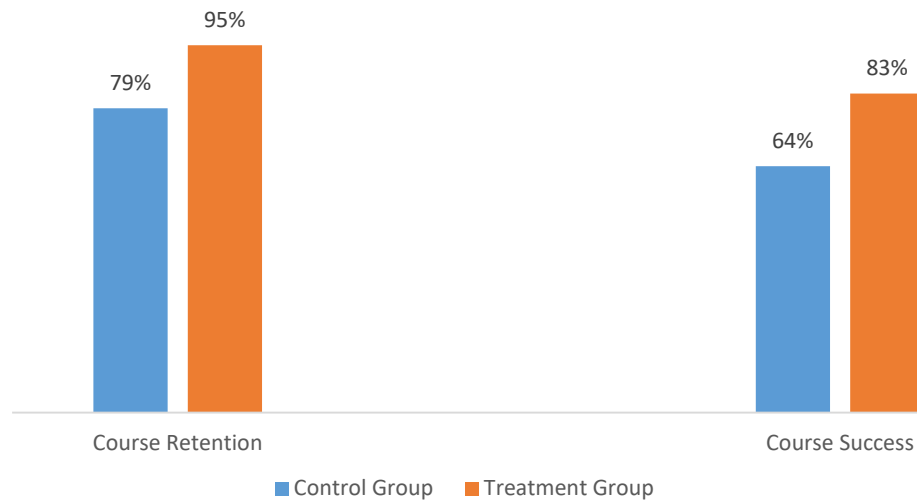# 4) Ensure That Learning is Happening with Intentional Outcomes

➤ EPIC Supplemental Instruction and Peer Tutoring

➤ STEM Faculty Community of Practice
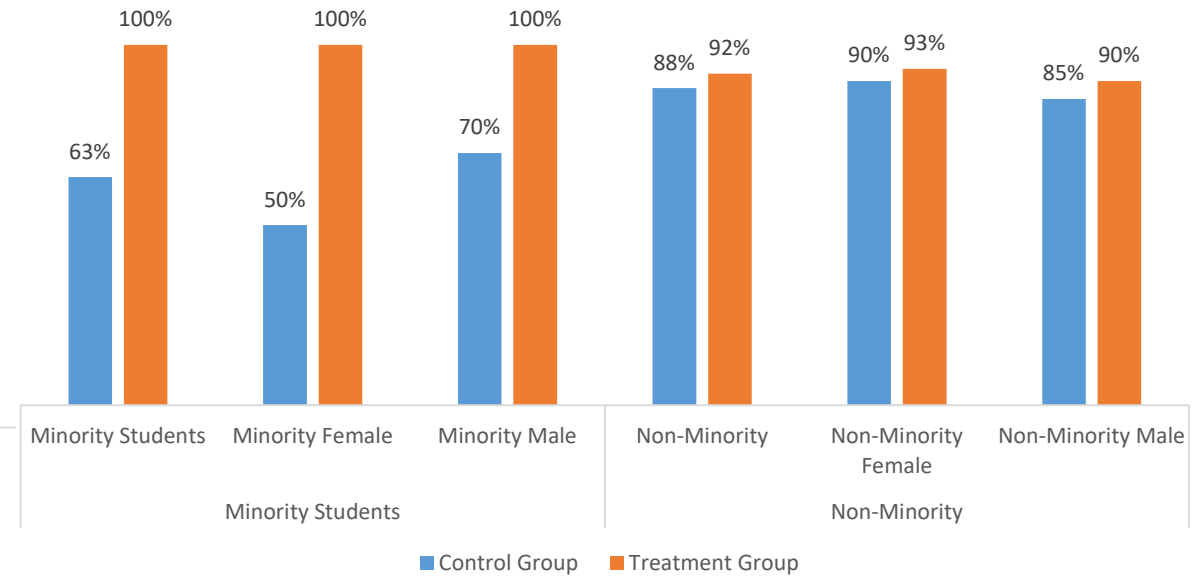
➤ STEM Faculty Professional Development

EPIC Tutoring Increases Course Retention & Success

Math 251 Course Retention and Success: Comparison
Retention p=.021, Success p=.035

Math 251 Course Retention: Comparison by Subgroups

Method: QED with PSM, control N=29, treatment N=51 Fall 17- to Fall 18
PSM [treatment and control groups matched on: gender, ethnicity, student type(first-time/continuing),
GPA, number of units, income status, first-generation status]

STEM Faculty Community of Practice

➤ Faculty Inquiry Groups to
     examine teaching practices
➤ Outcomes shared with other
     Science & Technology
     faculty

Faculty Learning Program
from UCB; jointly with SFSU
and CSUEB faculty
Institutionalized: CIETL AY19-20

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Thank You!