

# MESA Milestones

Featuring momentous affairs of the MESA program at Allan Hancock College

Spring 2019

## A Journey of Hills and Computers

by Emmanuel Guerrero, Coordinator, STEM Learning Laboratory



On Tuesday, March 19 MESA students began their journey to the Bay Area to tour UC Santa Cruz and make a stop at the Computer History Museum. UC Santa Cruz is among many redwood trees and is home to not only students, but wildlife as well. UCSC is composed of ten residential colleges complete with their own dining halls residential advisors and communities. Our first stop was at the Crown/Merrill Dining Hall so that everyone could eat lunch with students who resided in Crown and Merrill College. The buffet style lunch had many options to choose from and students were able to eat as much as they like before leaving. After lunch, students explored the campus bookstore as well as student center

before our campus tour. During our campus tour students quickly worked off their meal as UCSC's hills proved to be quite a workout. Our guide informed us of what life was like on the campus as well as a stop at the on-campus housing for transfer students. After our tour, we continued our journey to downtown Santa Cruz where students enjoyed dinner at one of the many restaurants near the Santa Cruz boardwalk. Afterwards we made it back to our lodging and students spent the evening playing piano and chess.



Early the next day we boarded our bus and drove to the Computer History Museum in Mountain View. The Museum features 20 different exhibits, a demonstration lab, a software lab and a tasty café. The museum began with early computing as it was 2000 years ago with the first calculators such as the abacus, as well as more modern tools such as a slide rule. The exhibits then walked us through the birth of early forms of data storage such as punch cards and eventually the hard disk drive. Highlighted in the museum are computing pioneers such as mathematician Ada Lovelace, Computer Scientists Grace Hopper, and Alan Turing as well as many others who shaped computing today. Many of the students' favorite section were exhibit dedicated to video games as they began in their 8 bit days. The walking tour concluded in the software lab where students were able to see the amazing things one can do with computer science. Our visit concluded with lunch before returning to Hancock and the rest of spring break.

## Seeking a Better Future

by Noe Chavez, MESA Student, Electrical Engineering

If I had been asked in high school what I would study in college I would never have said Electrical Engineering. In fact, I barely knew what engineering was. Starting my college journey was a big undertaking because not only was I a first-generation college student, but I also didn't have friends who ever attended college. Most of my friends prior to attending Allan Hancock College didn't even graduate from public high schools. Most were graduates from community and continuation schools. Unlike most of my friends growing up, I graduated from Arroyo Grande High School; but to be completely honest, I could have cared less about my studies. I went to class just because I had to, barely did my homework and usually did just good enough to pass the exams. Nonetheless, I managed to get my diploma, but getting by through high school using this method left me with bad habits that would later come back to haunt me.

After high school, I didn't consider college as an option so I went straight to work. I worked in the food industry for a few years, but then realized I should take advantage of being young and return to college to have a better future. When I first registered for classes at Allan Hancock College, I did well, but this was solely because I took general education courses and quickly learning how to do well in those classes. The material for me was not very difficult to learn. In fact, I saw that I could get through those courses using just about the same method I used in high school, with minimal work. The challenge came when I started taking my STEM courses. I suddenly realized that studying last minute and not fully understanding the material guaranteed you were not going to pass the exam. At first, I thought perhaps I was just not meant to go into a STEM major, but luckily by this point I was a part of the MESA program that helped me academically during the times I needed it the most. These programs provided tutors, and simply a place to hang out where I could meet other students who had similar goals.

As of now, I am finishing my last semester at Allan Hancock College before transferring to Cal Poly, SLO. Allan Hancock has provided me with better habits that I can take to the university. The MESA program in particular has helped me grow a lot as a person and a student.



## Engineers Week Guest Speaker, Eric Gonzalez from Melfred Borzall

by Angelica Eulloqui, MESA/STEM Counselor



The MESA/STEM Program welcomed mechanical engineer Eric Gonzalez from Melfred Borzall, a local company in the Santa Maria Valley that manufactures drills for horizontal drilling. Eric joined to celebrate Engineers Week at AHC by presenting to our dedicated MESA/STEM students and sharing with them invaluable knowledge. Eric talked about his experiences as an engineering student. He provided valuable advice and shared academic strategies to tackling the rigorous academic course work that our engineering students are required to complete. He stressed the importance of collaboration, creating study groups and connecting with instructors in order to gain the most from one's academic experience. In addition, Eric shared about his transition from being a student to landing his first job as an engineer. Finally, Eric informed our students about the opportunities available at Melfred Borzall and encouraged

AHC engineering students to apply for an engineering internship position available with the company during the summer. The MESA/STEM team looks forward to future collaborations with Melfred Borzall and its team!

## Call Myself Superwoman

*by Elizabeth Marquez, MESA Student, Biomedical Engineering*

So there I was, watching a random YouTube video and all of a sudden I see something awesome. There was a link to a video of a little girl with what looked like a robotic pink hand. That grabbed my attention so I clicked on the link and it showed two engineers using a 3-D printer to print a human hand (a little human hand!). The background story was that the little girl had been in a horrible car accident and had lost her hand, and two engineers who were working on 3-D printing heard the story and wanted to help her out. Now that is human kindness. I was astonished and could not believe that someone could do that. I started doing more research and decided that I wanted to do something awesome like that. I had already taken an introductory engineering class also by accident (was supposed to pick English and clicked Engineering in the class search and got interested and took the class), so what did I have to lose right? This goal to become a biomedical engineer seemed impossible. I am a first generation college student with migrant parents. My father worked in the fields, and neither one of my parents ever finished high school or even middle school. My older siblings taught my mother how to write her name and read at a level of a 1<sup>st</sup> grader. Did I mention that I come from a big family, with three brothers and three sisters? I was getting myself into something big and I truly felt that if I could achieve this, I would call myself Superman, well... I guess Superwoman.



Never in my high school career did anyone try to encourage me to become an engineer. You think engineer and you picture this older gentleman running a train. I excelled in my math courses and was motivated to learn more in the sciences, but because of the lack of knowledge about college I never thought my parents could afford that kind of cost and did not pursue to attend a university after high school. I just want to emphasize that if someone would have exposed me to engineering, it would have made me pursue something in engineering. More women are needed in the field of engineering, but often women are not treated the same as men at school, or in the field for that matter. Women are the minority and often drop out or get discouraged because it is believed that engineering is a male field. This kind of sexist and discrimination mentality needs to change. I want to encourage more women to pursue their dreams, even though they seem impossible at times. If I can achieve this goal, then anyone can.

Now, after being in school for a while and changing majors a few times, I am closer than ever to achieving my goal. I have been accepted for admission to Cal Poly, SLO in the fall of 2019 pursuing a career in biomedical engineering and did I mention I have a two-year-old son. I not only want to encourage other moms to pursue their dreams but I also want my son to know that with hard work, anything is possible. I also want to mention that all of my accomplishments would not have been possible without help. The MESA program made me get out of my comfort zone. It not only helped me become a better student, it also gave me a family, of other students following a similar path with similar struggles. MESA also exposed me to new territory by visiting colleges and taking me to conferences that had an emphasis in my career goal. Time management is a struggle being a student and a mom but MESA also helped with that. It made me realize that it is completely possible to follow your dreams and be successful. So I guess, all I can say is that I am halfway there to becoming Superwoman.

New Opportunity for all Engineering & Computer Science Students

CENTRAL COAST  
**ENGAGE**  
**SCHOLARSHIP &**  
**MENTORING**  
**PROGRAM**

Applications due: May 1, 2019

Scholarship amount: up to \$7,700/year in 2019-20 and 2020-21

**FOR MORE INFORMATION**

**<http://ENGAGE-CentralCoast.org>**

**[info@ENGAGE-CentralCoast.org](mailto:info@ENGAGE-CentralCoast.org)**

Scholarship eligibility requirements:

- enrolled at Allan Hancock College or Cuesta College
- pursuing a B.S. in engineering or computer science
- on-track to transfer in Fall 2021
- targeting Cal Poly for your B.S. degree
- enrolled in Calculus 1 in Fall 2019 (or prior completion)
- able to maintain a GPA of 2.9 or above
- U.S. citizen, permanent resident, national or refugee
- have completed the FAFSA for 2019-20
- eligible to receive need-based financial aid
- ENGAGE scholarship recipients will also be eligible for a \$10,000/year scholarship if they transfer to Cal Poly.
- The NSF S-STEM ENGAGE Program is a collaboration between Cal Poly, Allan Hancock & Cuesta College.

# My Parents' Sacrifices

by Carlos Parades, MESA Student, Mechanical Engineering



I come from a Mexican immigrant family. I came to the USA at the age of nine and started elementary at the end third grade. For my ninth birthday, back in 2006, we arrived to the United States in search of a better life. Once we arrived to the United States, my parents immediately found work in the fields. I noticed how fatigued my parents came from working ten hours in the fields. Every day, they have to get up at 4 a.m. to make to work on time. Their day consists of working ten hours per day under the scorching sun and performing backbreaking work. Since that

point on, I had a fixed goal which is to attend a university to compensate the painstaking effort my parents made twelve years ago and still continue to make every day by working ten painstaking hours a day just to put food on the table.

One of the major obstacles I encountered was I did not know how to speak or write English, which made school difficult. Before and after school, I motivated myself to attempt to read, speak, and write English. The dedication paid off after about eight months, when I became fluent enough to have conversations with my peers and teachers. Undeterred by not knowing English, but through perseverance and effort, I was able to learn and can now fluently speak English. I learned that with determination and resolution, I can overcome any obstacle that may arise in my personal life or educational career.

I attended Allan Hancock College for four years and Cuesta College for three semesters. The MESA Center, tutors, professor hours, STEM, and counselors have all been extremely helpful in many occasions. The atmosphere in MESA and in Hancock in general is auspicious for a student who wants to get their work done and move on to the next level of their education. Besides attending school at Allan Hancock College, I also played soccer at a competitive level by playing at the men's soccer team. Being involved in student activities is extremely beneficial for students because that how new friends are made and networks are formed.

As a student at Cal Poly, I will study and graduate with a bachelor's degree in Mechanical Engineering. The educational opportunities and auspicious atmosphere that Cal Poly offers will strongly benefit my career plans and help me strengthen my abilities as an engineer and as a well-rounded individual. Currently, my priority is to obtain my bachelor's degree in engineering, but in the future, I plan to either obtain a minor or a Master's degree in business. My parents constantly emphasized that education was extremely important to be successful. Now that I am older, I realize that education is pivotal towards my success. I come from a humble financial background and I am cognizant that to succeed, I must continue with my education, work zealously and be patient. My parents have surpassed several obstacles in attempt to give me better life and education. When I graduate from Cal Poly, I'll compensate their sacrifices and devoted effort that they have made for me every day.

Last May, I obtained an internship with Neenan Archistruction, a design-build construction company, and have been working on various projects on the Central Coast. My work consists of defining contractual scopes, composing contract change orders, revising submittals, creating RFI's and SKA's, and I often help in the field as needed. As an intern, I also conduct quality control inspections such as punch list walks with the foremen of various subcontractors. Additionally, I

review and analyze architectural, structural, electrical, fire, finish and site plans to understand the work that must be completed by each subcontractor. I often must attend or schedule meetings with subcontractors to review their scope of work and ensure they meet the deadline outlined in their contracts and the project's master schedule. I often had to work during school and summers to help financially sustain my household, and as a result, I have not had the time to participate in community services.

My family has earned everything through arduous work, and I value the opportunity that my parents gave me when we moved to the United States to help us succeed. I do not take for granted the struggles that my parents have to conquer every day to provide me a better life for me. I value the sacrifice that my parents make every day and I want compensate my parents' effort and sacrifice.



STEM



## Returning Back to College

*by Fatima Quintanar, MESA Student, Mechanical Engineering*

Hi, my name is Fatima Gomez, and I am 30 years old. I am a Mechanical Engineer and have 2 boys who are 5 and 6 years old. I have a husband who I have been married to for 10 years. I come from a family of 7 kids. I grew up in Nipomo. Like most students in MESA I am a first generation college student.

Both my parents are from Mexico. They both didn't have much education, therefore growing up I didn't feel as much pressure to go to college. They had not one clue what a college education encompassed. Of course, they were always proud and extremely happy whenever I did well in school. Everything I learned from college was from high school teachers and my older sister. Teachers would encourage me to study engineering. I attended a week-long program at UC Davis for engineering and that is what lead me to pursue a career in engineering. Right out of high school I went to Cal Poly, SLO for civil engineering. Because of many different factors I ended up leaving Cal Poly and just

started working.

After many years, and realizing what I was doing wasn't working for me, I was in a position and was motivated to go back to school. Coming back to school after so long was a little intimidating. Right away I joined the MESA program. I knew if I was going to succeed this time I had to get involved and be proactive. The MESA program had given me so many tools to succeed. Everything from book loans, fieldtrips, tutors and counseling. I have been at Hancock College for a year and a half and hopefully by next fall I will be at Cal Poly again.

I just want to say thanks to my family, friends, co-workers/boss, and MESA, for all the inspiration and help they have given me to help me succeed in my career.

## The Mathematics, Engineering, Science Achievement (MESA)

**Program** is an academic program that provides a wide range of support services and activities aimed at fostering student achievement and increasing the success and participation they experience while pursuing a degree in mathematics, engineering, computer science, biology, architecture, kinesiology, or other science-based programs. MESA enables students to prepare for and graduate from a four-year university with a math-based degree. It also seeks to increase the diverse pool of transfer-ready community college students who are prepared to excel as math, engineering and science majors. Through the program, students develop academic and leadership skills, increase educational performance, and gain confidence in their abilities to compete academically and professionally.



Visit our website at [www.hancockcollege.edu](http://www.hancockcollege.edu); click on MESA under Quick Links

### Spring 2019 MESA/STEM/Bridges Activities

- Feb 8 — Financial Aid and Scholarship Workshop (1:00pm-2:00pm; W-18)
- Feb 19-22 — MESA/STEM Spring Welcome & Engineering Week. Stop by the MESA/STEM Centers for activities all week.
- Feb 20— Allan Hancock College Foundation Scholarship Due
- Feb 26— Internships Opportunities & Strategies Workshop (12:30pm-1:30pm; W-18)
- March 1— AMATYC Round 2 (9:00am-11:00am; M-430)
- March 1— Recognizing and Managing Burnout (1:00pm-2:00pm; W-18)
- March 13— ESTEEM Scholarship App Workshop (1:00pm-2:00pm; W-18)
- March 16— Women in Engineering Conference at San Jose State University
- March 19-20— UC Santa Cruz/Computer History Museum Field Trip: Contact MESA ext 3446 for sign ups.
- April 3 —Makerspace Liquid Nitrogen Ice Cream in Collaboration with AHC Library (Library Front Patio, Starting at 12pm)
- April 5-7— MESA Leadership Conference at Happy Valley Santa Cruz
- April 19— BTTB Ethics Seminar (1:00pm-3:00pm; M-310)
- April 19—You're Outta Here Workshop\* (11:00am-12:00pm; W-31)
- May 1— ESTEEM/ENGAGE Scholarship Application Due
- May 3— Friday Night Science: Free & open to the community. More information? Contact ext. 3836.
- May 10— MESA/STEM Student Recognition Reception. Come celebrate your AHC MESA/STEM transfer students.
- May 13—You're Outta Here Workshop\* (5:00pm-6:00pm; W-31)
- May 23— AHC Foundation Scholarship Awards Banquet. For more information, contact: AHC Foundation at ext. 3647.
- May 24— Commencement Ceremonies

\*For students who are planning on transferring Fall 2019 & want to know all of the next steps to successfully transition from AHC to the four-year university, don't miss this workshop! Mandatory attendance of one session for MESA Fall 2019 transfer students.

