

Fall 2016

Engineering 101 Visit to Cal Poly San Luis Obispo: Discover your Engineering Identity *by Angelica Enriquez, STEM/MESA Counselor*

Cal Poly, San Luis Obispo staff and faculty hosted STEM and MESA students during an Engineering 101 course, an introductory course for first-generation students majoring in engineering. During the class session, our MESA and STEM students had the opportunity to mingle with Cal Poly students. They engaged in a discussion and an interactive activity to help them better understand how their



identities evolve and develop

over time. Dr. Kathy Chen, a materials engineering Professor at Cal Poly SLO, led the discussion. Chen created a safe, fun and engaging classroom environment. She shared about her educational experiences, about her background, and encouraged students to share about their personal experiences and thoughts about their engineering identities. . Chen talked to our students about personal

identity, provided examples of the different factors and experiences that help individuals shape and develop their very own engineering identities.

The class session concluded with a hands-on STEM activity. Students were tasked with a project that required them to brainstorm, discuss, and design a prototype using very limited resources. Cal Poly and Hancock students worked in teams to design a device that would launch a ping-pong ball the furthest. Students used the Engineers Design Process to come up with a design for their project. They were given limited time and limited materials to come up with a successful prototype. Once their designs were completed, students tested their designs, by launching their ping-pong ball with the goal that it would go the farthest in distance.



A Life Changing Experience

by: Emiliano Escamilla, Biochemistry Major

My name is Emiliano Escamilla, my major is biochemistry with emphasis in Pre-Med. I'm currently enrolled in my third semester at Allan Hancock College. I am part of the Bridges to the Baccalaureate program. This a program that helps students pursuing careers in science and medicine by providing them different opportunities such as scientific research experience at some of the top universities in California. During the summer, I had the opportunity to do an internship at Cal Poly, San Luis Obispo doing research with a faculty member. This research was a life changing experience for me, because I learned a lot of things about science and myself that directly affected my career goals. Before the internship, my career goal was to be a medical doctor but after having the opportunity to work with a Cal Poly professor, I changed my mind about my future career. I was working with Dr. Nathaniel W Martinez, who has a M.D. degree and a Ph. D as well. During the summer, he taught me many things, and he told me a lot of his experiences throughout his science and medical career. After working with him for eight weeks during the summer, I realize that I love science as much as I love medicine. He told me about the different MD, Ph.D. programs available for undergraduate students who have interest in medicine and science. This summer experience changed my mentality about just considering being a medical doctor and expanded my ambition to pursue a MD, Ph. D degree. The reason I want to be a doctor is because I really love to help people. Since I was a kid I've been committed to help others because I think that is our mission in life in other to have a better society. Some personal experiences in my life helped me realize that I wanted to be a doctor, because that is one of the best ways to help others. Since I was in high school, I started to gain some experience in this field by volunteering at the local hospital. During my internship at Cal Poly, I learned that by pursuing a career in medicine and science I would have more opportunities to help others. Now, I'm completely sure that once I finish my undergraduate education I'll do everything possible to get into a MD, Ph. D program.



My Summer in Santa Rosa Island

by: *Jessica Lerena, Mechanical Engineering Major*



During the summer of 2016, I had the honor to be a Smithsonian scholar and spend four days on the island of Santa Rosa. Although this program was concentrated towards biology, being a mechanical engineering major, this is not exactly my focus, I gained exactly what I hoped to gain. On my second day, one of the coordinators gave us an assignment; he assigned all of us to find a place on the island that we resonate with. He strongly

believed that as humans, we forget where we come from, nature. He stressed his opinion about having a relationship with nature is a part of self-care. For me, I cheated a little; I picked a mixture between nature and engineering, the pier. A man made object that allows us to have a completely different view of the island and the night sea of stars, amongst many other purposes. As the trip continued, I was introduced to more technology that is used in efforts of restorations of the island. This was a skill I hoped to gain. Networking with scientists to see what use my current and future knowledge of engineering could be to make a difference, in this instance to the Santa Rosa Island. I wanted to expand the little bubble of interest in physics and calculus, and gain some wisdom. It is my strong belief that this comes with collaborating with even those of completely different majors, races, and personalities to gain inspiration. This leads me to the next thing that I hoped to gain when I went to this trip, relationships with my peers. Being a female in a STEM major, (science, technology, engineering, and mathematics), a male-dominated field, it is reasonable for one to assume that I spend most of my times with males. This is true, most of the time I am the only girl in the study groups. There's nothing wrong with that, but this experience gave me a nice change. While this program was not restricted to girls, it was to my surprise that the vast majority of the participants were female. I met many amazing, intelligent, inspirational people on this trip that most likely I would have never met if I did not apply to the internship. I gained a different perspective that I could not have gained myself or from my common peers. What I have seen, learned, and experienced at Santa Rosa is something I will carry with me, and look back at for the rest of my life to gain inspiration and motivation.

MESA CALIFORNIA COMMUNITY COLLEGE PROGRAM FACT:

Total students served: 4,172 Total campus centers: 35

The Memoir: The Movie

by: Jelani Lewis, Computer Science Major

I was born a baby. This in and of itself has caused me a great deal of problems, but nonetheless I have endured. I've gone 19 consecutive years without dying, a commendable feat. During these years I've had the opportunity to discover computer science, what has now become my favorite subject. I was first introduced to computer science when I took a summer course here at Allan Hancock during my junior year of high school; however at the time, I didn't have a computer, and with homework being a majority of the grade in the class I did about as well as one would expect (which is to say I did horrible). Nonetheless, I had just been given the figurative keys to the used 1997 Toyota Corolla that is my academic life, and am now going 70 miles per hour down the highway of success.

Since then, I have had the chance to work with many friends, comrades, and companions on a number of projects. Through working with others, I have had the opportunity to expand my creative horizons, pushing the boundaries of what I once thought possible of myself. The creative portion of computer science is what has especially drawn me towards the subject. I've always loved logic and puzzles, and this is what solving a programming problem is like. There are good, bad, and best ways to solve a problem, which allow many different approaches to be taken.



It should go without saying that none of this would have been possible were it not for the MESA members and staff. Through their efforts, I have had the opportunity to learn many things about my major and also given me the chance to meet people who have actually worked in the field. They have given me the resources and support that I did not have



before, and because of this I have grown not only as a student, but as a person. I hope to continue my studies at a four-year university next fall, where I will carry on my passion for computer science and love of analogies of using reliable and reasonably priced vehicles.

Crossing the Bridge Once I Get There

by: Esmeralda Sanchez, Chemistry Major



Since my elementary school years, science and math were always fascinating and challenging to me. I became involved in AVID when I got to the seventh grade because, for me, the only option was going to a four-year university right after high school. When I became a high school student I realized how much I loved science and that I wanted to major and have a career in the science field. Once college applications were around the corner I knew that all the things I had to give up in order to achieve my dream of going to a four-year university were going to be worth it.

The moment I realized I was unable to go to a four-year university was devastating. It was as if all the lost sleep, all the hours of studying for the ACT and SAT, and all the hard work I did was a

waste of time. I had created a path for my life and I was not prepared for what I would do if it did not work out. It was hard seeing all my best friends leave for a new beginning while I was stuck in the same place. I have always stressed out and planned every single step of every little thing I did but I realized at this moment that life does not always go as planned. Sometimes life forces us to throw away everything and start from scratch. All my siblings started in community college so they all helped me get started at Hancock. At first, I was disappointed with myself, but now I understand that it all worked out for the best.

Now that I am in my second year at Hancock I look back and I'm glad that my life worked out the way it did. I love where I am and I can't see myself anywhere else. The courses in Hancock have taught me so much about myself and where I see myself in the future. I always thought science was only about lab coats and research but I see that there is so much more to it than just that. After all the courses I've taken I am now looking into mechanical engineering and I see myself majoring in that field. I have received so much help from so many resources at Hancock that I feel more than confident that I will achieve my goals and I will have the tools necessary to cross the bridge between community college and a four-year university once I get there.

My Origins and Pursuit for Higher Education

by: Brian Maldonado, Electrical Engineering Major

Growing up I didn't know I wanted to be an engineer. But I did know I wanted to be educated. It wasn't until my high school career began that I was exposed to the broad fields of engineering, drafting and robotics. Thanks to the S.T.a.R.S. Academy (Space Technology and Robotic Systems) I had the opportunity to visit university campuses and companies like SpaceX, NASA, and Hass. It was because of opportunities like these I got to toy around with majors that universities had to offer. As I delved for information about engineering majors and what they entailed I somehow narrowed down to electrical engineering. I eventually began to be more enticed and infatuated with the many practicalities of electrical engineering. I also want



to work for a company like SpaceX, a company that has become an evolutionary and wishes to see the human species advance. It has been one of my dreams to work for SpaceX ever since my high school physics teacher introduced the name to me because I strive to be involved in some sort of project/movement that will progress the future the human race.

Growing up I wasn't the most fortunate when it came to financial stability. My family and I often had to overcome arduous obstacles. The farthest my father ever reached academically was the 8th grade. My mother unfortunately did not have the opportunity to attend basic elementary school back in Mexico. My parents wanted more for their children, as any parent would, so they moved to the states. As I grew up I began to realize the many sacrifices my parents made to provide for my siblings and I to have a meal. I realized I had to become someone in this life and make my parents proud. It is because of these hardships that I am motivated to keep pushing and progressing every time I am faced with any complication or dilemma. Because I know my parents have sacrificed so much just so I could have the opportunity to attend college and pursue a higher education.

So now I am currently working on that pursuit for higher education. It is my fourth semester at Hancock and I am deep in STEM courses. But it's not as bad as it sounds. I actually enjoy coming to school. And it's because of services like MESA that I can actually say that. Although I could not truly utilize MESA my first semester at Hancock I definitely did afterwards as I began to enroll in more STEM courses. For the most part, I basically live in the MESA (as funny as that sounds it's true!). If I'm not in class, I am more than likely in

MESA doing homework with my classmates, eating a snack before class or taking a nap on the bean bag. (See I told ya!) MESA has greatly contributed to my success here at Hancock. I encourage anyone to peek his or her head in the MESA and see what we have to offer. Whether you are interested in internship opportunities, campus events, review sessions, tutoring, or workshops, we can help you! Oh and shout out to Dorine! She helped me prepare for a job interview along with many other things. P.S. I ended up landing that job as a student ambassador here at Hancock!

Finally, I would like to share a quote that helps me and might help you,
“If you change the way you look at things, the things you look at change.”

Tutoring: The Key to your Academic Success

by: Emmanuel Guerrero, STEM Instructional Assistant

One of the most sought after components of the MESA/STEM Centers is our tutoring program. Currently, 14 Tutors make up the MESA/STEM Center tutoring team and provide resources as embedded tutors, drop-in tutors, organized study group leaders and review session leaders. A majority of our tutors will staff the MESA and STEM Centers and are available at all normal business hours to help students in chemistry, biology, physics, and computer science just to name a few. All of our tutors go through a joint training with the AHC Math Center to ensure that all STEM students are served adequately across campus. Our organized study groups are structured study gatherings facilitated by an individual in the class that has good study skills while our Review sessions are students who have done well in a class and have been recommended by an instructor. Our final source of tutoring is embedded tutoring, a pilot program where students collaborate with instructors to create group work as well as scheduled reviews sections much like university sections. At the MESA and STEM center we are working hard to ensure that students get the help they need in an efficient manner. Our tutors come from of a variety of backgrounds and are ready to help out whoever needs it.



For more information about tutoring hours and resources, check out our website.

<http://www.hancockcollege.edu/stem/tutoring-hours.php>

Allan Hancock College HSI STEM & Articulation Grant

Five-Year Overview

October 1, 2011
through
September 30, 2016



On October 1, 2011, Allan Hancock College (AHC) was awarded a \$4.3 million dollar grant from the U.S. Department of Education; the grant ended on September 30, 2016. The HSI STEM and Articulation grant increased access to math and science courses, such as astronomy, organic chemistry, and additional math sections. The grant expanded resources at the Lompoc and Santa Maria campuses with the intent to help students transfer and on their way to completing a STEM degree. Examples of STEM opportunities offered during the grant include partaking in industry networking, STEM themed workshops, dedicated counseling, usage of the STEM Center, tutoring, and serving the community at outreach events.

The STEM & Articulation grant allowed for many first-time events at AHC. For example, Girls STEM Conference, STEM Week of Discovery, Summer Science Institute, STEM Career Day, and STEM College for Kids. In addition, STEM supported Friday Night Science and established a \$450,000 dollar STEM endowment from which the principal balance is untouched until 2031. It is important to mention to students, faculty, staff, and the greater community that the STEM Center will remain available after the grant is over and is supported by an Instructional Assistant, who will continue to assist students with their STEM needs.

N° STEM Center Visits



N° Counseling Visits



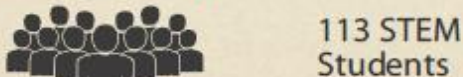
Friday Night Science



Girls STEM Conference



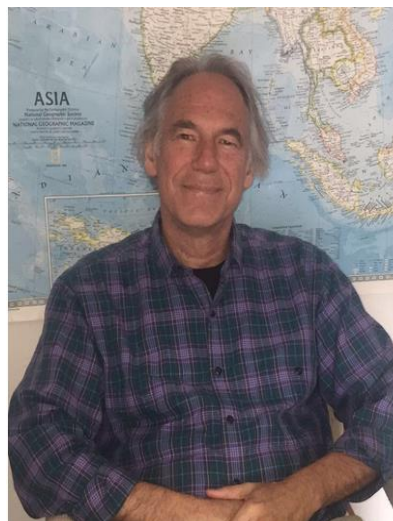
Week of Discovery



Welcome from the Dean

by Dr. Richard Mahon, Dean of Academic Affairs

As a newcomer to Allan Hancock College, I cannot say how proud I have been to see the commitment of faculty and staff to supporting the success of MESA students. From the teaching faculty in biology, chemistry, engineering, math, and physics, to the counselors and staff in the MESA center, STEM Center, and the Bridges to the Baccalaureate program, there is a common commitment to provide students with the tools they need to do well in classes and pursue their transfer dreams. As dean, it is my job to provide support to faculty and staff to serve students. Please drop by my office in W14 if there's anything I can do to support your success.



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; click on MESA under Quick Links

FALL 2016 STEM/MESA/BRIDGES WORKSHOPS & ACTIVITIES

- **Sept. 7**— Bulldog Bow WOW (9:30am-1:30pm; Santa Maria Campus Commons Area)
- **Sept. 9**— STEM: TAG! You're In! (9:00-10:30 am; W-31)
- **Sept. 13**— How to Have Your Best Semester Yet: Time/Stress Management & Study Skills (2:00pm-3:00pm, W-31)
- **Sept. 14**— Landing a STEM Internship! *Employability Emphasis: Interpersonal Skills* (12:30pm-1:15pm; W-22)
- **Sept. 23**— Prospective STEM Transfer Day at UCSB Field Trip for more information contact the MESA Center at ext. 3446
- **Oct. 3**— Scholarship Strategies for STEM Students (5:00-6:00pm; W-18)
- **Oct. 12**— Professional Networking and Social Media (12:30pm-1:15pm; W-22)
- **Oct. 14**— Writing a Killer Admissions Essay (9:45am-10:45am; W-31)
- **Nov. 1**— University Transfer Day! Take this chance to talk to university reps from around the country, about what their school's programs have to offer you! (10:30am-1:30pm; Santa Maria Campus Commons)
- **Nov. 2**— Resume Development (12:30pm-1:15pm; W-22)
- **Nov. 4**— Bridges to the Baccalaureate Fall Symposium. (1:00-3:00pm; G106)
- **Nov. 5**— CA Forum for Diversity in Graduate Education -Sign-ups in MESA Center
- **Nov. 8**— Writing a Killer Admissions Essay (3:00pm-4:00pm; W-31)
- **Nov. 17**— Scholarship Foundation of Santa Barbara Workshop (2:00pm-4:00pm; W-31)
- **Nov. 21**— PIPELINES Presentation (12:30pm; STEM Center W-22)
- **Dec. 16**— Central Coast Industry Tour. For more information, contact the STEM or MESA Center at ext. 3557 or ext. 3446

UC/CSU Application Workshops

- **Oct. 3**— CSU Application Workshop (2:00– 4:00; A-103)
- **Oct. 11**— CSU Application Workshop (4:00-6:00pm; W-31)
- **Oct 28**— CSU Application Workshop (11:00am-1:00pm; W31)
- **Nov. 1**— UC Application Workshop—Presented by UCSB (1:30 pm—3:00pm G106)
- **Nov. 7**— UC/CSU Application Workshop (4:30-6:30pm; W-31)
- **Nov. 10**— UC/CSU Application Workshop (2:00-4:00pm; W-31)



Bridges to the Baccalaureate
Bldg. W-11 (805) 922-6966 x3658
fcardona@hancockcollege.edu



MESA
Bldg. W-21 (805) 922-6966 x3446
dmathieu@hancockcollege.edu



STEM Center
Bldg. W-22 (805) 922-6966 x3557
stem@hancockcollege.edu



STEM Internship Program
Bldg. W-22(805) 922-6966 x3820
esmith@hancockcollege.edu