Bay Area Adventures
by Christine Reed, MESA Counselor/Coordinator

MESA and STEM students went on the road again this year with big adventures planned. First stop, Velodyne Acoustics, Inc in Morgan Hill. Thanks to Will Bruce’s (EOPS Director) family connections, on December 12, 2013, students and staff had the opportunity to tour this industry leader in subwoofer performance and other audio products that represent the fusion of technical innovation with the art of beautiful industrial design. Velodyne’s most noteworthy development, at least from our students’ perspectives, was the LiDAR sensor, used by Google and NASCAR to create a self-driving car.

After a bite to eat and a cat nap on the bus, students headed to The Tech Museum of Innovation in San Jose where they spent the afternoon unleashing the inventors in each of them through play and curiosity. This Silicone Valley resource is a dynamic learning center devoted to science and technology. For 12 years this museum has proven to be a valuable educational resource for children and young adults as well as a landmark for visitors seeking a glimpse of innovation at its highest.

Student spent the evening in San Francisco enjoying the sites around the wharf, and then headed to UC Berkeley the next morning for engineering and science department tours and information sessions. These trips are always powerful and instrumental in getting students to envision what the world has to offer them with hard work and dedication.
Reaching My Full Potential
by Chris Eaches, MESA Student, Chemical Engineering

My early stages at Allan Hancock College were an experimental process, to say the least. Coming from a continuation school, I was still in a naive and tentative stage in life in which I did not know who I was or what I wanted to do. What set me apart from the rest of those in my social circle; however, was my decision to go to college and make something of myself. I was at a disadvantage right from the start. I was not presented with the most favorable circumstances growing up. My mother was an addict and diagnosed with schizophrenia, leaving my three brothers and me with no sense of guidance or positive example. Despite going into college entirely unprepared, I dabbled in a variety of different career paths including music, business, and firefighting in an attempt to figure out who I was. All of these failed to provide me with the motivation that I desperately needed to reach my true potential. I remained undeclared and had nearly given up on school until the summer of 2012 when I discovered chemical engineering. I was drawn to chemical engineering by a previous chemistry instructor, Dr. Nouri, whose knowledge and enthusiasm for the subject had sparked an interest that lit a fire under me. I always had a love for the sciences, specifically chemistry, physics, and math. Chemical engineering gives me the chance to put it all together. In recent years, I had become increasingly aware of the impact humans have on the environment. As an outdoorsman and lover of nature, I find myself frequently away from city life. Camping, hiking, and backpacking are all things that I try to do on a regular basis to keep me in tune with myself, the Earth and to remind myself of what is important in life. When I get my degree in chemical engineering, I plan to play a part in developing solutions to environmental problems, such as pollution and making renewable energy sources more productive. I plan to work tirelessly in my effort to maintain a healthy environment for all living systems and eventually use my knowledge and experience to become a teacher.

There have been many instructors over the years that have helped mold me into the person that I am today and it remains one of my life’s goals to pay it forward and be the one to inspire others to succeed. Tutoring at the Math Center here at Hancock has been the most gratifying job that I’ve ever had as I am able to use my knowledge to help others and get my foot in the door to a very rewarding profession. Overall, what I have gained from my involvement in the engineering circuit here at Hancock is priceless. I have gone from being somewhat of a burnout with no sense of direction to a hard-working, determined, goal-oriented individual. All of my good fortune in recent times started with my decision to major in something that would push me to my limit and to this day I still feel that I have yet to reach my full potential. Since falling in love with science my life has gone from a complete mess to having an unlimited amount of opportunity and positivity. I have gone from being one of the worst students in my class to one of the best. I consider myself a unique individual with various interests and I do not let one single thing define me. What I bring to the table is my obsessive thirst for success and a ridiculous, sickening work ethic. I am the type of person that sets goals and achieves them. I do not do what I do to receive awards, honors, money, or recognition. I do it to prove to myself that I can, and that is what is most important to me.
MESA Student Learning Outcome Data

- Ninety-nine percent of MESA students within two semesters of admission to the program have a comprehensive Student Education Plan developed that outlines the requirements needed to transfer to a four-year university.
- Eighty percent of MESA students who participate in Academic Course Review Sessions demonstrate a command of collaborative work skills in the chosen field of study and exhibit appropriate study skills to master the material.
- Seventy-four percent of MESA students in the fall term of their final year at AHC prior to transfer are able to, at a proficient level, identify a long-term support system including faculty, on-campus resources, professional organizations, and potential employers.
- Ninety percent of MESA students in the spring term of their final year at AHC prior to transfer have developed the confidence required to successfully navigate the academic process at their accepted university.

MESA student David Stears demonstrates a command of collaborative work skills and exhibits appropriate study skills in the MESA Center (breaks and humor are important if you are going to survive a STEM major).

The MESA Center door decorated for Spirit

“DO NOT FREE THE CAMEL OF THE BURDEN OF HIS HUMP; YOU MAY FREE HIM FROM BEING A CAMEL.”

GILBERT CHESTERSON
Facebook Gathers Pearls of Wisdom for Transferring MESA/STEM Students
by Matt Philley, MESA Student, Mechanical Engineering

After speaking with Jackie Duerr, Multicultural Engineering Program Advisor at Cal Poly, SLO, about concerns facing transfer students, particularly from Hancock, I decided to gather a few friends on Facebook and talk with them about it. Those contributing to the conversation were all Engineering majors who transferred from Hancock. I started the conversation by asking what caused everyone trouble and made the first year difficult. I also asked if everyone felt well prepared for transfer to Cal Poly from Allan Hancock College. Everyone echoed the same feelings: Hancock and the staff there provided a great knowledge base and prepared us to be on par with coursework at Cal Poly. However, we were not well prepared for factors surrounding the quarter system and the struggles of adjusting to a new school. These are some of the larger issues we faced.

Time Management

While at a community college, most of us had part-time jobs while going to school fulltime or more. So juggling school and work was a challenge for which we grew accustomed. However, the way Hancock is setup, it accommodates people working and attending school at the same time. We were busy, but with the semesters we could afford to delay homework a bit and rally the next week or two to catch up. But, as we have learned, this is just not an option at Poly. You absolutely cannot fall behind or you will be left behind. With every week being jam packed busy there simply isn’t the option to put something off and catch up next week. That was a hard lesson to learn and quite an adjustment. Some said, “First week of class and I am already behind.” With even how much we heard how fast quarters move, many were still caught off guard just how dramatically different the pacing would be. One student said, “I forgot to sleep because I wasn’t prioritizing my time right.” For me, some of the problems I had with time management stemmed from the sudden abundance of activities on campus. All the different clubs, events, activities, workshops, info-sessions, and other interesting and fun activities. I wanted to check them all out, but there just aren’t enough hours in the day. Finding a balance was really tough. I didn’t want to feel like I was missing out on opportunities and due to some of the pressures on campus I felt that I was by not attending all of them. I found that by using a calendar to organize my weeks, as soon as I got emails about events I would filter them by when I didn’t have class and then add a notification on my phone to remind me when I get done with a class that day or between classes to check this event out. I also learned to be choosy about events, go to what I could but not choose something interesting over studying. Prioritizing between what needs to be done, what you should do, and what you want to do are very important. Learning to manage your time effectively and efficiently is an absolute necessity when there are literally not enough hours in the day to get everything done.

Study Groups

Another large issue that was not apparent until after we finished our first year was the importance of study groups within your own major. We had the fortune to transfer together with a fairly large group of students from Hancock, which was both a gift and a curse. I did not immediately feel the need to network and find people on campus to study with. I felt that I had friends already that I could rely on to help when I needed it, as we had at Hancock when we were all taking the same classes at the same time. However, we soon learned that we are immediately on vastly different
schedules even within the same major. And even those few of us taking the same courses at the same time could have completely different coursework if we had a different professor. It soon became apparent that finding students within the class you are currently enrolled with you can get together and study with is HUGE. Study groups can be the only way to pass some classes. And almost just as important as doing the work, students said, “I think having someone push you along helps encourage more study habits that do need to start on the first day of class.” Unfortunately though, it may take a quarter or two to start seeing who you will be taking lots of classes with and to develop some really effective study groups, but just jumping into one here or there helps a great deal. I was intimidated my first quarter. I felt that I was possibly coming in with a lack of knowledge and felt like the new kid and like I would hold them back or waste their time. I did not know how things worked and I was hesitant to try to jump into a study group or try to organize one. But I was wrong and most students here know the effectiveness of a study group and are very willing to schedule a time to meet up and work on homework or study and help each other out. And more important, most students I have come across are very friendly about helping each other out and are willing to spend the extra time to walk someone through something a couple times to ensure they understand. It is important for transfer students to know that they are not the odd-man-out unless they choose themselves to be and to not be afraid to jump right in with everyone else.

Resources

Poly has a great abundance of resources for which we were totally unaccustomed. Having 24/7 access to rooms on campus makes it so easy to meet up and study. There is always somewhere on campus to meet up and get something done, and work much better at avoiding distraction than a coffee shop or an apartment. Also, utilizing these facilities in your own department makes it super convenient to find help in a class or on homework. By walking through some of the labs or study rooms in your department it’s common to see people from your class working on the same thing you are, which makes it very easy to start or find study groups. Or, if you start working on a problem and are struggling, it is not uncommon for people who have taken the class and see you struggling to offer help. Also, by taking advantage of certain software available elsewhere on campus or free-to-download software from your department onto your personal computer, you can avoid packed labs or slow on-campus computers. One other aspect completely different from a community college is how different each department can be from one another. It is super important to keep up on what is going on within your department and to figure out all the little nuances associated with it.

Conclusions

I am sure there are other challenges students face as they transition to university life, but those three emerged through the conversation as common themes. As for helping students prepare for these challenges and giving information to transfer students, I do have some input. I think the main issue is how to get students to care about some of these issues. In reality many challenges they will face will happen because they do not take the advice they are given. How can you get someone to pay attention and hear solutions to problems they don’t know they will have? Or problems they may have, but don’t know have solutions? For this reason I think it is not only important to provide them with solutions and advice, but to also describe specific problems which may occur and then describe how to seek help. Perhaps when they do come across these or similar problems they will have some idea of a solution or at least know that there may be a solution and there are people on campus that are able and willing to help. For example, during my first quarter I was taking Fluids I. I wasn’t having huge trouble in the class, but I always felt like I was behind and like I was missing something each time I showed up. I was unable to make office hours or the bonus study hour he had scheduled due to class conflicts, but I finally made an appointment with him one day to speak to him in his office. In this meeting I finally just asked him what his expectations were for me as a
student, because I felt like I was missing something in lecture. And he stated that he expected his students to come to class having pre-read the material and already attempted the homework, so that he could lecture only to reaffirm the material and fill any holes left from the books’ explanation of the material. This was completely opposite of what I have always done as a student. I have always gone to lecture as the first experience in new material. From that day on I pre-read before lectures and it made the class completely different. The whole course just felt much smoother and the quarter ended without conflict and I had no more issues with the class. By taking a half hour to ask him that simple question, it completely changed how I progressed through the course. So I think it is situations like this that highlight an interesting concept. There was a problem that I didn’t really know was a problem until I found a solution, and once solved took stress off my shoulders and freed up time in my schedule. I think that these are some of the toughest issues that transfer students face that stem from being shoved in head first into upper division engineering coursework and adjusting to so many things at once. Perhaps by shedding light early on the fact that students will struggle with lots of minor things, rather than one or two big things. And by seeking help early with the minor things they can help get those resolved before they turn into major problems. Because, there are just not enough hours in the day and when some little problem slows you down bit by bit the quick pace of the university will always bite you in the tail sooner than you expect.

MESA/STEM Club leaders Roberto Rodrigues, Chris Welch, and Jason Magana have fun at the beach during a break from classes. The MESA/STEM Club gives students the opportunity to practice community services and fund raising, as well as provides a means by which students can have a social outlet outside of their classroom obligations.

Career Fair for STEM Students Comes to AHC
by Emily Smith, STEM Internship Specialist

Allan Hancock College hosted its first ever STEM (Science, Technology, Engineering & Math) Career Fair on Wednesday, March 12, 2014, from 10 a.m. to 1 p.m. in the Commons. Over 150 students participated and approximately 25 industry leaders, employers, non-profit and university partners were represented. The event was developed to offer STEM employers an exciting opportunity to network and share information about their organization and to talk about STEM careers within their specific industry with AHC students and staff. Universities were able to share the unique STEM programs available at their campuses and the resources available for STEM students while they consider where to apply and once they begin their transition to university life. A tri-tip lunch was provided for participating representatives and students sponsored by Associated Student Body Government and the Santa Maria Valley Chamber of Commerce. The event was made possible with the support of a Hispanic Serving Institution STEM & Articulation program from the U.S. Department of Education.
Discovering Me
by Alexandra Aguilera, MESA Student, Biology

I had always been interested in everything related to science, and the wonders of the human body had always amazed me, but I was never too certain what career I wanted to pursue. The very first biology class I ever had was during my freshman year of high school. Although this class was one of the most entertaining and interesting out of all my high school courses, it was still unclear to me what it was that wanted to do in the future. It was not until I started volunteering at my local community hospital that I linked the subject of biology with what the physicians around me would practice on the patients, it was then that I was certain I wanted to major in biology and pursue a career in medicine.

When I made the decision to volunteer at the hospital I was uncertain whether or not I would like it. Upon registering, there was no specific area in the hospital that I preferred to work and I ended up being assigned at the Intensive Care Unit. The first day as a volunteer at the Intensive Care Unit was literally "intense." I remember I was told to refill glove boxes in every room and as I was exiting one of the rooms, I turned to the bed and saw the patient had already passed away and the nurses were getting ready to transfer them. I had never before been in a situation like that and it was then that I realized I was given the opportunity to experience an environment where they work with patients that have the most severe, life-threatening injuries and illnesses. Every day after that, I knew I would be faced with extreme situations that only happen where doctors and medical professionals are. Although I was still young, I would watch the doctors and I knew that I wanted to be like them one day. Working in an environment where highly trained physicians treat patients with critical conditions inspired me to learn more about the different areas of medicine and the variety of specializations in the science field. I grew more curious and started doing my own research on what academic road to take in order to be able to work as a doctor in a facility like this.

When I graduated high school I was accepted to and ready to attend a four-year university but due to my financial circumstances, I ended up coming to Allan Hancock College. This was never in my plans. I started as a new student at the community college I became more and more frustrated with the fact that I was not off at a four-year institution like I had always planned. This feeling became even more severe to a point where I started to do poorly in my classes and I felt unmotivated. A friend then told me about MESA and I went to check it out. I applied and was accepted. Being a part of MESA has been one of the best things that has happened to me throughout the three years here at Allan Hancock College. Not only did I find wonderful counseling that guided me throughout the rest of my journey at Hancock, but I also felt that someone finally cared about me and my studies. Guidance, counseling, tutoring, workshops, trips, and friends are only a few of the many things that MESA offered me. MESA has been a great blessing and am very grateful to be a part of it. I have now regained confidence in myself and am on the right path. The MESA experience where students just like me are interested in pursuing similar careers as me, as well as the hospital volunteering experience, has given me motivation and has encouraged me to keep working hard to accomplish my goals. These experiences have helped me discover a part of me that I never knew existed. I now see a near future where I will be helping those with health concerns and caring for the ill while striving to make their lives better and healthier.

"MESA sets high standards while providing the academic tools needed for helping students to succeed. This deceptively simple approach is effective and has produced remarkable results."

Henry T. Yang, Chancellor, UC Santa Barbara
Driven by Persistence
by Valeria Felix, MESA Student, Biology

Since I was in elementary school, I have always set high goals and expectations for myself. I was and still am a very competitive girl. I was born into a single parent household with three older sisters. My family and I are very close. We have always gone camping together and attended events with my extended family. They have taught me everything I know about life, especially what it takes to make it in this world. My biological father has never played an active role in my life. I have not seen my father since the tender age of six. My mother was and still is the main provider of the family. Even when my mother got remarried, she was still the only provider because my step-father, who adopted me my sophomore year in high school, is permanently disabled. I have witnessed my mom struggle in life, trying to give us the best life possible and I do not want to go through that same struggle as I get older. I've witnessed many things as a small child and I don't want to experience any of her challenges as an adult. She wanted my three sisters and me to get the best education possible so we could succeed in everything we do.

My mom sent all of us to private schools from kindergarten all the way to twelfth grade with financial assistance. While attending St. Joseph High School, in order to lower my tuition rate, I enrolled in a work-study program. On Saturdays, I would go work with the janitorial staff and help clean the stands after football games and the campus in general. I would also work over the summer in the main office answering phones and assisting the public. I tried anything so my mom wouldn't have to pay the full amount. Attending a private school was very important to me. Without financial assistance, a private school education would only be a dream. I owe it to my mom and to myself to get the best education attainable.

Throughout my high school career, I managed to earn either dean’s or principal’s honor roll. I learned to balance a rigorous course load and maintain a high GPA. I participated in cross country, wrestling, softball, and basketball. I intend to continue my hard work ethic in college. My goal academically is to be above average in every class and to learn and take in as much as I can. Although I am not signed up for any college sports, I continue to stay active. In my spare time, I am a third grade teacher’s assistant where I grade papers. After school, I help out my sister by babysitting my nieces and nephew. I am very dedicated to everything I do. I never give less than my best. I am really good at taking direction and considering all aspects to make the best decision. It was because of these characteristics, I excelled in mathematics. I was able to take direction from teachers and analyze the equations. I finished calculus my junior year in high school but now have decided to retake math classes to understand concepts better.

When I first attended Allan Hancock, I wanted to be an ultrasound technologist. After taking a few science classes, I found an interest in biology. I have always wondered how everything works in the world since I was young, and biology gives me those answers. I hope to pursue a career in teaching biology at the college-level and be able to share my passion in biology.

I am a girl who never gives up.
MESA Program Recent Student Data

Fall to Spring Persistence Rate:
Fall 12 to Spring 13  Fall 13 to Spring 14
109/112 = 97%          101/108 = 94%

Average Number of Units and GPA:
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<th>Fall 12</th>
<th>Spring 13</th>
<th>Fall 13</th>
</tr>
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<tbody>
<tr>
<td>Average units</td>
<td>10.8</td>
<td>10.5</td>
<td>10.6</td>
</tr>
<tr>
<td>Average GPA</td>
<td>2.7</td>
<td>2.8</td>
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Conclusions by Armando~
Fall 12 to spring 13 persistence rate for AHC credit students was 64.9%. The average units taken by AHC credit students for fall 12 were 8.2. Historically persistence for AHC from fall to spring for the last six years has been around 60-65%. The two years of persistence data for MESA students far exceeds persistence of credit students for the entire college. The same can be said for historical AHC average units taken. The past 4 years the number has hovered right around 8 so the MESA data of around 10 is again higher than the average AHC credit student.

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 2014 STEM/MESA/Bridges Activities

Feb. 06— FAFSA Workshop (12:45-1:45 p.m.; W-18)
Feb. 07— Resume Development (1-3 p.m.; G106)
Feb. 28— Employability Skills & Communication (1-2 p.m.; G106B)
March 12— STEM Career Fair (10 a.m.-1 p.m.; Campus Commons)
March 14— Interview Skills (1-2 p.m.; G106A)
March 20— Campus Exploration Fieldtrip: CSU Northridge
March 28— Mock Interviews (1-2 p.m.; G106B)
April 04— Bridges to the Baccalaureate Ethics Seminar
April 16— STEM Open House (5:30-8 p.m.; G106)
April 25— Clothing Drive/Dress for Success (1-2 p.m.; G106)
May 02— Friday Night Science!
May 09— MESA/STEM Student Recognition Reception
May 16— Social Networking/Get Connected (1-2 p.m.; G106B)
May 22— AHC Foundation Scholarship Awards Banquet
May 23— Commencement Ceremonies: Congratulations STEM Graduates!

You’re Outta Here Workshops: For STEM student who are planning to transfer fall 2014 and want to know all of the next steps to successfully transition from AHC. Location: Building A, Room 103

April 3— Presenter: Ashley Brackett (12:45-1:45pm)
April 23— Presenter: Christine Reed (6-7 p.m.)
April 29— Presenter: Christine Reed (12:45-1:45pm)
May 5— Presenter: Ashley Brackett (11 a.m. - 12 p.m.)