

MESA Milestones

Featuring momentous affairs of the MESA program at Allan Hancock College

Fall 2017

Connecting AHC Students with Industry to Launch STEM Careers

by Danielle McNamara, MESA Statewide Office, Strategic Communications

Four talented Allan Hancock students gathered in downtown Los Angeles in a step towards becoming the diverse leaders of tomorrow's tech and engineering workforce.

MESA's Student Leadership Conference brings together hand-picked engineering and computer science students with industry professionals to develop the next generation of STEM leaders. Held at the Millennium Biltmore Hotel Oct. 27-28, this year's conference theme was *Illuminate. Motivate. Launch.*

The Mathematics, Engineering, Science Achievement (MESA) program guides diverse students from underrepresented backgrounds into STEM careers.



Unlike job fairs or speaker-only conferences, MESA students got the unique opportunity to interact one-on-one and in small groups with company executives, engineers and recruiters. Many often leave the conference with internship offers that lead to full time employment. Students participated in mock interviews, communications, team building, emotional intelligence and financial literacy workshops.

"MESA's Student Leadership Conference provides an incredible opportunity for our community college and university students to gain invaluable career development skills and network with leading industry professionals to kick-start their STEM careers," said MESA Executive Director Thomas Ahn. "Our students represent the skills, passion and potential that our state desperately needs to enrich our workforce and strengthen our communities. MESA students are among California's most precious resources for diverse talent in the STEM fields."

Companies recognize the importance of engaging with and supporting our students — so much so they fully fund the conference with donations. These enlightened corporate partners understand these are not simply underserved and underrepresented students, they are an underutilized pool of talent that has been long overlooked. Companies simply cannot afford to ignore this talent pool.

This year's partners and sponsors included: Edison International and Southern California Gas Company as top sponsors and Pacific Gas and Electric, Applied Materials, ecmc Foundation and San Diego Gas and Electric. Other participating companies were: AT&T, Blast Motion, CHC Consulting, Disney, Northrup Grumman, Jet Propulsion Labs, Boeing, Oracle, Crane Aerospace and Wells Fargo.

CHECK THIS OUT

Allan Hancock College Science & Engineering Club

The club's primary purpose is to connect with industry professionals and expand students' education. As club members, students promote camaraderie and communication within the science and engineering departments by organizing lectures, peer advising, fundraisers, ASBG participation and field trips.

Interested in participating? Visit the STEM or MESA Center for more information.

Student attendees are from the following campuses: UC Berkeley, UC Irvine, UC Los Angeles, UC Riverside, UC Santa Barbara, UC Santa Cruz, University of the Pacific, University of Southern California, CSU Chico, CSU Fresno, CSU Long Beach, CSU Los Angeles, CSU Sacramento, San Diego State University, San Francisco State University, San Jose State University, CSU Sonoma, Allan Hancock College, Bakersfield College, Butte College (Oroville), College of the Canyons (Santa Clarita), College of the Desert (College of the Sequoias (Visalia), Contra Costa College (San Pablo), Diablo Valley College (Pleasant Hill), El Camino College, Gavilan College (Gilroy), Hartnell College (Salinas), Los Medanos College

(Pittsburg), Mission College (Santa Clara), Napa Valley College, Pasadena City College, Rio Hondo College, Sacramento City College, Santa Barbara City College, Ventura College.

Mathematics, Engineering, Science Achievement (MESA) has a 47-year history of changing the face of science, technology and engineering by developing a new generation of STEM leaders. Now with a network of more than 250,000 alumni, MESA fuels diversity by propelling historically underrepresented students toward STEM degrees and professional careers.

Each year MESA serves over 25,000 students at the pre-college, community college and university levels across California. We bridge classroom learning with real-world applications, and employ rigorous academics, leadership preparation, a peer community and collaborative problem-solving training to produce highly-skilled college graduates who meet 21st century STEM workforce needs.

Gender Difference in Learning Style...Neither one is better than the other, just different styles and approaches

Feminine	Masculine
Prefers collaborative group learning – will ask for help if needed	Enjoys competition & tries to figure it out by themselves (individual success)
Interested in how STEM innovation can help the world and serve humanity – solving a problem	Interested in the product itself resulting from STEM innovation – features of the product
Technology/tools is an acquired taste	Technology/tools is a toy
Process oriented	Goal/task oriented
Conditioned to take fewer risks	Risks drive creativity
Typically conditioned to seek understanding, purpose, and connection (feelings/perceptions)	Typically are conditioned to explore, tinker, and construct
Thinks it over, talks to others	Decides quickly
Indirect in communication; hears words and feelings	Direct in communication; hears words

Catalyst to a Better Life

by Sam Mazarei, Computer Science Major, MESA student

I am a non-traditional, or **new**-traditional, student here at Allan Hancock College.

I was living in the greater Sacramento area when my family made plans to move to the Santa Ynez Valley, and since I wanted to begin going to school as soon as I could, I came down here about a month ahead of them, living in hotels on Broadway.



Hancock has been an amazing experience for me. I have met so many friends, formed relationships that I know will last a lifetime, and the education I have received has been everything I ever hoped for and more. I believe that an education can really change a person's life, and I advocate school every chance I get.

My life has taken a tremendous turn over the last several years. From a juvenile delinquent, to an adult delinquent, I was closed minded and effectively hopeless. The universe has a sense of humor though, because I was lucky enough that a string of terrible luck resulted in my attending an Electrical Vocational Training class where I met the man who convinced me that there was a better life to be had, and I could have it. This was a turning point in my life, and the catalyst for my enrolling in college when the opportunity arose years later.

So far, my favorite classes have been my Computer Sciences classes, since I am a CS major after all, but my GE's have been very interesting- namely Art appreciation with Professor Thayer, and Religions of the Modern World with Mr. Rabinowitz. They were refreshing in that they took my focus from my major courses and taught me a thing or two that I would have otherwise not been too terribly interested in. And they were a great way to meet students from other parts of the campus. Of course, Physics with Jorstad has been a pleasure, and most challenging!

When I transfer next year, I know that I will have received an excellent education, preparing me for university, and I will have many personal relationships that I will maintain and hold on to forever. Hancock has been an amazing experience.

Don't delay!

Now is the time to invest your time and energy into securing 2018/2019 scholarships and summer 2018 Internships!

See the links below and learn about securing scholarships and internships – two invaluable components of a STEM education.

<http://www.hancockcollege.edu/stem/scholarships.php>

<http://www.hancockcollege.edu/stem/internships/>

[http://www.hancockcollege.edu/stem/internships/Other Internship Opportunities.php](http://www.hancockcollege.edu/stem/internships/Other%20Internship%20Opportunities.php)



The only thing standing between you and scholarships/internships is your effort to make it happen. If you need help, see your MESA/STEM Centers for assistance. Make it happen for yourself. You will never regret it!

MESA/STEM Students Participate in STEM Transfer Student Welcome at UCSB

by Christine Reed, MESA Counselor/Coordinator

Sponsored by of the UCSB MESA Program, Office of Education Partnerships, the Division of Undergraduate Education – and in partnership with student organizations Los Ingenieros, National Society of Black Engineers, Society for the Advancement of Chicanos and Native Americans in the Sciences – AHC MESA/STEM students participated in UCSB’s Annual Prospective STEM Transfer Student Welcome on Friday, September 29, 2017, from 9:45am-2:00pm.



From 9:45AM-12:00PM our students attended a transfer workshop, a UCSB transfer student panel presentation, and toured labs. From 12:00 -2:00PM they attended the UCSB STEM Student Welcome event showcasing programs, centers, and resources available to STEM students at UCSB.

It was an awesome opportunity for all STEM students interested in attending UC!



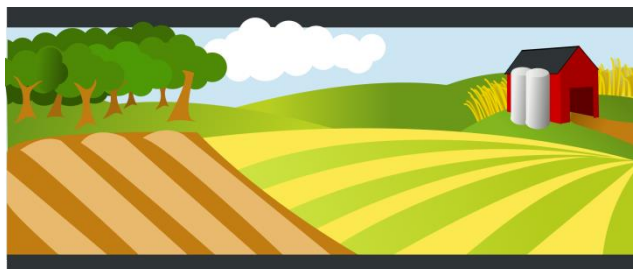
The Best Choice I Could Have Made

by Bianca Aleman, Biomedical Engineering major, MESA Student

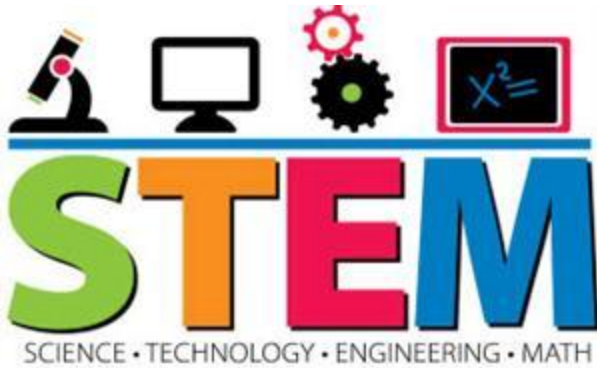
I am 20 years old and a third year biomedical engineering student; although that was not my original major when I started at Hancock. I started off with a clear goal in mind - transfer to a four year university in two years in molecular and cell biology. After submitting my applications last year in November and the end of the semester I realized that I was not happy at all. Although biology was still interesting, I had dreaded going to class every day. I began reflecting on my previous year and a half at Hancock and I felt like a needed to make a change. I decided to switch to biomedical engineering. This jump did not come out of the blue as I had already

been pondering the idea of switching to engineering since the conclusion of my summer internship at Cal Poly SLO working in a biomedical engineering laboratory. It was this internship that gave me my first exposure to the world of engineering, a field I once thought I had no place in. This experience fueled my desire and decision to switch to biomedical engineering and decide to also pursue graduate school. I think it was the best choice I could have made. Last spring I started taking engineering classes and every day I was learning something new. I had rediscovered my passion for learning. That newfound passion has remained with me this semester and I continue to love learning every day.

I am the oldest of three children and took on a huge responsibility of caring for my siblings when my parents separated the summer before my freshman year of high school. My sophomore year of high school I started my first job - working out in the strawberry fields. It was one of the hardest things I have ever done. Waking up before the sun is out to pack your lunch and head to work. I would be in the sun eight hours a day. I will never forget how my body ached at the end of the first week. I had heard the stories of when my parents, grandparents, aunts, and uncles had worked in the fields for years to put food on the table. I had never understood the sacrifice it was for them to work at such a young age until I had spent the summer



working in those same fields. I now understand the love they felt for our family to leave Mexico to come to the United States and give our family better opportunities. Due to the financial strain of having two separate households, I was told I was old enough to provide for myself and also help our family at the age of 16. It was then that I began working two jobs and continued to work two jobs throughout high school and college. I had to pass up many opportunities in high school and college due to needing to work. It has not been easy having to balance work, school, and extracurricular activities.



I was previously an officer for the honors society Alpha Gamma Sigma, and am also involved in the Science and Engineering Club, the Allan Hancock College Ballet Folklorico group, and the Bridges to the Baccalaureate program. Although some people argue that extracurricular activities are not important I beg to differ. If I weren't for being involved in things like the MESA program and AGS I would never have been able to accomplish so many things while at Hancock. MESA has not only helped me with book loans, counseling, and a place to study, but it has also given me a second family. Everyone here is working towards the same goal and **it is by working together that we will all succeed.** Every program has also stressed

the importance of scholarships and without their support I would not have received as many as I have. Each scholarship, no matter the amount, helps me financially and allows me to take a part in some of the amazing opportunities the MESA program provides.

I have been very fortunate that through the Bridges to the Baccalaureate program has allowed me to work two summer internships at Cal Poly SLO and each year I have learned something not only academically but also about myself. My first year I learned not only how to perform a femoral artery ligation in a mouse to observe collateral and artery growth, but more importantly I discovered that I had a passion for engineering. Biomedical engineering was the perfect combination of the two things I loved. This summer I was able to work in the polymers and coatings lab and work on a project for water desalination. It had absolutely nothing to do with biology or engineering and everything to do with chemistry but I loved every minute of it. I got to research a different side of chemistry and also present our research at a conference in Las Vegas, NV earlier this semester.

One of my favorite quotes is by Francis of Assisi - *"Start by doing what's necessary; then do what's possible; and suddenly you are doing the impossible."* It is a true reminder that although sometimes it's hard to find the motivation to continue, you just have to keep going and do what is needed and soon enough you will find your way to do the impossible.



Enroll! STEM Students

STEM 100 – Success Strategies in STEM

- Learn about career options in STEM
- Develop effective learning strategies in STEM
- Plan academically using college resources
- Network within the STEM discipline

Take good care of your academic health and remember: Tutoring is a vitamin, not an aspirin. Engage in it on a regular basis to maintain your academic health; not just when you are in academic pain.

As MESA/STEM students at AHC it is very important that your academics are top priority. Transferring to university will be significantly easier if you earn the best grades that you possibly can in your courses. The extra efforts you can make every week to maximize your opportunities to earn high marks in your classes will pay off for you in the end. Poor grades result in loss of priority registration, scholarship, internship, and access to class enrollment. We hope you do not put yourself in that position.

The MESA and STEM Centers are here to help! We provide STEM course tutoring every week day throughout the day as well as Review Sessions and Organized Study Groups. Studies show that students who regularly participate in these services do significantly better academically than students who chose not to take part. Review Sessions, Organized Study Groups and tutoring schedules are posted in both centers and on our website. You may review the schedule of session offerings as well as our tutor availability at <http://www.hancockcollege.edu/stem/tutoring-hours.php>.

Setting the Right Path

by Pedro Asuncion, Civil Engineering major, MESA Student

As a first-generation Hispanic college student, success is much expected from me. Growing up as the only male of all of my siblings, I was always looked upon to be a leader. Throughout my childhood, I did more sports than my siblings; joined more clubs and overall did a little more. I always wanted to be a good example for my family and friends. Unfortunately, many times I failed to set the right path.

In the beginning of high school, I never really found interest in my grades or school in general. I just wanted to be in a club and do sports. This continued until the end of my sophomore year where I finally realized that I was almost out of high school and I needed to do something with my life. So, I decided to start my junior year fresh. I joined a new sport (wrestling), started caring about my grades, learned to play the drums and got serious with my faith. Furthermore, I even attended an engineering camp at Cal Poly SLO the summer before my senior year, and it was there where I found what I wanted to be for the rest of my life, a Civil Engineer. I tried my best to lift my grades and GPA up, but unfortunately, it wasn't enough to get me into Cal Poly SLO. However, in the midst of my disappointment and sadness, I picked myself up and decided to pursue my goal to become a Civil Engineer at Allan Hancock College.

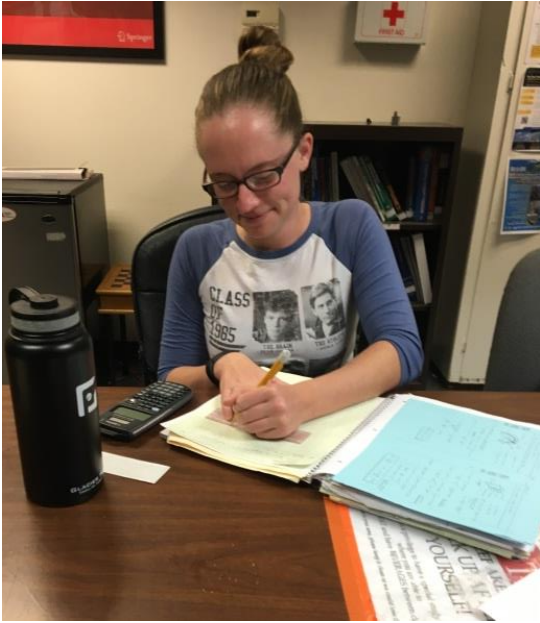
Now, in my fourth year at Hancock, I am highly grateful for deciding to pursue my goal here. Unlike high school, I am doing the best I can. I joined the MESA program, constantly use the STEM center, and I took this opportunity as my second chance to get into Cal Poly SLO. My goal is to graduate with a Bachelor's degree from Cal Poly SLO as a Civil Engineer. Nevertheless, I would love to pursue higher education and get a Master's degree but, time will tell. Additionally, I would like to stay local and work here in the Central Coast but am OK with leaving the area if need be.

The change I acquired my junior year in high school, really impacted my whole life. That year I got most improved wrestler, got an award for having a 4.0 at the end of the semester, and I started volunteering at church. However, this whole journey has been to try to make my family and friends proud, and to try to set the right example for them. Additionally, I'm pursuing this major to show them and I, that sometimes in life when one fail to do the right thing, it doesn't necessarily mean that it's all over. There will always be another door opened to try to fix things and make things right. It only depends on the willingness and how much effort one puts in wanting to improve.



Putting My Mind and Heart into It

by Christine Hinson, Environmental Engineering major, STEM Student



I graduated from Arroyo Grande High School in 2010 and have been in college ever since. I started out at Cuesta College, and then transferred to Chico State with my major undecided. After one year at Chico and no closer to knowing what I wanted to pursue, I decided to head back to the Central Coast for some academic soul searching. I started at Allan Hancock College with the goal of taking a variety of classes until I found something I liked. I took a lot of business classes at first and found them easy, but not interesting. I knew I liked science and math but I didn't know what I wanted to do. To help me decide, I looked up Wikipedia articles about all the different topics of engineering. I finally found a field of engineering that got me excited about being in school - environmental engineering. With a degree in environmental engineering, I can save the world from human destruction and get paid for it!

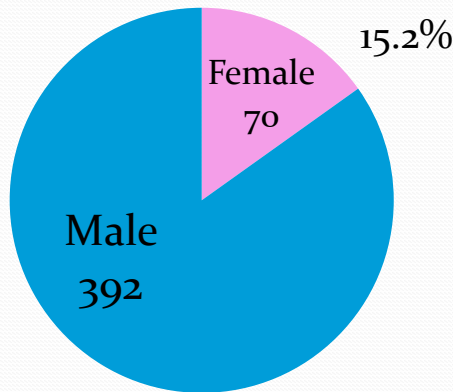
I am currently in my last year at Allan Hancock College and am applying for transfer. My journey has been long and I know I still have a lot of ground to cover, but I know the pain and suffering I am experiencing now will be worth it in the end. I have the MESA and STEM program to thank for my

progress in my difficult physics and math classes. MESA/STEM provides an excellent study environment, plenty of knowledgeable tutors and peers, and academic counselors who specialize with STEM majors. I am a recipient of the SESMC (Science, Engineering, Mathematics and Computer Science) scholarship for demonstrating financial need and having academic potential. The scholarship has allowed me to maintain focus with school and reduce my hours at my part-time job.

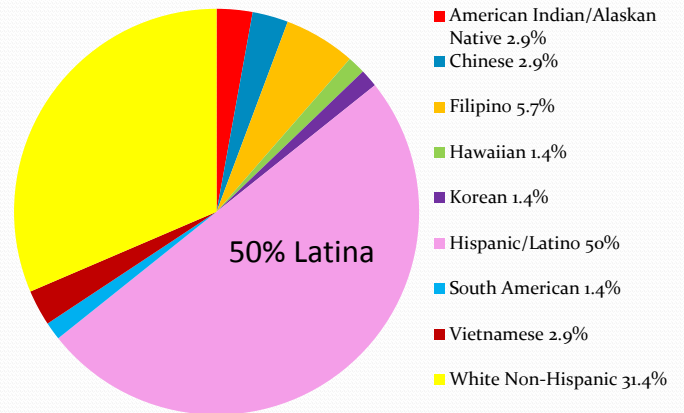
I look forward to the challenges ahead of me. Instead of being afraid of what I will have to face, I will take them on with ease because I know with hard work and dedication, I can do anything I put my heart and my mind to.

Engineering Majors, Spring 2017

At AHC, last five years, women declaring the engineering major ranged between only 8.6% & 16.7%



Female Engineering Majors S17

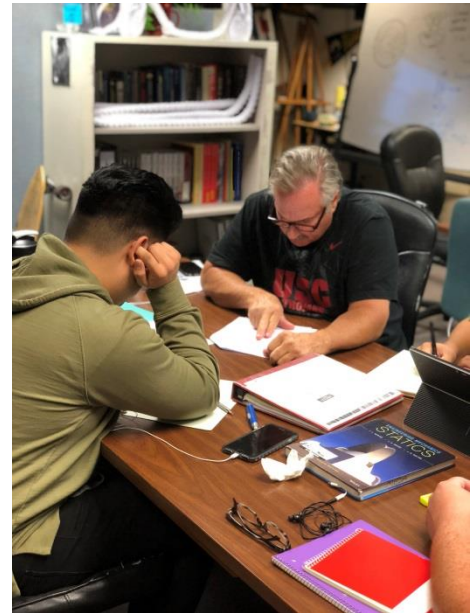


STEM Study Time Formula Do NOT exceed a total of 70-75 hours per week

Work (hrs./wk)	Recommended Units per Semester	Study Time Allocation	Total Hours per Week
40	6	18	64
30	9	27	66
20	12	36	68
10	15	45	70
0	18+	54	72

Biggest Mistakes Students Make When Managing Time

- Subscribe to the “I’ll study in my free time” mentality – it must be scheduled into your week
- Do not apply the 70 hours/week rule
- Avoid evaluating their biggest time wasters and dealing with them
- Don’t use the focused and diffused brain network for deep learning
- Don’t make good daily choices about their time and how they are choosing to spend it
- Academic Time-Saving Tips
- Have a plan for your study sessions including time limits
- Pay attention to what gets you off track
- Turn off your phone and other disruptions
- Work off-line when appropriate and avoid the temptations of checking your social networking accounts and email during study time
- Organize your workspace before beginning studying
- Avoid multi-tasking when completing tasks that require brain power (single focus)
- Use a timer and don’t rush through work; start on assignments right away
- Don’t allow yourself to procrastinate and learn to say NO
- Manage your life (time, energy, attention, attitude, and behavior) and monitor what produces success for you



Helping Kids Discover

by Jenali Lewis, Computer Science major, MESA Student



Coming out of high school I had no idea where to start with my education. I didn't have any family who could teach me about how I was supposed to go about making the most of my time here at Hancock. It wasn't until I joined MESA that I was able to make the most out of all my STEM classes. Were it not for MESA, I don't think I would have been able to do many of the things that I have done in my past 2 years at Hancock, and the support from students and staff is something that is going to help me well beyond my time here. They've presented me with all the tools I need to succeed as well as offering us great opportunities to learn and do well for ourselves as well as others.

One of the best opportunities I was able to find through MESA was being able to teach kids about science, engineering, and technology over this past summer. I was put into contact with the local children's museum because they needed somebody who was interested in introducing low-income students to STEM subjects that they might not have otherwise had the opportunity to learn about. This was something that hit close to home for me because I never had any opportunities to learn about these things until much later into my life, so I jumped at the chance to do it. During this experience I had a lot of fun seeing how excited the kids would get at making new discoveries or when they would finally get something to work, and I can honestly say that this changed my life for the better. None of this would have been possible without the MESA staff and I'm grateful that I was able to pass on the things that they've taught me to people who came from a similar situation as me.

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 2017 STEM/MESA/Bridges Activities

- **Sept. 1**— TAG! You're In Workshop
- **Sept. 6**— Bulldog BOW WOW
- **Sept. 6**— TAG! You're In
- **Sept. 13**— UC Admission Application Personal Insight Question Workshop
- **Sept. 14**— TAG! You're In Workshop
- **Sept. 14**— STEM Academic Strategies: Setting yourself up for success
- **Sept. 19**— TAG! You're In
- **Sept. 25**— TAG! You're In
- **Sept. 26**— UC Berkeley Transfer Excellence Summer Program Pizza and Info Session
- **Sept. 27**— STEM Summer Internship Strategies
- **Sept. 29**— UCSB STEM Student Welcome Field Trip
- **Oct. 9**— Scholarship Strategies for STEM Students
- **Oct. 11-15**— Field Studies in Eastern Sierra Nevada. Add PHSC 199 by Sept 27th
- **Oct. 27**— UC Admission Application Personal Insight Question Workshop
- **Oct. 27-29**— MESA Leadership Conference Los Angeles
- **Oct. 31**— University Transfer Day!
- **Nov. 7**— Visit to Engineering 301 at CPSLO
- **Nov. 17**— Bridges to the Baccalaureate Fall Symposium
- **Dec. 8**— Industry/Campus Tour: **HAAS Automation** www.haascnc.com & CSUCI

UC/CSU Application Workshops

- **Oct. 3**— CSU Application Workshop
- **Oct. 11**— CSU Application Workshop
- **Oct. 26**— CSU Application Workshop
- **Nov. 3**— UC/CSU Application Workshop
- **Nov. 14**— UC/CSU Application Workshop

CSU/UC applications due November 30, 2017

