

San Diego MESA Alliance Industry Advisory Board

- Wednesday June 8 2011



STEP Partnership of San Diego (SPSD)



Welcome & Introductions



Hamilton Sundstrand

A United Technologies Company

Chair –
Brianna Lutes
of
Infrastructure
Engineering
Company

Host & Vice
chair –
Maria Charles
of
Hamilton
Sundstrand

Introductions

Please sign-in
on
attendance
roster



Review & Approval of minutes

Review past meeting minutes

Changes

Motion to approve

Second

Call to vote

SDMA Pipeline Spotlight

- San Diego State University
MESA Engineering Program (MEP)
Maximizing Science Potential (MSP)
 - Graduates
 - Scholarship recipients



SAN DIEGO STATE
UNIVERSITY



Development

San Diego MESA Alliance
brochure

Results of California Space
Grant Consortium (CaSGC)

New National Science
Foundation (NSF) STEP grant

National Science Foundation

The MESA Programs at San Diego State University, San Diego City College and Southwestern College are joint-recipients of a National Science Foundation (NSF) - STEM (Science, Technology, Engineering, and Mathematics) Talent Expansion Program (STEP) award. The NSF-STEP supported project is titled the STEP Partnership of San Diego (SPSD).

The SPSD project is creating a regional partnership of educational institutions, industry, and government agencies that form a pipeline from community college to university to Science, Technology, Engineering and Mathematics (STEM) industry. SPSD incorporates the successful MESA model at each partner campus and enhances essential services that help students excel academically, develop leadership skills, and gain exposure to industry. The target population is economically and/or educationally disadvantaged students in STEM fields.

SPSD has three primary goals:

- Increase the number of students who pursue STEM academic and career pathways,
- Increase retention in STEM disciplines,
- Promote opportunities in STEM post-graduate studies.



MESA Legacy — SDSU MESA students meet NASA astronaut & MESA alumnus Jose Hernandez.

Industry partners contribute to the development of a diverse MESA pipeline of future engineers and scientists. Learn more about becoming an Industry Advisory Board member and help the San Diego MESA Alliance to develop tomorrow's leaders.

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SAN DIEGO

MESA

Mathematics
Engineering
Science
Achievement

ALLIANCE



*San Diego's pipeline for
tomorrow's Mathematicians,
Engineers & Scientists*

Preparing Tomorrow's Mathematicians, Engineers & Scientists

Established in 2001, the **San Diego MESA Alliance** is a statewide model for intersegmental regional collaboration in STEM education for economically disadvantaged and underrepresented student populations. The Alliance serves over 2,200 students in San Diego County annually through a MESA educational "pipeline" of partner programs that includes:



- **Pre-college: MESA Schools Programs** (MSP) in San Diego and Imperial Valley assist pre-college students to succeed in math and science studies and go on to college in math-based fields.
- **Community College: MESA Community College Programs** (MCCP) at San Diego City College and Southwestern College support community college students to succeed in math, engineering and science studies so they can transfer to four-year colleges and universities in math-based fields.
- **University: MESA Engineering Program** (MEP) at San Diego State University assists engineering and computer science majors in four-year institutions so they will graduate with baccalaureate degrees.

Industry Partners

The San Diego MESA Alliance relies on the support of industry partners on the MESA Industry Advisory Board to provide industry exposure and professional development opportunities for MESA students. Examples of industry support include:

- Training academies
- Job shadows
- Internships & Scholarships
- Mentors
- Company tours
- Event volunteers & Speakers
- Donations of prizes for competitions
- Guidance to MESA Directors on program development

Signature Alliance Events

Summer Team Internships – Provide MESA students with experience in the STEM fields either in an internship with a local company or by conducting research at an institution of higher education.

Training Academies – Local companies provide 'in-house' training for MESA students to learn technical skill sets and gain professional development to enhance their employability.



Walk on Water Competition – Teams of MESA students design "buoyancy shoes", and student "shoe pilots" race across the length of a pool. Competition allows students to gain experience of solving open-ended problems and applying the engineering design process.

Leadership Summit – Brings student leaders and emerging leaders from all participating MESA programs together for joint training and networking opportunities. StrengthsQuest training is provided to enhance the leadership development experience. Students are engaged to understand, develop and apply their strengths as individuals and within teams.

MESA Olympics & Robotics Challenge - Competition for all MESA program segments in problem-solving sessions and a robotics competition designed to promote teamwork, engineering and problem solving skill development.

San Diego Region Joint Planning Conference for Engineering and Science Student Chapters – Brings together professional and student leaders from diversity focused engineering & science organizations in the San Diego region to share expectations, goals, calendars and strategies.

California Space Grant Consortium (CaSGC)

\$1500 stipend at 1200 hours each for 3 students (one at SDSU, SDCC, and SWC)

Research with SDSU Aerospace Dept. Dr. Jacobs & his graduate student

Outreach to MESA pre-college students at a local middle school

Trip to Ruben H. Fleet - Nierman Challenger Learning Center as chaperones.



Current National Science Foundation (NSF) STEP grant

Grant ends September 2012

Grant goals and objectives (STEM-focus based on MESA model):

- Increase student participation
- Increase student retention
- Increase student graduation rate
- Increase number of internship and research opportunities
- Promote post-grad opportunities

New National Science Foundation (NSF) STEP grant

Proposal due ~ Sep./Oct. 2011



Will enhance current NSF grant goals by:

Formally
including the
MESA Schools
Programs in San
Diego & Imperial
Valley

Introducing
summer bridge
program and
mentoring

Emphasizing the
San Diego MESA
Alliance pipeline

NSF/MESA Summer Team Internship

Interns filled: SDSU-10 SWC-13 City-7

- Need Industry Spots at City College

MESA can serve 36 students through the NSF grant

- Summer 2010: 57 students matched, 36 paid by NSF Grant

Current list of companies

- Engr: Caltrans, Kennedy Jenks, Malcolm Pirnie, MWH Global, NAVAIR, SDSU-Research Dr. Gordon Lee, SPAWAR, SPAWAR-Teaching, SWC-Research Professor Jerry Selah
- Sci: Ambient Controls, Anza-Borrego Desert State park Paleontology Society, Assure Controls, Bio4Front, City- Research Professor Lisa Chaddock, Naviscan, San Diego Coastkeeper, Spectrum Scientific

NSF/MESA Summer Team Internship

Save the date!!!

Summer Team Internship Reception

San Diego State University
Parma Payne Goodall Alumni Center

Tuesday August 2nd 2011

1:30 - 3:30 pm

Industry feedback



Interviewing for internships

- What part of the interview process do students need to improve?
- Student disclosure – How much is too much?

Internship/job evaluation

- How are interns holding up?
- Other feedback

San Diego Region Joint Planning Conference (JPC)

Hosted by **Raytheon**

Friday August 5 2011, ~ 8:00 – 4:00 pm

Student diversity engineering and science organization officers

Professional chapter representatives

Campuses:

- Universities: SDSU, UCSD
- Community Colleges: San Diego City College, Southwestern College

Olympics & Robotics Challenge



Saturday, April 30, 2011 at San Diego City College



Industry/alumni volunteers: Jeri Perez of NAVAIR and Maria Charles of Hamilton Sundstrand



12 8 GB USB flash drives and 12 \$10 iTunes gift cards donated by Maria Charles



Over 80 MESA students from SDSU, City, Southwestern colleges and Imperial Valley high schools participated in exams / robotics.

End of Year Celebrations



SAN DIEGO STATE
UNIVERSITY

SDSU MEP/MSP
Graduation &
Scholarship Reception

Thursday, May 5, 2011

4:00 – 6:00 pm

SDSU Parma Payne
Goodall Alumni
Center



End of Year Celebrations



San Diego City
College MESA
Family Open
House & Awards
Ceremony

Friday, May 20,
2011 at 2:00 pm

San Diego City
College MESA
Center, L 115

End of Year Celebrations



Southwestern
College MESA
Awards
Ceremony

Friday, May 6, 2011
at 5:00 – 7:30 pm

Southwestern
College MSE quad
and Building 330
patio

End of Year Celebrations



SAN DIEGO STATE
UNIVERSITY

San Diego MESA
Schools Program
Awards Banquet /
Senior Recognition
Ceremony

Thursday, June 2, 2011

Balboa Park Club
Ballroom



End of Year Celebrations

Imperial Valley MESA
Schools Program
Admit Reception

Thursday, April 28,
2011

5:00 pm

SDSU Imperial Valley
Campus



MESA Programs Key Updates



Imperial Valley

Other topics

Agenda building



Company announcements?



Adjournment

- Next meeting:
 - Wednesday August 10 2011
 - 1:00 – 3:00 pm
 - San Diego State University