

*Project  
ASCENSIÓN*

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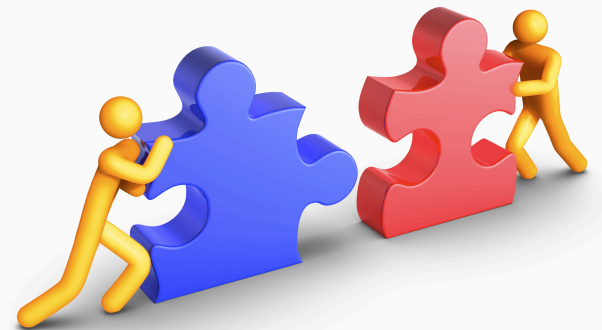
# SUMMER BRIDGE PROGRAMS

Inspiring Students and Increasing College  
Readiness

[STEM summer bridge video 1](#)  
[STEM Summer bridge video 2](#)  
[STEM Summer Bridge video3](#)

# Components of a Successful Summer Program

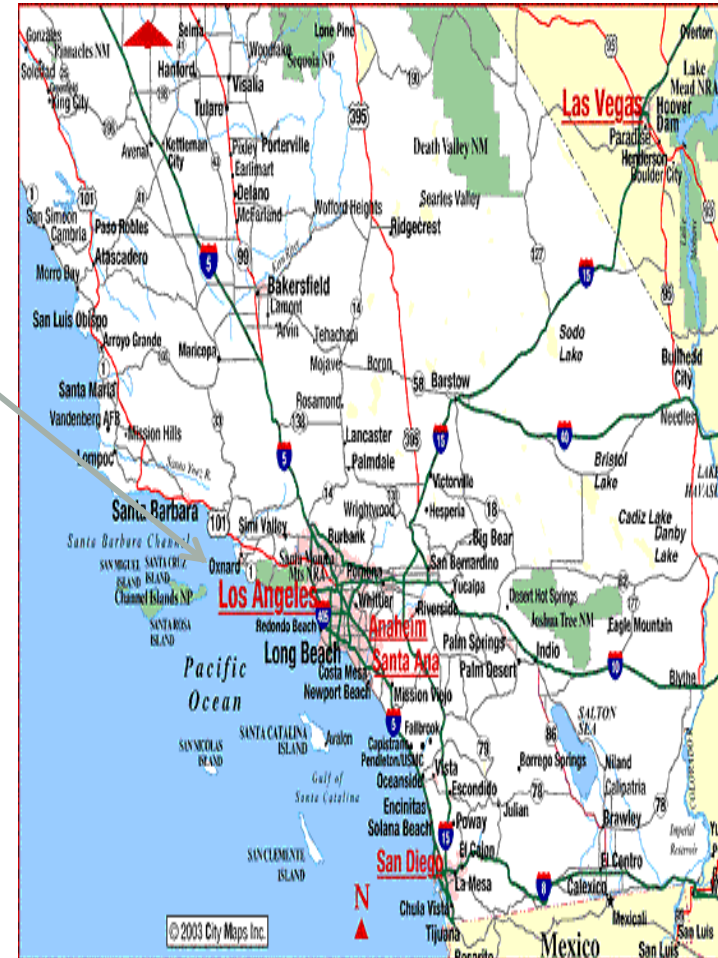
- Solid Planning and Organizing Team
- Clearly Defined Goals
- Weekly instructional themes + lesson plans to achieve the goals
- Cohesive Instructional team.
- Mix of academics, team building and “hands-on” projects
- Assessment, modifications and flexibility.





# Oxnard College/Hueneme High

- Oxnard College is located in Ventura County, California
- County Population – 840,000
- Oxnard Population – 200,000 (70% Latino)
- Department of Education Awarded Oxnard College a \$6 Million STEM Grant in 2011
- Grant Partners:
  - CSU Channel Islands
  - UC Santa Barbara
  - Oxnard Union High School District





# About Oxnard College

- Unduplicated head count approximately 10,000

- Ethnicity:

- African American – 3.0%
- Asian/Filipino/Pacific Islander – 5.1%
- Hispanic – 70.2%
- Native American - .3%
- Caucasian – 17.7%

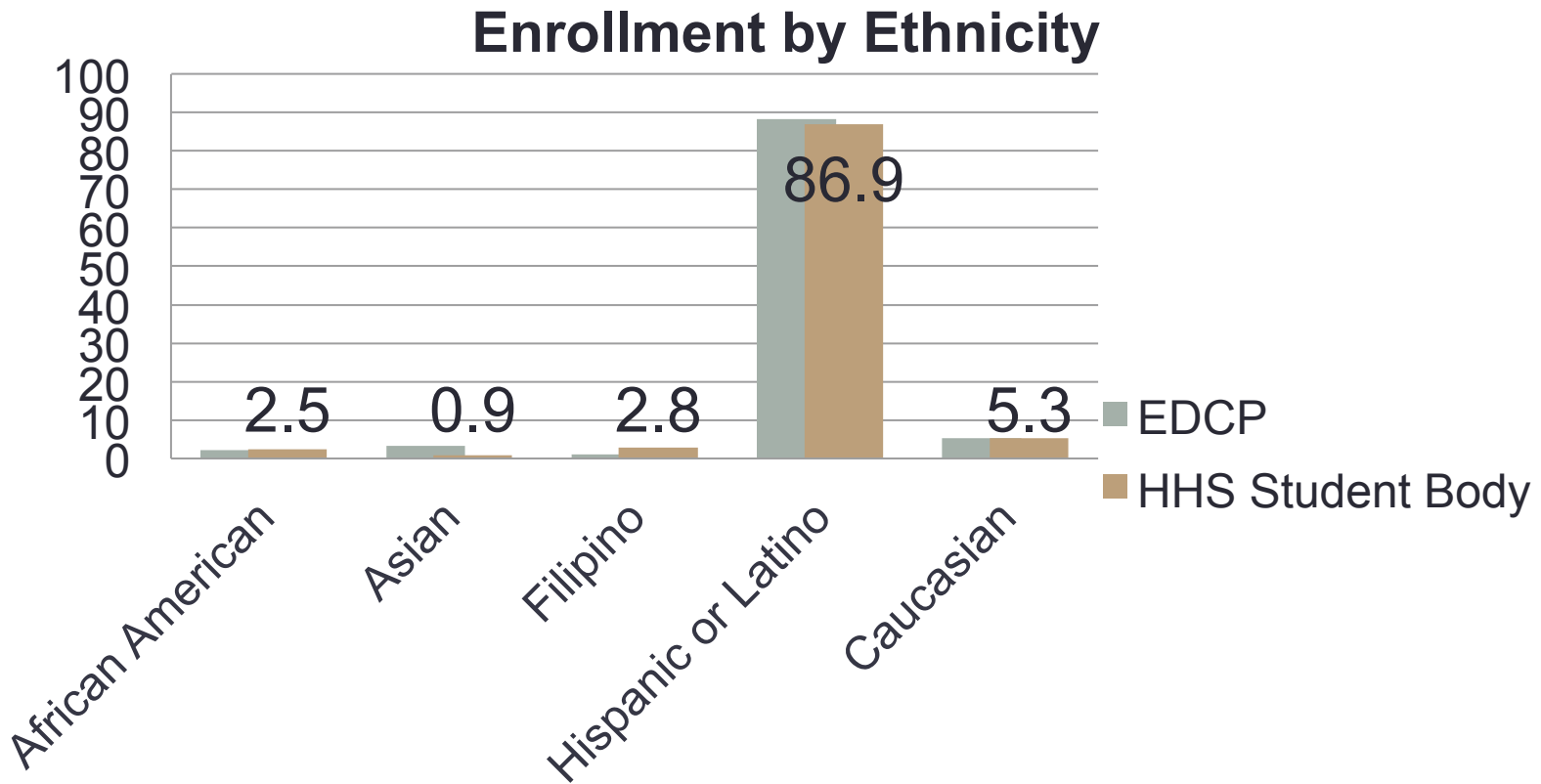
- Gender

- Male – 45%
- Female – 55%

- Over 85% from OUHSD



# Hueneme High School/EDCP Profile



ELL Students: 64% (Spanish)

# Test Data: Entering Freshmen

**OUHDS 2010-2011 Incoming 9th Grade Reading Scores for Hispanic/Latino Students**

McDougall Littell Reading Assessment Test *Table 6*

<b>K-5.9</b>	Intensive Intervention	906 students
<b>6.0-7.5</b>	Strategic Intervention	825 students
<b>7.6-9.0+</b>	Benchmark (Traditional ELA Program) 1569 students	
<b>Incoming 9<sup>th</sup> grade</b>	<b>Total Requiring Intervention = 1731 students (53% of total tested)</b>	

**Table 7: OUHSD 2010-11 Incoming 9<sup>th</sup> Grade Math Test Results for Hispanic Students**

# Tested	Far Below Basic	Below Basic	Basic	Proficient	Advanced
2872	14%	33%	30%	21%	3%

# HHS Data

- Enrollment: 1926 (2013)
- Socio-economic level: low (83% Free and Reduced Lunch)
- Percent of students whose parents have graduated 4 year college: 12%
- Percentage of students whose parents did not graduate from high school: 34%



# The Challenge: Increasing College Attendance and Preparedness

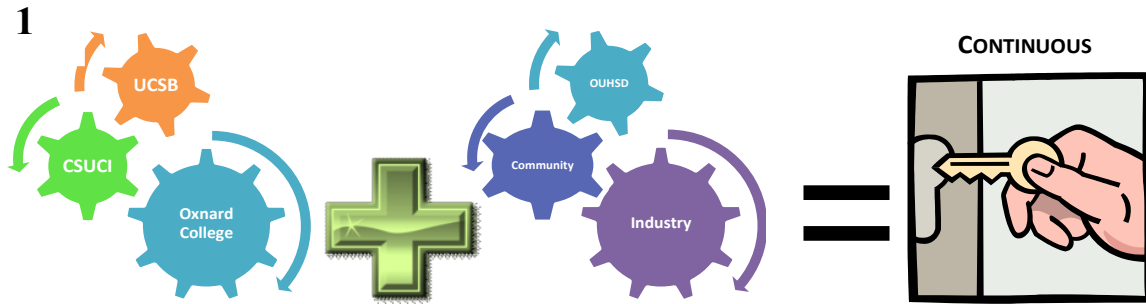


- Post High School (2011-12)
- HHS grads completing A-G coursework = 15.8%
- HHS grads enrolled in 4 year colleges = 15%
- HHS grads attending Community Colleges, Trade and Technical School = 80%
  
- HHS Graduates who completed 1 year of college credit within 2 years of graduation = 17.4% (2007 data)
  
- Oxnard College - UC/CSU Transfers (2010): 181 (35%) (69% Liberal Arts)

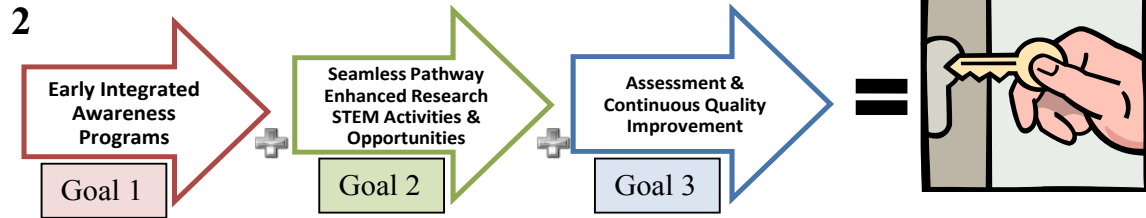




**PARTNERSHIPS**



**PATHWAYS**



**PURPOSE**



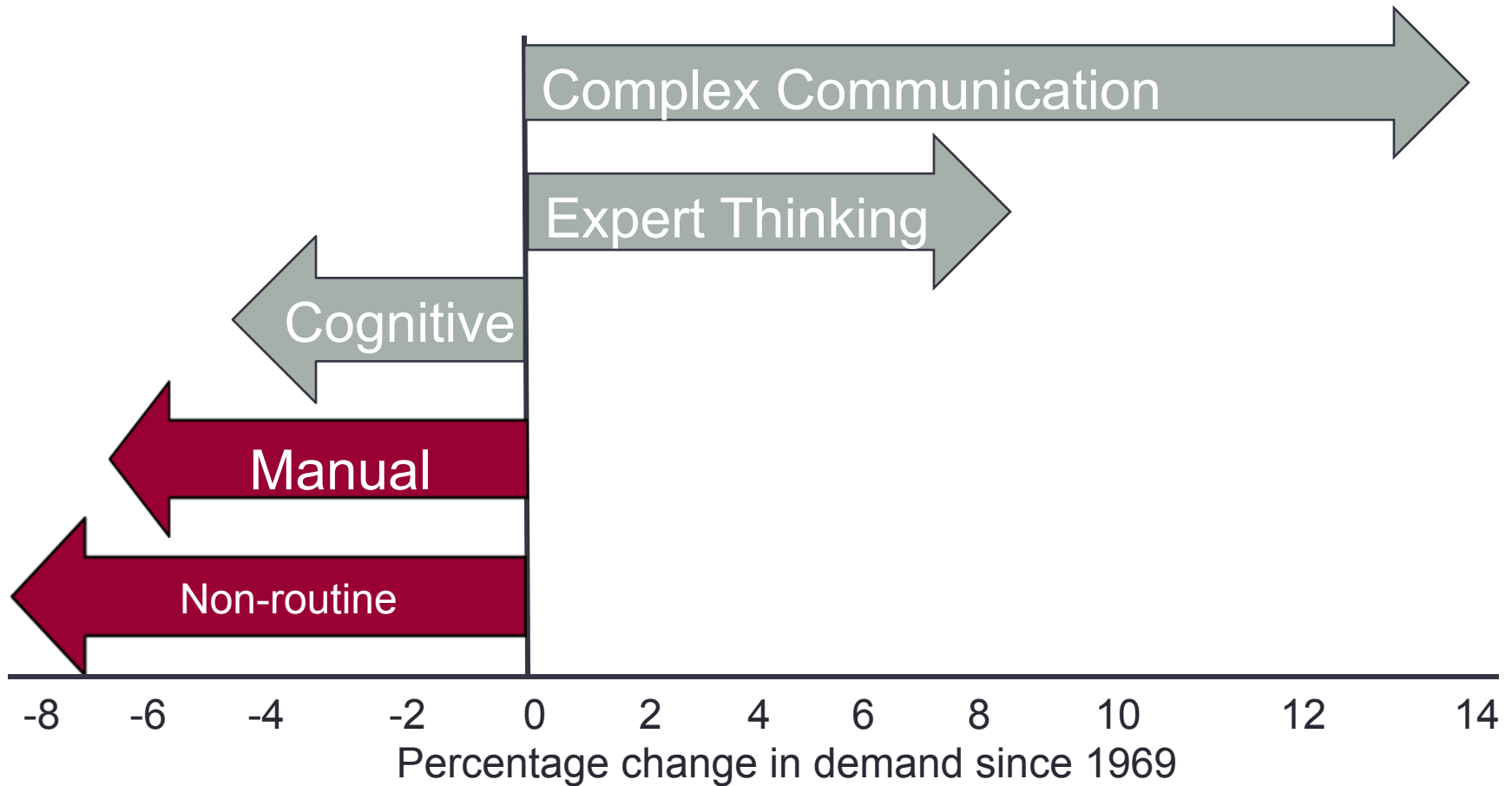
- **Aggressive**
- **Inter-segmental**
- **Multi-layered**
- **Comprehensive**

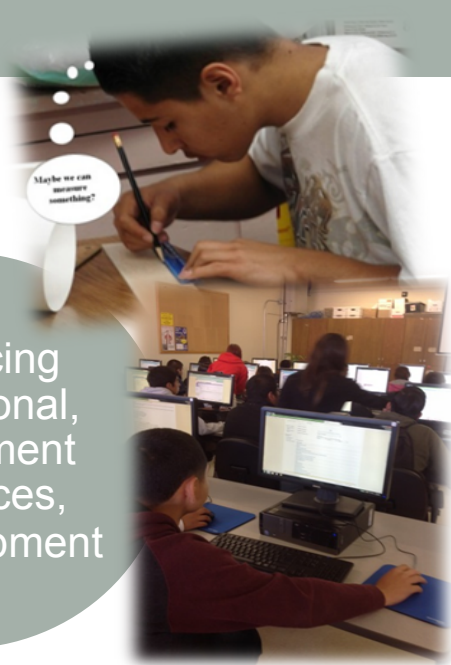
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- Enlace: Bringing Together Learning and Cultural Forces
  - Vistas Del Futuro: Engineering Curriculum and Pathways
  - El Guia Mental: Tutoring and Mentoring Programs
  - CAN DO: Contextualized Activities Network – Learning Communities
  - The HALO Effect: Service Learning – Helping and Leading Others
- Five Interlocking Strategies*

# The Changing Demand on Education

The skills required for today's economy to close the skills gap





Building  
Community  
Partnerships  
with Business  
and Industry

Teacher and  
Administrator  
Professionas  
Development

Enhancing  
Instructional,  
Assessment  
Resources,  
and Equipment

Multiple  
Projects

Support Career  
& Technical  
Education

Linking  
Pathway  
Academies to  
Business

Equip 21st  
Century Smart  
Classrooms,  
blended learning,  
and untethered  
learning.

# EDCP: Engineering and Design Career Pathways – A California Partnership Academy

Grade	Cohort Academy Classes
10 <sup>th</sup>	English World Civilizations Biology Introduction to Engineering Design <i>Summer Bridge #1: Intro to Engineering Projects</i>
11 <sup>th</sup>	English US History Chemistry Computer Engineering/Multimedia II <i>Summer Bridge #2: Senior Engineering Projects</i>
12 <sup>th</sup>	English Government/Economics Physics Architecture and Design Internships

# Planning and Organization Team

- Dr. Cynthia Herrera - Director, Oxnard STEM
- Oscar Hernandez - Principal, Hueneme High School
- Karen Chadwick, Allen Monroe – Associate Principals, HHS
- Jay Robnett, Lindsay Burkhart and Bob Kadin - EDCP Co-  
Coordinators HHS
- Denise Ledesma – Admin. Coordinator, Oxnard STEM
- James Town – EDCP founder and coordinator emeritus
- Richard Duarte, Therese Eyermann - P16 council
- Melissa Remotti, Executive Assistant to the President, CSU  
Channel Islands.
- Dr. Greg Wood – Professor of Physics, CSU Channel Islands

# Summer Bridge Goals

- Increase student motivation for STEM subjects
- Increase student motivation for attending 2 and 4 year colleges
- Practice the engineering process:  
plan, design, build, test, analyze, improve
- Learn college/career ready skills:
  - Teamwork – communication, compromise
  - Decision making
  - Problem solving
  - Coping in a time sensitive/competitive environment

**Educational Excursions:** Naval Base Ventura County (Engineering Plant);

College Visits: UC Santa Barbara and CSU Channel Islands. Cal Science Center

# Junior Summer Bridge

**Week 1 Theme: Mechanical Engineering – The Rube Goldberg Device.**

***Student Objective –***

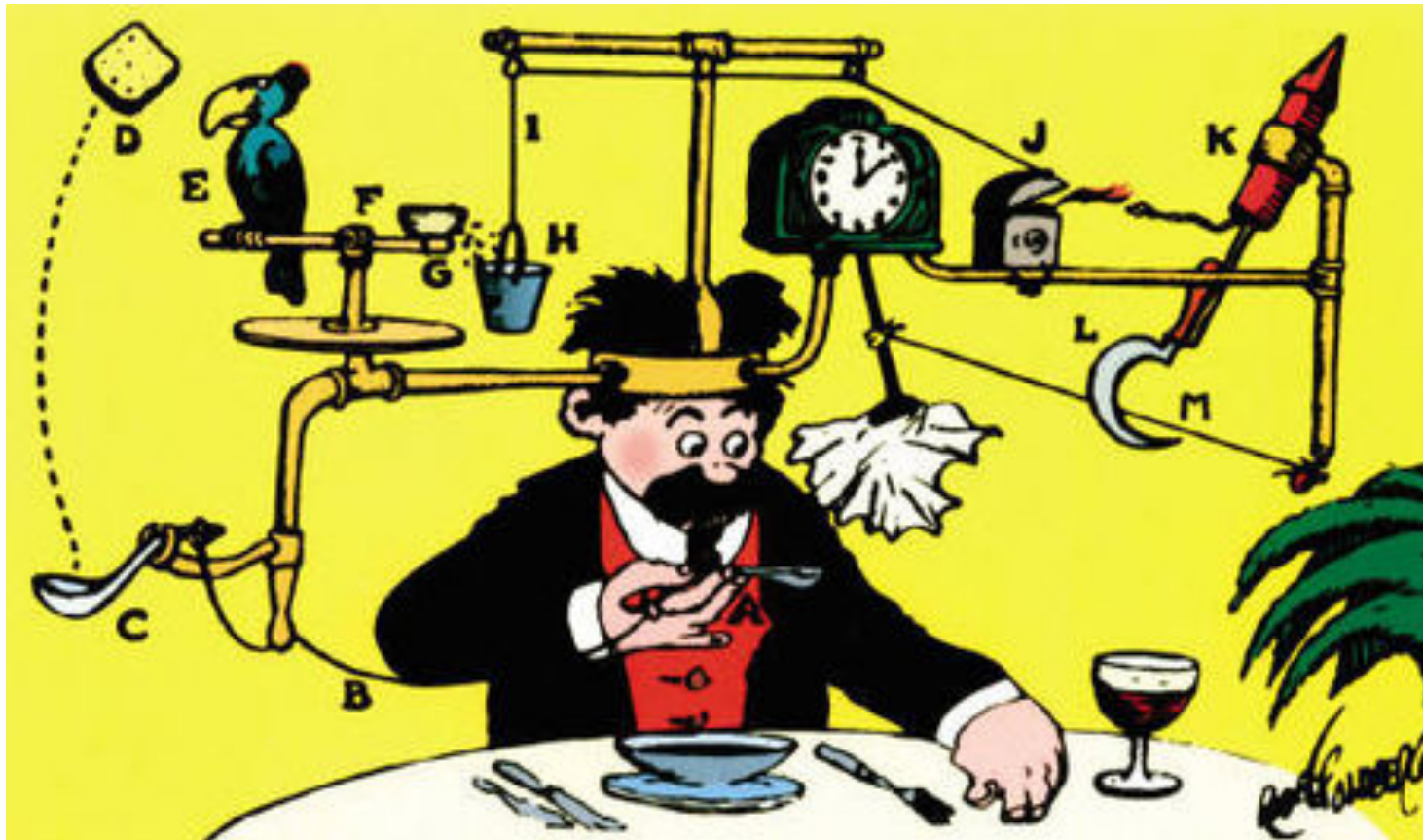
Use common household materials to create a machine that uses at least eight motion/energy transfers to place an appropriate amount of toothpaste on a toothbrush.

***Learning Objectives***

*Working in teams* – communication, problem solving and group decision making.

*Design* – create a working diagram of a project before making it

*Engineering* – problem solve, improvise and make changes responding to the myriad problems arising from implementing a design.



Video: [Rube goldberg projects](#)



## Week 2: Robotics (Using Lego Nxt)

**Student Goal:** Design multiple robots and program them to compete in a various tasks including:

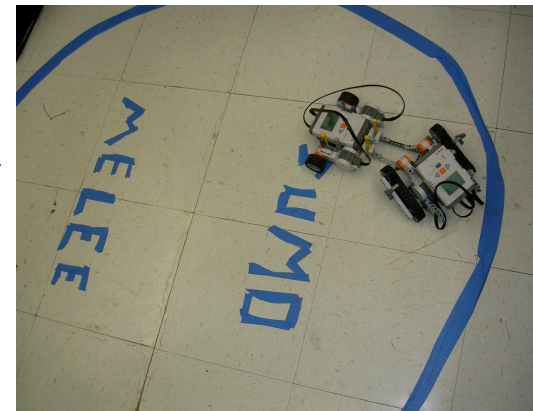
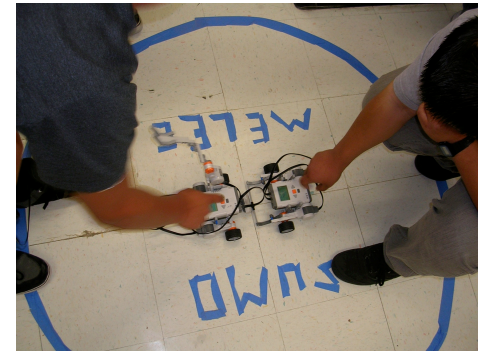
Figure eight, Maze, Robot Arm, Sumo wrestling, Tractor pull

### **Learning Objectives**

Working in teams – communication, problem solving and group decision making.

Programming – using Lego nxt software for basic – intermediate programming

Following directions – teams of two working together to complete the projects



- **Week 3: Chemical Engineering**

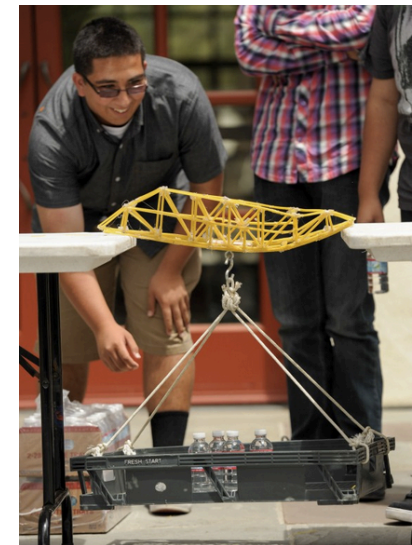
- ***Student goal:*** Through a series of labs and your team will investigate several problems common in chemical engineering while learning proper lab skills.

- **Learning Objectives:**

- Teamwork.
- Precision work
- Writing up lab procedures and following directions.
- Chemistry skills
  - Filtration
  - Distillation
  - High Pressure Chromatography
  - Electrolysis electroplating

# Senior Summer bridge

- Summer 2011: California State University, Channel Islands.
  - Goals:
    - students will experience a “real” college science class
    - Focus is on writing and presentation of findings
    - Curriculum based on a modified “Johns Hopkins” style engineering experience.
  - Summer 2012: Marine Science Course: Oxnard College.
    - Students focus on scientific method, field work, and presentation of findings.
  - Summer 2013: CSU Channel Islands.
    - Same goals as 2011



[CSUCI Video](#)

# Evaluation and Modifications

- 2012 and 2013: Independent evaluations provided by graduate students.
- Modifications based on evaluations
  - Students get more say in team choice (week 2 and 3)
  - Week 3 Chemistry: more labs less presentation
  - Week 2 Robotics: more varied projects with different endpoints for success.

# Reflections and future plans



# References

College Attendance rates: Public Policy Institute of CA: <http://www.ppic.org/main/dataset.asp?i=1232>

Hueneme High School Demographics, grad rates, etc: Self study: 2011 WASC Report

School Accountability Report Card (SARC):

[http://www.ouhsd.k12.ca.us/wp-content/uploads/docs/Hueneme-HS-2012-13\\_SARCrev2.pdf](http://www.ouhsd.k12.ca.us/wp-content/uploads/docs/Hueneme-HS-2012-13_SARCrev2.pdf)

And HHS school profile: <http://www.huenemehigh.us/about/docs/profile.pdf>

And Data Quest

<http://dq.cde.ca.gov/dataquest/sfsf/PostsecondaryIndicatorC12.aspx?cSelect=HUENEME%5EHIGH--OXNARD%5EUNION%5EHI--5672546-5632849&cChoice=C12Sch&cYear=2006-07&cLevel=School&cTopic=C12&myTimeFrame=S&submit1=Submit>

Oxnard college stats:

<http://collegestats.org/college/oxnard-college>

Transfer stats:CA posteducation commision: <http://www.cpec.ca.gov/OnLineData/TransferPathwayChart.asp?Inst=565321>