Future Teachers in Action: Preparing for the Future by Maximizing the Present

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Welcome to Our Session!

**Workshop Focus:**

- Maximizing academic/career development experiences through a special partnership project
- Creating/facilitating a special STEM student-driven project for underrepresented Jr. High students
- Program design and project based learning using state standards/Common Core
Let’s Get Acquainted!

Tell Us About Yourself!
The Real "OC"
Where is Fullerton College Located?

What is unique about the college and its students in the REAL OC?
Fullerton College (FC) Quick View

- Located in Fullerton, CA - North Orange County
- NOC is bordered by L.A. and Riverside Counties to the west, north, and east
- Celebrating its Centennial Anniversary
- A Hispanic Serving Institution (HSI) with over 23,000 students (48% Hispanic - Source: NOCCCD Argos Files)
- Transfers the largest number of Hispanic students to the CSU’s
- Is a partner institution with Santa Ana College and CSU Fullerton for the U.S. Dept. of Education ENGAGE in STEM
Fullerton College
Engage in STEM

- STEM Academic Majors
- Teacher Preparation with STEM Emphasis
Community College Role in Preparing Future Teachers in CA

- Career Exploration
- Practical Skills Building Experiences
- Skills for the 21st Century
- General Ed./Transfer Preparation
- University Degree

Completion & Credential EMPLOYMENT!
STEM
Teaching Scholars
The Nicolas Project
STEM Saturday Objectives

1. Encourage Junior High students to be actively involved in STEM Subjects (Science, Technology, Engineering, Math)

2. Provide Junior high students positive college role models

3. Allow future teachers of STEM subjects to experience working in a classroom setting

4. Have STEM majors reinforce their learning by teaching junior high students about concepts that they have studied in college courses.
Science Labs

Plant Physiology
- Grade Seven: Cell Biology 1.a., 1.b.
  a. Students know cells function similarly in all living organisms.
  b. Students know the characteristics that distinguish plant cells from animal cells, including chloroplasts and cell walls.

Magnetic Putty
- Grade Eight: Reactions 5.a.
  a. Students know reactant atoms and molecules interact to form products with different chemical properties.
Plant Physiology
Technology Tasks

Paper Planes
- Grade Seven: Investigation and Experimentation 7. c., 7.d.
  c. Communicate the logical connection among hypotheses, science concepts, tests conducted, data collected, and conclusions drawn from the scientific evidence.
  d. Construct scale models, maps, and appropriately labeled diagrams to communicate scientific knowledge.

What’s inside a Desktop Tower
- Grade Seven: Investigation and Experimentation 7.a.
  a. Select and use appropriate tools and technology to perform tests, collect data, and display data.
What's Inside a Desktop Tower?
Engineering Activities

Building Birdhouses

- Grade Seven: Investigation and Experimentation  7.d.
  d. Construct scale models, maps, and appropriately labeled diagrams to communicate scientific knowledge.

Newspaper Challenge

- Grade Seven: Investigation and Experimentation  7.d.
  d. Construct scale models, maps, and appropriately labeled diagrams to communicate scientific knowledge.
Building Bird Houses
News Paper Challenge
Mathematic Modules

Play-doh Math
- Grade Seven: Algebraic Functions 3.2:
  Plot the values from the volumes of three-dimensional shapes for various values of the edge lengths.
- Grade Seven: Geometry 2.0:
  Students compute the perimeter, area, and volume of common geometric objects and use the results to find measures of less common objects. They know how perimeter, area, and volume are affected by changes of scale.

M&M Math
- Grade Seven: Geometry 1.0:
  Students choose appropriate units of measure and use ratios to convert within and between measurement systems to solve problems
- Grade Seven: Statistics, Data Analysis, and Probability 1.0:
  Students collect, organize, and represent data sets that have one or more variables and identify relationships among variables within a data set by hand and through the use of an electronic spreadsheet software program.
Play-doh Math
Rocket Racer Activity