

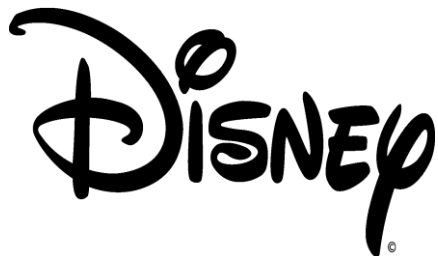
CECS Engineering Design Program

Progress, Project Highlights & Future Outlook

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College of Engineering and Computer Science
University of Central Florida

CECS Engineering Design Program Sponsors



Over 280 Students from Six Academic Programs Engaged on Sponsored "Real World" Engineering Design Projects!



Monitoring Water Waste Project Team

Sponsored by:



A Successful 2016 Project Resulting in Repeat Sponsorship for 2017

ABET Criterion 3: Student Outcomes

Ability to design a system, component, or process to meet desired needs within realistic constraints (3c)

Ability to function on multidisciplinary teams (3d)

Ability to communicate effectively (3g)

Understand professional and ethical responsibilities (3f)

Identify, formulate and solve engineering problems (3e)

Apply math, science and engineering knowledge (3a)

Design and conduct experiments (3b)

Use modern engineering tools (3k)

Understand the impact of engineering in a broad context (3h)

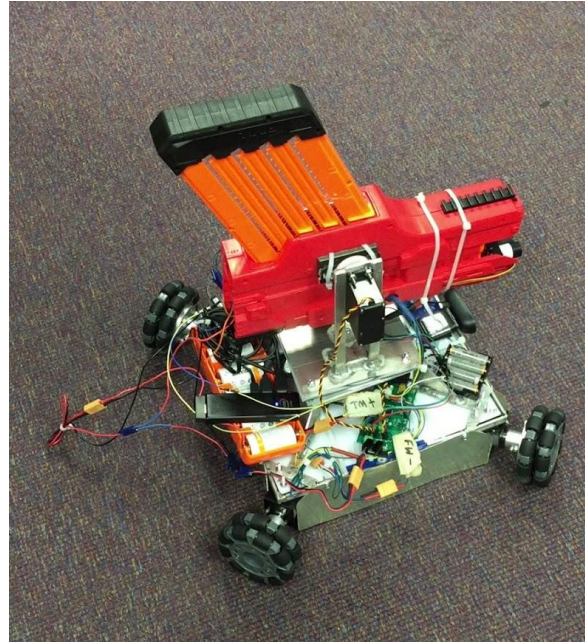
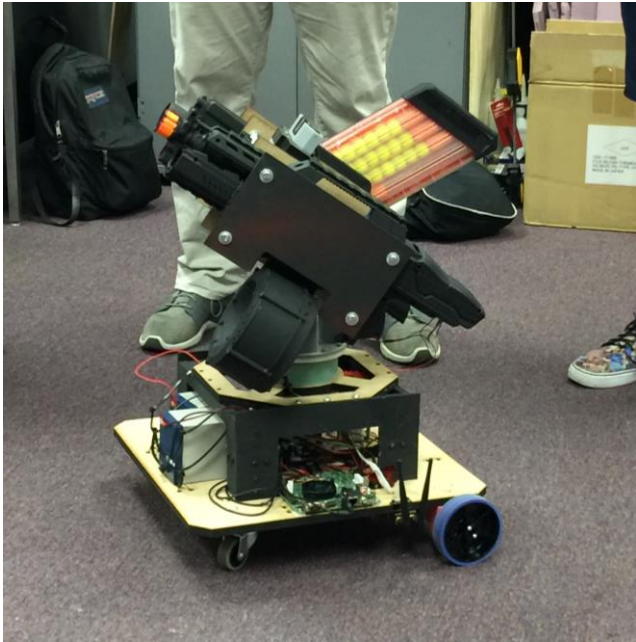
Knowledge of contemporary issues (3j)

Engage in life long learning (3i)

Fundamentally ... Engineering is about Design

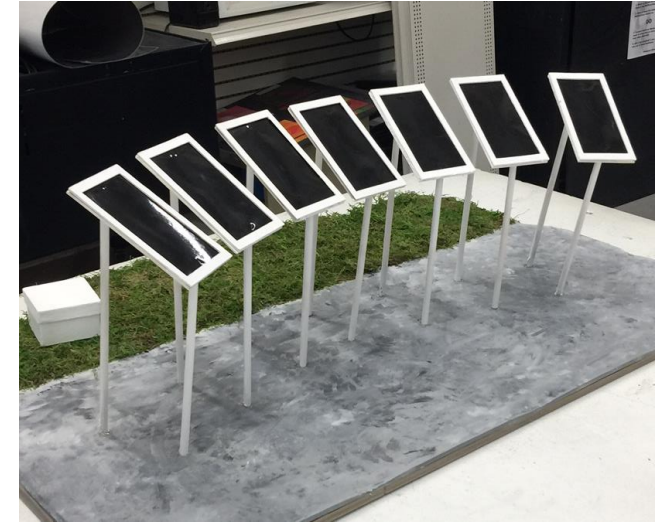
Battle-bots Competition

Sponsored by **LOCKHEED MARTIN**



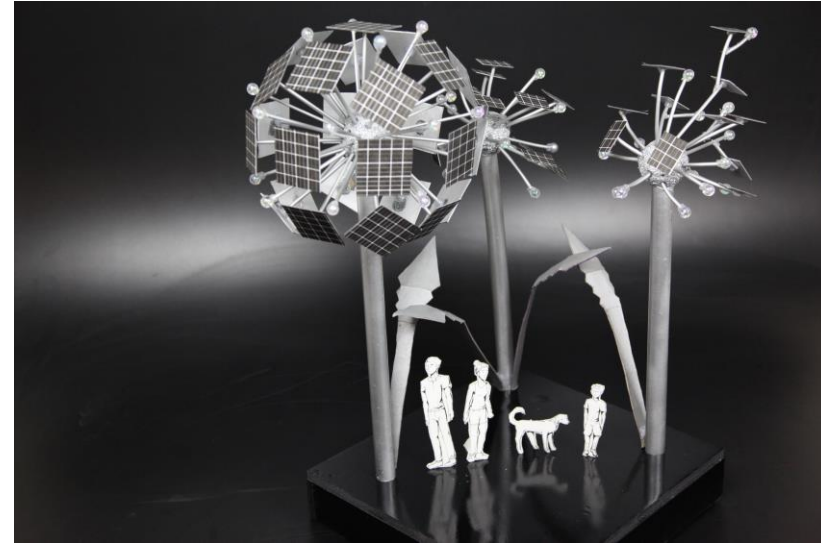
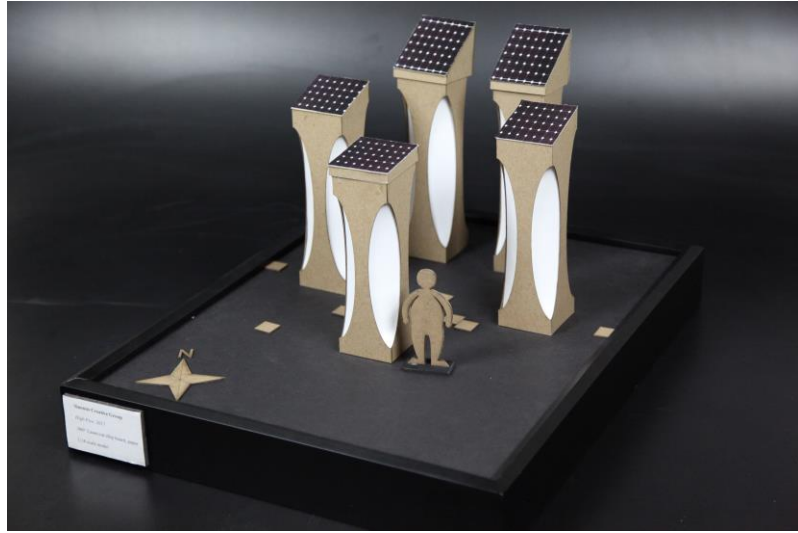
3 teams (12 students each) from electrical, computer systems, computer science and mechanical engineering

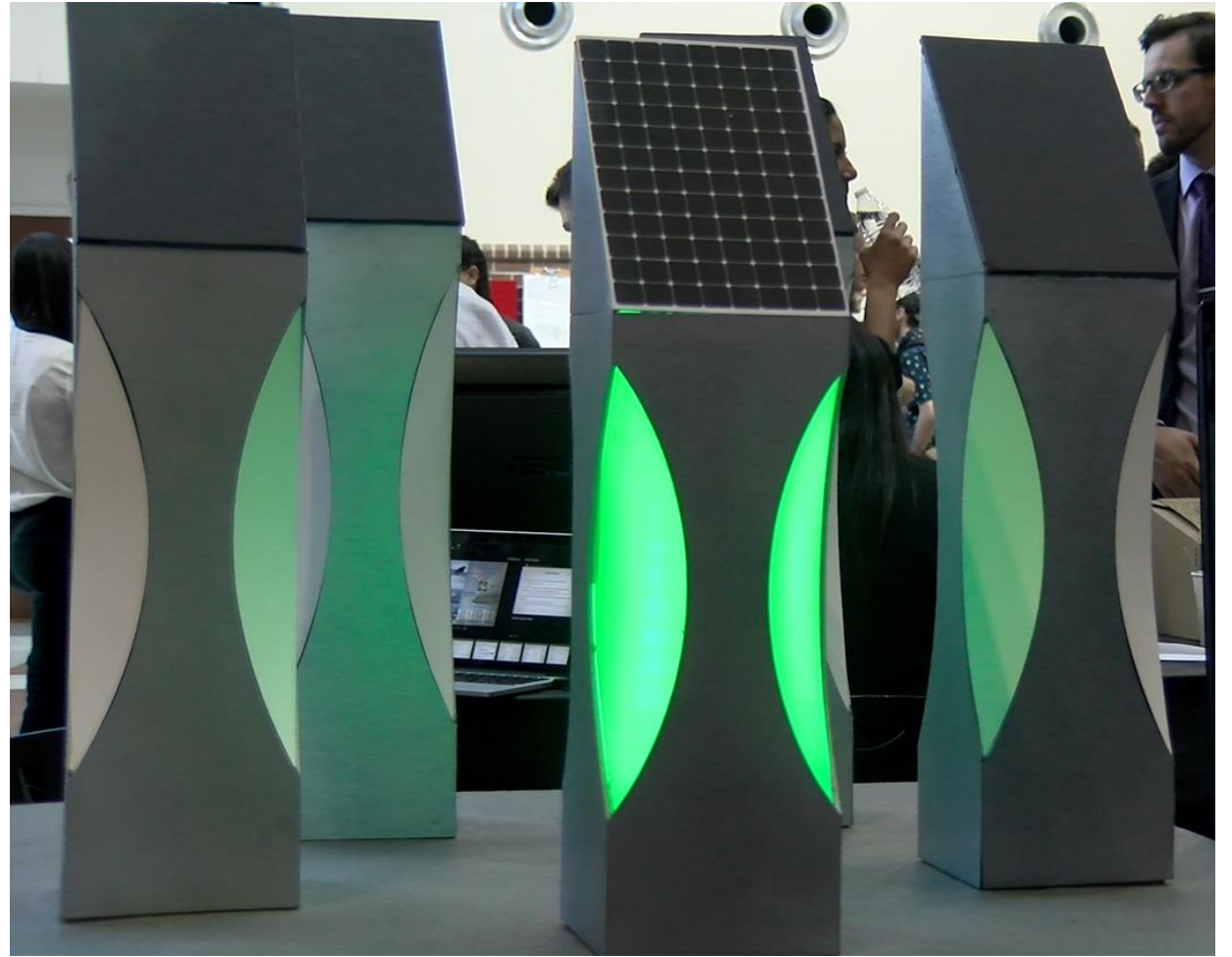
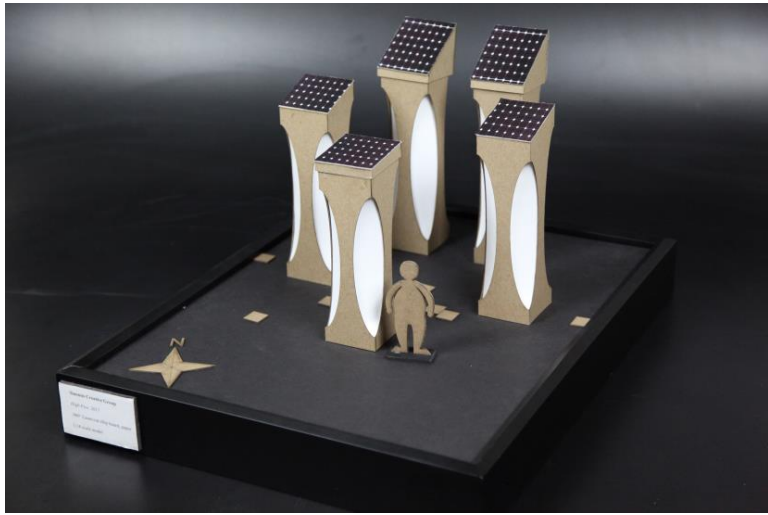
OUC Solar Sculpture Project

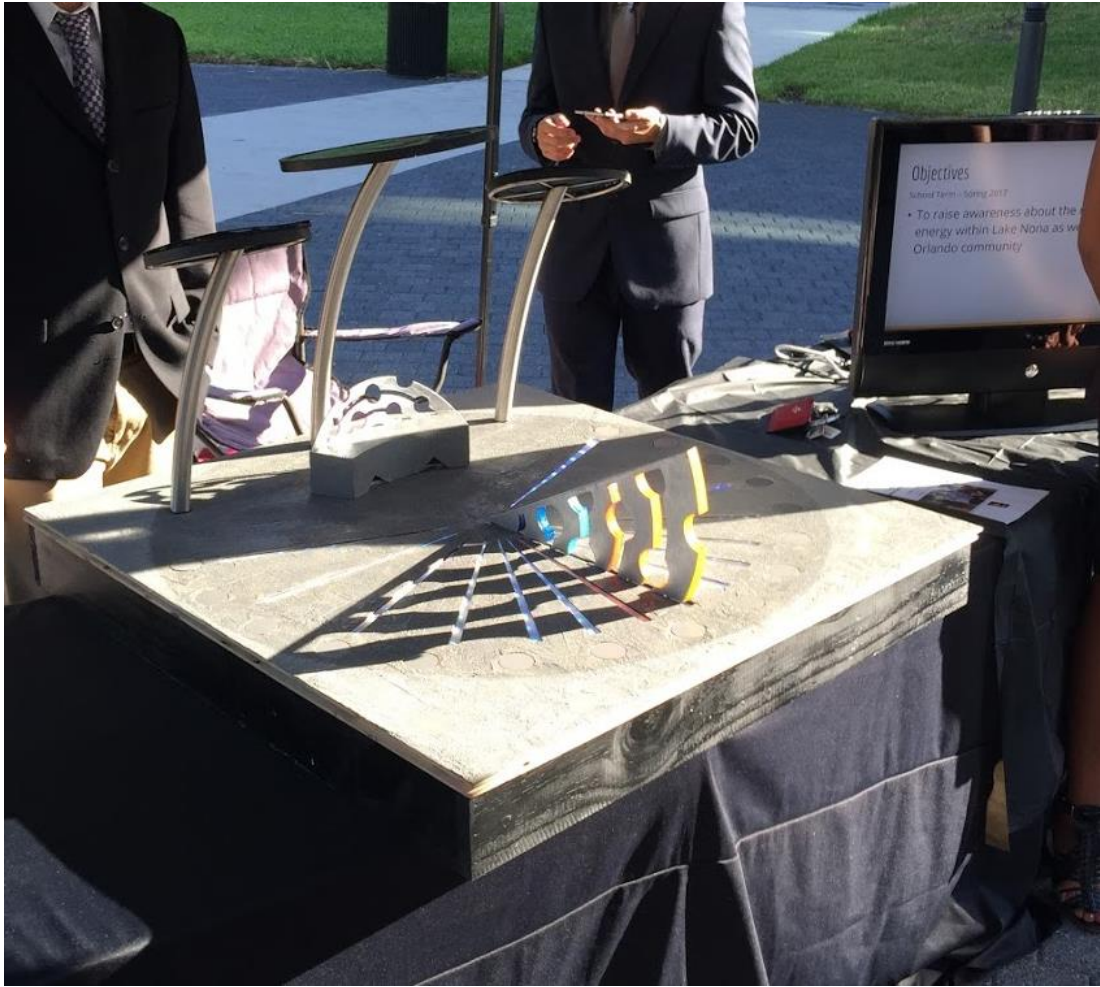


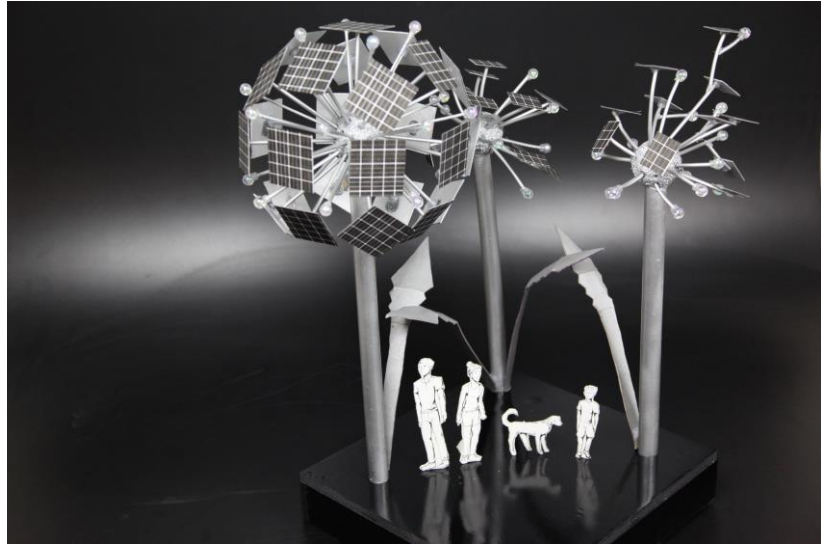
45+ students from the arts and engineering working in collaboration to produce a high visibility sculpture that showcases the benefits of solar energy

The Final Four











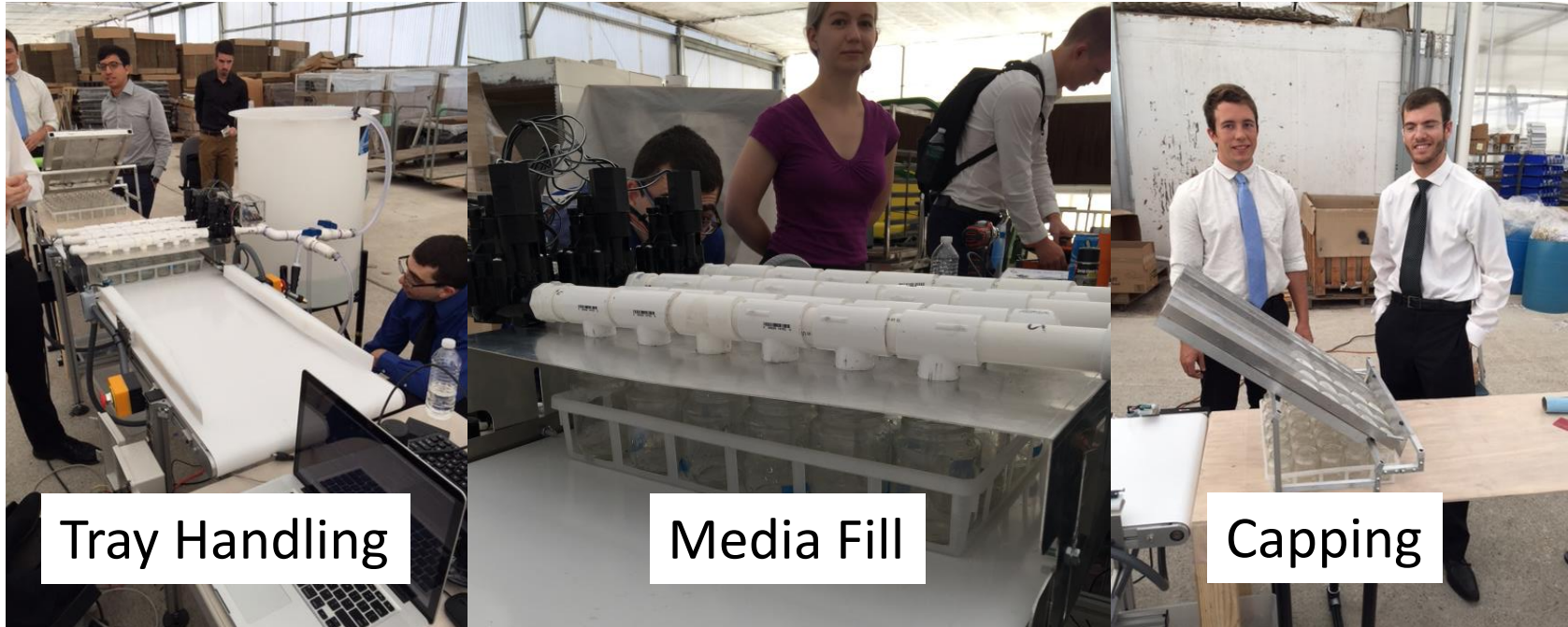
Learning Points

- Translating Customer Wants and Needs into Actionable Design Requirements
- Integration of Form and Function
- Design Iteration and Optimization
- Team Performance Contextual Interdependencies
- Turning Ideas into Reality
- Importance of Life Long Learning

Tissue Culture Lab Automation Project



Objective: Increase Productivity in Labor Intensive Operation



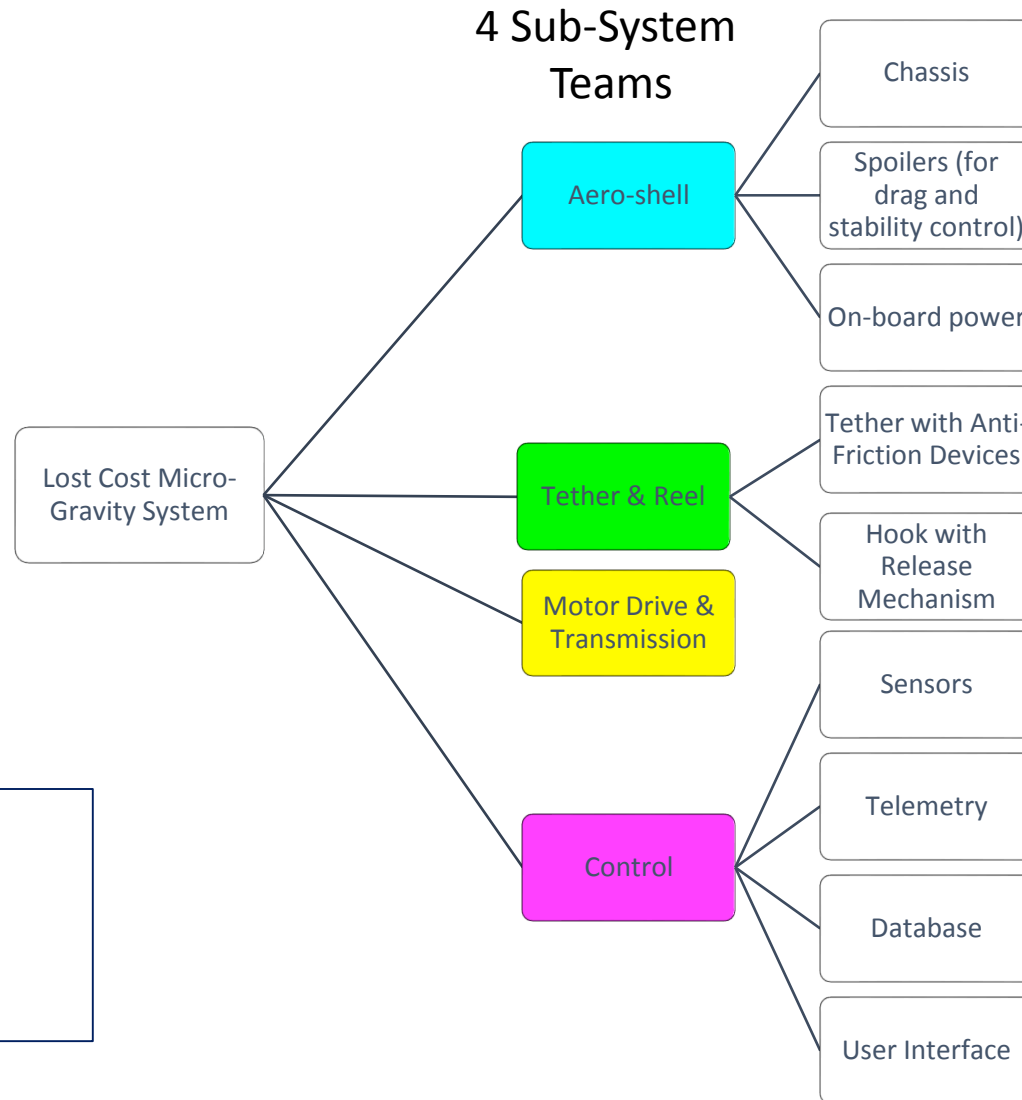
Three Teams (of 6 students each) addressed each Major Subsystem Area

Low Cost System for Conducting Micro-Gravity Experiments

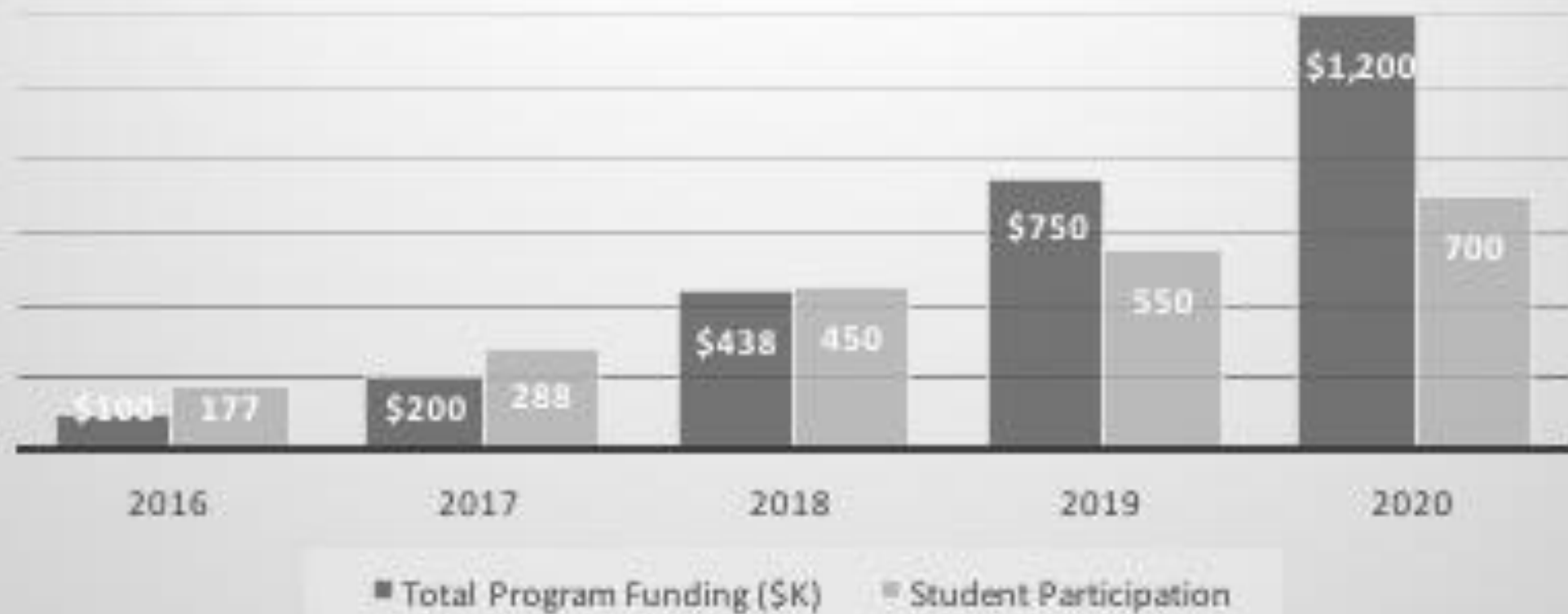
in collaboration with FSI & Professor Adrienne Dove (Physics)



- 60 students in all
- 3 competing Teams
- 20 Students on each system



EDP Funding (\$K) and Student Participation Projections



Next Steps

- Implement Team Teaching Model
- Develop Plans for Collaboration Spaces and Prototyping Areas
- Grow Instructional Support Staff

A Unique Opportunity to Distinguish UCF and CECS via *System Design Realization*