THE EH-TEAM
AN EXPERIENCE IN STUDENT LEARNING
Utica Community Schools
PRESEN TATION OVERVIEW

- Meet the EH-Team
- EH-Team Infrastructure
- Class objective
- ROV & Go-Kart objectives
- Student Baseline
- Mid-year Progression
- Mid-year to Today
- Student Learning
- Conclusion
MEET THE EH-TEAM

The EH-Team consists of students from the four UCS High Schools, Ford II, Stevenson, Utica, and Eisenhower. We also have one student from Armada High School. The EH-Team members are pooled together at the UCS Instructional Resource Center. Here they take a Engineering Technology course.
THE EH-TEAM

Team Coach: Geoff Clark
CEO: Adam Smith

Electric Go-Kart
COO: *Adam Smith
Team Members:
  Michael Charelston
  *Rachelle De Benedetti
  *Nick Ditta
  Jean-Francois Henry
  Travis Graham
  Bryan Lafata
  Antonio Moraccini
  David Orsini
  Kyle Pachla
  Jake Riegel
  *Adam Rose
  *Evan Spencer

Remote Operated Vehicle (ROV)
COO: *Brad Foley
Team Members:
  Stuart Bailey
  *Gladys Caruso
  *Keith Hutchinson
  *Ben Weyland
  *Yogesh Taxak
The objective of The EH-Team is to document learning through individual and group experiences. We did this through in class activities, projects and discussions. To help document learning and individual development students were required to complete periodic work logs describing what they had accomplished.
To create an efficient design to accomplish the tasks

Build a submarine that lives up to our expectations

This year’s tasks were modeled after the BP oil spill

Tasks
- Attach a line & cut oil line
- Remove oil cap & stop flow
- Direct oil flow & turn oil well back on
- Collect biological samples & water samples
- Record depth at the sample site
GO-KART OBJECTIVES

• Rearrange an existing structure
• Emphasize and redesign a more ergonomic Go-Kart
• Create a body and make the Go-Kart overall more aesthetically pleasing
• Improve the suspension and braking systems
What we had coming into enterprise to build our knowledge upon & base our progression off of:

- Math: Algebra II base, with some pre-calc and calculus students
- Chemistry: Physical Science-Biochemistry
- Physics-Basic-Advanced
- Engineering: FIRST team members and former enterprise students as well as CTE students
Mid Year Progression

- September through January: the skinny.
  - College research Projects
  - Catapult
  - Balsa wood structures
  - Bridge building
  - Project Management & infrastructure

  - The engineering based backgrounds gave us the opportunity to buff up on creativity, problem solving, and innovation necessary to work on both ROV and Go-kart projects
January to today-

- Microcontrollers
- Soldering Exposure
- Digital and Analog Electronics

These projects helped us to dive deeper into the inner workings of both the Go-Kart and ROV. The exposure to electronics helped to improve the efficiency and remove excess wire that got in the way of our desired improvements.
Some of the knowledge we took away from the experience:

- **Math:** Calculating & predicting values or reverse engineering spring constants
- **Physics:** Calculating the effects of forces, gravity, and kinematics
- **Engineering:** Making strides in mechanical, structural, architectural, civil, and preparation for studying engineering in college
- **Electronics:** Micro Controller experience, circuitry and soldering skills
- **Presentation Skills:** Learning to properly research and present content
To evaluate student learning we polled each student in our class to see how this experience affected them.

“In all of our class projects we learned that the testing of different materials and that pioneering new ways can be better than accepting standard principles”
Kyle Pachla

“Enterprise work is done on a Team work basis instead of always on an individual learning basis, like how it is for you in the real world”
David Orsini

“I’ve been to Tech and this is my 2nd year in enterprise. I believe Enterprise has given me more background on what colleges are about and how they interact with you as an individual”
Michael Charleston

“We may have started off slow but once we saw the time limit we pulled our plan together that seems to be working”
Nick Ditta
“Our earlier projects with catapult and bridge building as well as solid works training gave us a mechanical and structural perspective”
Travis Graham

“We learned to hone our problem solving skills and identification of problems which gave us an engineering background & knowledge base to center our work on the go kart off of”
Adam Rose

“Our super cool teacher showed us the benefits of using research projects to supplement our knowledge and expand our understanding of the problem at hand”
Evan Spencer
CONCLUSION
The enterprise program has had a profound effect on each and every individual involved with the EH-Team. Together we grew as students and individuals. We learned skills that will help us in our future careers. We all now have a much better understanding of what exactly it means to learn and what it means to be an engineer or a professional in any other field.