



Keeping it Real Gulf Zero

The Convergence of Technical Education, Academics, and Current Events

When students connect life and careers outside the classroom with learning inside the classroom, learning becomes authentic. When that connection happens across the curriculum between technology education and academics, learning can become lasting and significant.

Gulf Zero is that type of project. The brainchild of high school engineering technology teacher Gil Burlew, Gulf Zero encompasses every smaller learning community in the school who will participate from their own perspective. Teachers from many disciplines met over the summer to collaborate on the project. The



High school commercial art teacher William Ferrell designed the Gulf Zero logo.

following are only a sampling of some of the ideas that students are studying through the Gulf Zero project.

Background. The gulf oil crisis has had a dramatic impact on our environment, our economy, and our quality of life. While much has been reported and documented on this crisis, the Gulf Zero project will use lab modeling, simulations, extensive research, and many of the core academics to explore proactive solutions.

Agriscience. The school's Science Technology and Health Academy is focusing on the broad topic of food this year. Agriscience students' approach to Gulf Zero will be to research aquatic food sources and supplies, and examine the oil spill's physical and economic affect on aquatic plant and animal life.

Commercial Art. Commercial art students will examine the vast collection of information graphics reported in the media showing oil consumption, natural oil spills, and

For our Children

In April, the Deepwater Horizon drilling rig exploded, sparking a three-month herculean attempt to cap the well and contain the hemorrhaging of oil into our precious Gulf waters. The world watched in horror, and Floridians particularly felt the environmental and economic devastation. An unanswered question remains: *how will this impact our children, and our children's children?*

Our children, and our children's children. These, then, are the most important things. We instinctively want to protect them; to help them succeed; to hand them a sustainable tomorrow.

On a different plane, in another topic, in a different way, the same theme emerges in education. We want our children to succeed, and we want to hand them a sustainable tomorrow. And for that, they need the skills we're teaching them in career and technical education.

Florida's minimum wage: \$7.25
Florida's average wage for an experienced **Occupational Health and Safety Technician: \$23.32**

Gulf Zero (continued)

the many crisis-related maps, charts, and tables that artists have produced. “I care about the teachable moments in education,” shared teacher William Ferrell. “I look at the direct, real-world impact to my students. It’s about context. Students will explore, ‘How does the oil spill relate to me personally’ and next, ‘Can I do something about it?’ We use skills as an artist to change people’s minds. We’ll use what we learn as inspiration for our art.”

Mathematics. For their Gulf Zero project, Algebra I students from Tracie Harwood’s class developed Venn Diagrams to graph data on world-wide oil spills and populations. Using reasoning and data, students learned that there was no correlation between the size of a country and the size of the oil spills. The largest oil spill was in a country that did not have the largest population.

Technology Education. Engineering technology students will use precision measuring, mathematics, and structural engineering principles to design 3-D models of towers which support maximum weight. Students will convert the towers to oil rigs using hydraulics and large fish tanks. Next, students will simulate two oil spills; in one tank dispersants will be added. Students will observe the effects of the oil and dispersants on live aquatic plants and fish. “Our students will see that what we do now with the oil spill will determine the future of civilization,” said engineering teacher Gil Burlew.



Government, Science, Business, and Economics. Government students will examine the government’s role and response to the oil spill. Science students will study the qualities and effects of dispersants. Business and economics students will examine how our economy has been affected by the oil spill.

English and Writing. English students will write a persuasive letter to an editor or to a congressional representative that identifies the issues behind a conflict of global importance and analyzes what we, as individuals, can do to end it. Students will examine the repercussions of the oil spill to identify and build elements of rhetoric. Students will determine the importance of using credible sources by examining fact vs. opinion in the media. With other disciplines exploring subject matter in the context of Gulf Zero, career and technical teachers and academic teachers at this Florida high school are demonstrating the power of cohesive learning that impacts students’ futures.

Exploring Career Diversity at School Workforce Skills Focus on the Future

Florida’s career education teachers help students prepare for the future through career exploration and workforce skills instruction. Meanwhile, their career-based classes work together to support students in every area of academics: reading, math, science, and more. Integrating academics with career skills is a win-win plan to help students succeed.

Instructor Colleen Keip’s high school **Consumer**

Science students tap into creativity and talent in Culinary and Design Services Core classes. “Performing quality work and presenting a positive first impression are critical to success, whether you are preparing a nutritious and pleasing meal or creating an evening gown ensemble.”

In the **Business Technology** department, Cindy Rees’s Accounting students didn’t have far to go to gain real-world experience. The students worked with Suncoast

Featuring Secondary Career & Technical Programs

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Schools Federal Credit Union to open a student-run branch on the school's campus. Students interviewed for management positions, trained in financial procedures, and were supported by management and staff at the local and regional level.

Agriscience teacher Mike Buckley helps students explore the business and science of aquaculture, horticulture, animals, vegetables, and the environment. In one project, agriscience and culinary teachers worked together as students learned to cultivate and harvest tomatoes. The tomatoes were then processed into salsa or sauce and used to create pizzas that were sold to teachers.

Whether selling a harvest, crafting a culinary creation, balancing a budget, or designing a dress, students enrolled in career and technical education courses are making diverse career connections that focus on a stronger future.

*Suncoast Schools
Federal Credit
Union Regional
Vice President
Lori Mirandilla
partners with
education.*



*School-based
Suncoast Schools
Credit Union
student branch
manager Lacey
Houston with
Business teacher
Cindy Rees.*



"Far and away the best prize that life has to offer is the chance to work hard at work worth doing." Theodore Roosevelt

Occupational Outlook: Occupational Health and Safety Technicians

Occupational health and safety technicians work with occupational health and safety specialists to help prevent harm to workers, property, the environment, and the general public. Technicians often focus on testing air, water, machines, and other elements of the work environment. While the majority of jobs were spread throughout the private sector, about 22 percent of technicians worked for government agencies. Employment of occupational health and safety technicians is expected to increase 14 percent during the 2008-18 decade, faster than the average for all occupations, reflecting a balance of continuing public demand for a safe and healthy work environment against the desire for fewer government regulations.

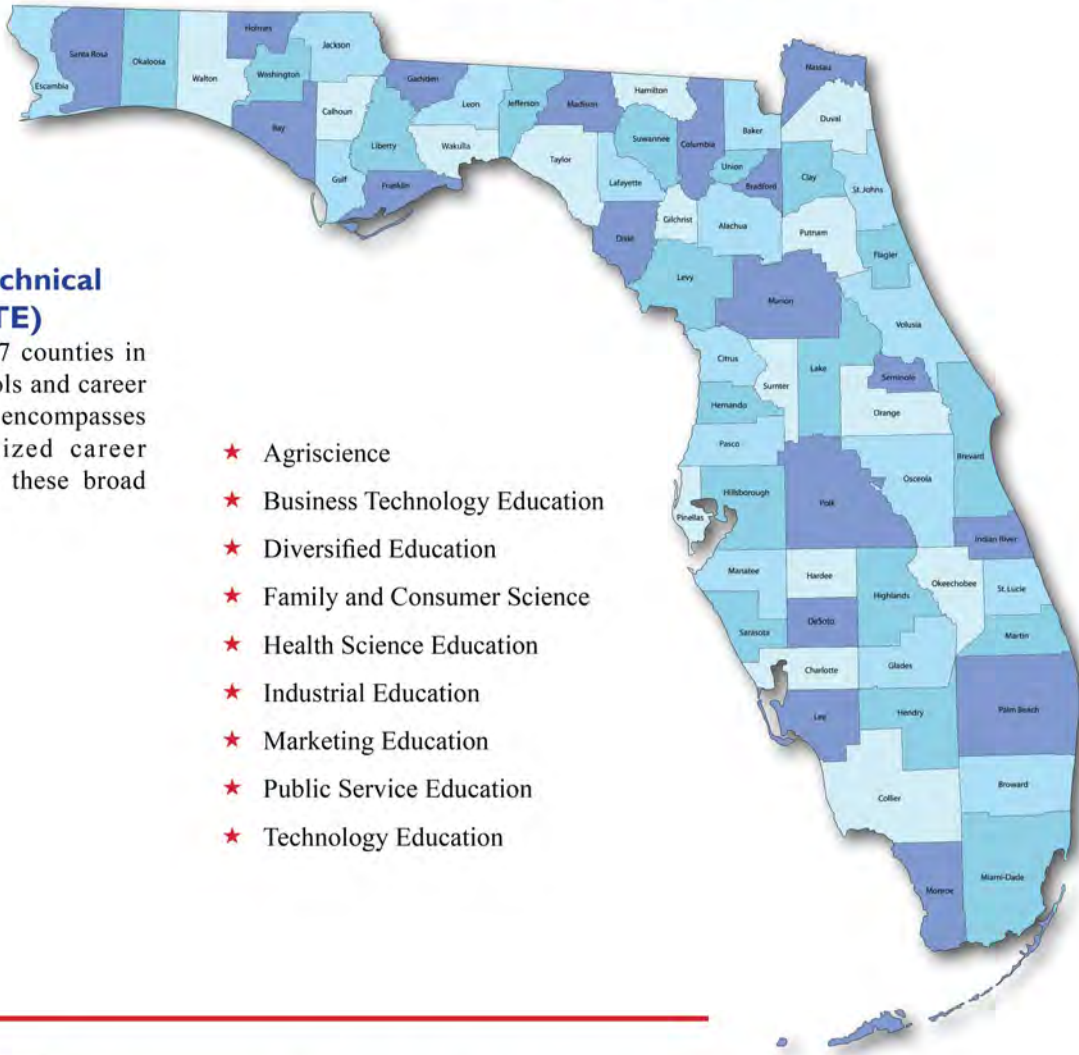
Source: www.bls.gov

OCCUPATION	WAGES
Minimum Wage	\$ 7.25
Food Analysts & Nutritionists	\$30.30
Graphic Designers	\$23.86
Commercial Designers	\$35.22
Environmental Engineers	\$39.21
Financial Operations	\$35.25
Accountants	\$36.52
Retail Buyers	\$32.82

Salaries based on experienced workers
Source: <http://fred.labormarketinfo.com>



Secondary Career & Technical Education



Career and Technical Education (CTE)

is offered in all 67 counties in Florida high schools and career academies. CTE encompasses scores of specialized career instruction within these broad categories:

- ★ Agriscience
- ★ Business Technology Education
- ★ Diversified Education
- ★ Family and Consumer Science
- ★ Health Science Education
- ★ Industrial Education
- ★ Marketing Education
- ★ Public Service Education
- ★ Technology Education



**Florida
Department
of Education**

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