Champions In Our Midst

Once again Fairmont High School’s Career Tech students received a Blue Ribbon and champion designation for their work in the Miami Valley Tech Prep Showcase Competition. This event attracts students and teams from all over the Miami Valley and is designed to showcase the skills and knowledge students have gained in their Career Tech/Tech Prep classes. One hundred and three teams register for the event representing 15 of 16 Career Clusters. Three hundred and sixty participating students had their Capstone Projects evaluated by 73 judges of which 48 were from the consortium’s Miami Valley business and industry partners & 25 Sinclair Community College professors. Trophies for category champions and runners-up were awarded to 5 teams from Fairmont.

The highest overall score was earned by Biotechnology seniors for their project, Secrets of the Oyster. Throughout the year students, Angel Bailey, Mikki Linden, Robert Priest, and Brittany Taylor, worked with researchers at the University of Dayton Research Institute (UDRI) to determine the feasibility of using oysters to produce a coating material to reduce possible rejection that can complicate knee and hip replacements. The Biotechnology team conducted experiments with the UD researchers that involved observation and analysis of Eastern Oysters, pseudo predation by notching, and further observation and analysis. Pseudo predation in Eastern oysters signals a biochemical response that increases hemocyte and protein production resulting in biomineralization (the production of minerals creating a thicker shell). They discovered that notching the oysters to simulate pseudo predation increased the hemocyte count but protein production was not conclusive. Further testing is needed with a greater number of oysters. This is a promising biotechnological discovery that may provide a key to more successful biomedical materials.

Biotech juniors, Luke Behnke, Dakota Carter, Hannah Garwood, Samantha Kolafa, and Matt Thomas, earned champion designation for their work converting Camelina Sativa to Biodiesel fuel. The students first contacted a mentor in Small Business Innovation Research at the US Department of Agriculture and mentors at Wright Patterson Air Force Base. The team discovered (continued page 2)
(continued from page 1) that Camelina sativa seeds can be crushed into a paste and then compressed to cause the oil in the seed to separate. The oil is processed, using the transesterification process. The transesterification process uses alcohol in the presence of a catalyst to chemically break the molecule of the raw renewable oil into an ethyl ester with glycerol as a byproduct. This was done under the guidance of their WPAFB mentors, Mr. Tim Edwards and Mr. Richard Striebich. The team found that Camelina sativa contains oil that may be extracted to serve as a renewable source of biofuel that is more economical and environmentally friendly than fossil fuels. WPAFB is currently using Camelina sativa oil as a fuel additive in jet fuel. Camelina sativa is a fast growing crop and its seeds contain much oil—the remaining shell can be used as a type of animal feed & fertilizer.

Allied Health students, Katey Bates, and Amanda Schultz, also earned a champion designation for their project, We Got a Problem...H1N1 Got Me Lookin’ Like a Goblin. The students created a rap song “H1N1 Got Me Lookin’ Like a Goblin” which highlighted the preventative techniques necessary to prevent the virus spread. They also wrote a children’s book and created a class presentation which was shared with elementary students throughout the district.

Digital Design students, Jake Sage, Sierra Eggert, Kristin Brandenberg, and Oliver Shawen, received a blue ribbon in the showcase competition for their project, “Business Design 101”. Students worked with Junior Achievement to create a tee shirt design company. Students invited Fairmont students to compete in a tee shirt design competition and then the company made and sold the shirts. The company was very successful and the students learned important lessons in managing money and people, and problem solving.

Hailey Taulbee and Olivia Ciupak were another 1st place winner with their project for Technical Theatre called “The Odd Project” done for the play The Odd Couple. The team consulted with professionals in stage management and designed a set with 2 separate elements.
PLTW Engineering students exercised their engineering and problem solving skills by re-designing the tail and wings of a business jet to make it more fuel-efficient. The team, consisting of Brandon Wehner, Bill Timmer, and Brian Catrine, researched ideas regarding different tail and wing configurations and won a blue ribbon. Using 3-D software they tested different configurations to refine their design and optimize the results for the best possible objective function and pitching moment. Their final design had a T-tail with a vertical stabilizer and a horizontal stabilizer with a downward angle of 7.05 degrees. The team learned a new computational fluid dynamics program which simulated a wind tunnel. They also used a program provided by Cessna that generates the weight of the airplane’s components. In addition, the team learned team management strategies that will help them the rest of their life. Each team member intends to study Engineering at Sinclair and then go on to UD.

The Information Technology team consisting of Ryan Lane, William Ludwig, Kyle Wilkinson, Patrick Taylor, and Corey Baker received a red ribbon for their efforts. Their project, Happy TUTS, started with the premise that Information Technology can seem vague and confusing. They created a purchasable kit that included materials and tutorials to take the mystery out of information technology. The kit included a router, a switch, three Ethernet cables and a CD containing a website with video tutorials to help people set up their own networks. The video tutorials take the customer on a step by step tour to explain how to set up a home network. This year they will add to this project by expanding their tutorials to software issues as well. The Information Technology seniors, Cole Chapman, Kevin Habib, Alex Peters, and Doug Shindeldecker, received a red ribbon for their plan to launch a Kettering IT Support program. The program is designed to help Kettering staff and community with their software and hardware problems.
DECA Students Win at State

Fairmont’s Marketing students had another great year at the Ohio DECA Career Development Conference. Students competed with the top competitors from all sixteen districts and five regions of Ohio for their spot at the International Career Development Conference. The conference lasts for two days in Columbus and includes thousands of DECA members, advisors, and industry professionals. The events are designed to help evaluate student performance, provide opportunities for student recognition and motivate students to perform at the highest possible levels. Fairmont had eight students place in the top 10 in their individual and team competitions.

Winners were: Ryan Rice who placed 6th in the Quick Serve Restaurant Management competition; Matt Davis—6th place in Food Marketing; David Sprowl and Adam Thompson who placed 7th in the Sports and Entertainment Team Management competition; Thom Bergman—7th place in the Marketing Math test; Sara Scott and Christina Olgiate who place 9th in Travel and Tourism Team Event; & Emily Johnson—10th place in Food Marketing. Most events included testing in the individual area along with an interview scenario and a presentation. Students prepared for weeks before the competition and were happy to have placed in the top 10. Sophie Farley, a Marketing student who was the State Southwest Region Vice President, attended the International Career Development Conference in Louisville, KY to represent our region of the state.