

HSTTP Featured School - ECTA

The International Code Council (ICC) would like to introduce a new feature to the High School Technical Training Program (HSTTP). Each quarter of the calendar year a school will be selected and featured on the HSTTP website highlighting the students work, community involvement, projects and other school year activities. To participate all schools currently members of the ICC and participating in the HSTTP Certificate of Achievement (COA) program are eligible and encouraged to submit news articles, stories, and photos from students, instructors or local publications to be recognized. All photos and articles submitted will be used and published in ICC and reproduced by associated organizations publications to create awareness in the construction community of the outstanding students, teachers and work being completed in the technical schools across the country. **Send articles and photos to jellwood@iccsafe.org**

To kickoff this program East Career and Technical Academy (ECTA) in Las Vegas, Nevada has been selected as the first HSTTP technical school of 2017. Please take a few minutes and visit the attached articles and photos and see the outstanding work and events ECTA students, instructors and administrators have completed over the past several years. ECTA has been an active member of the HSTTP since their original sponsorship by the Southern Nevada Chapter of the ICC (SNICC) in 2013. Each year since starting the program the students of ECTA have received multiple COA's from the ICC. After reviewing the following articles it is easy to recognize ECTA has dedicated teachers, administrators, students and sponsors with the students success as the ultimate goal.

School: East Career and Technical Academy

Contact: Lisa Edler

Work phone: 799-8888 ext. 4018

Email: lisaedler@interact.ccsd.net

ECTA Construction Management Students Learn about Architecture Touring CAVU

On Tuesday, October 4th, 30 students from Mr. Vega and Mr. Bullah's Construction Technology Program toured CAVU, a desert modern masterpiece. CAVU Las Vegas is the creation of renowned award winning architect Eric Strain in collaboration with two of Vegas' most accomplished resort architects, Jon Sparer and Jon Klai. A living work of art, CAVU is a 13,255 square feet home and features attention to detail and stunning materials. Built in complete harmony with its natural surroundings, the home offers the opportunity to live in your own resort with 5 bedrooms, 9 bathrooms, and 3 levels for eating, sleeping and playing. CAVU uses sustainability as illustrated with solar panels installed in the roof to provide clean energy all throughout the home. East Tech's CT Program teaches students about sustainability so the tour was highly educational for the students to understand and visualize how architects effectively use sustainable materials.

Angely Ventura, a senior in the CT Program, discovered this spectacular home as an idea for the CT students to view. She is interested in sustainable architecture and design as a future career and worked with Jon Sparer to coordinate this amazing tour! East Tech's CT Program is grateful for Ms. Ventura for the hard work and planning she did to bring this educational opportunity to her senior class. <http://cavuvegas.com/explore/>

ECTA Celebrates Sixth Annual Senior Project Day!

Each school year seniors are required to develop a capstone project and present the final results in the spring. Seniors began their project in October and were required to use Problem Based Learning to develop a process or product. During the school year they collaborated and consulted with their math, government, English and program teachers to research and write their final reports. Once the reports were completed, students designed their specific products or processes and display boards. On Friday, April 1st, Las Vegas community members, CCSD administrators, and East Tech students and staff were invited to tour each program area to view the final projects. Seniors became the teachers while they presented and explained the final product or process to guests.

Some examples included ways to beautifully decorate cupcakes using colors that attracted the eye, new processes to cook healthy foods; a collapsible and portable soccer ring, a retrofitted small home with brilliant design concepts constructed as a safe shelter for children of abuse, a metal portable kitchen using welding; unique ways to upgrade automobiles and bicycles; new business ideas and designs including art, photography, weddings, salons, clothing and more; explanations of medical technology and better ways to live healthy lives; critiques of teaching methodologies and creative ways to teach; new ways to use information technology including drones, holograms, and virtual reality; a specially designed castle with LED lights and electronic technology, a well-crafted dance board similar to "Dance, Dance Revolution" using electronic technology, and much more!

Senior Project Day is one of the highlights of the students' senior year. Congratulations to the senior class of 2016 for a wonderful day full of enlightening presentations! A special thank you to Jayme Rawson, ECTA's Achievement Coach, who directed and coordinated the Senior Projects throughout the school year and the seniors' teachers who helped critique their research reports and consulted with them during the design phase of their products or gave suggestions about their processes. East Tech also thanks professionals in the community who acted as advisors and contributed their expertise!

East Tech Construction Technology Program Senior Alejandro Baez Awarded Prestigious Michael T. Martin Memorial Scholarship



Alejandro Baez, a senior in the Construction Technology Program, was awarded the 2016 Michael T. Martin Memorial Scholarship for \$6,000. Each year the Associated General Contractors (AGC) and the Nevada Contractors Association (NCA) select a student from a high school in Clark, Nye, Esmeralda or Lincoln counties who exemplifies leadership, integrity, creativity, dedication and studiousness along with a desire to enter a career in construction. Mr. Baez applied for the scholarship in February and had to complete a rigorous formal interview with members from AGC. Mr. Baez will enter UNLV's Construction Management Program this fall. He has been a stellar student at East Tech and served an internship with McCarthy Construction at the TopGolf site. He is thrilled to have received this prestigious scholarship and is excited to attend UNLV. He is also thankful to his Construction Technology (CT) instructors at East Tech, Mr. Vega and Mr.

Litz. Mr. Baez enjoyed his internship at McCarthy, courtesy of Leed, Project Director Ryan Cogley, and is interested in continuing his working relationship with McCarthy. East Tech would like to thank McCarthy Construction Company for their support, Kevin Love, Senior Engineer with Carollo Engineers and East Tech's partner for the CT Program, and Dr. Hayes, Chair of the Civil and Environmental Engineering and the Construction Management programs at UNLV. He has worked tirelessly to connect CTA students with UNLV and is making dynamic progress on behalf of the students at the high school and college levels. Mrs. Delgado, East Tech's principal, said she is thrilled for Mr. Baez and counts this as a great accomplishment for him and the CT Program. Students in the CT Program have been awarded this wonderful scholarship for the past three years in a row!

CT Students Learn Basics of Masonry

Mr. Litz teaches freshmen and juniors in East Tech's Construction Technology Program. In early April he took the juniors outside to learn about masonry. Mr. Litz has expertise in masonry stemming from ten years' experience in a family owned company to twenty years of working with many different contractors in eight different states. On this date he was teaching the students the importance of masonry structures and the skill needed to be proficient at the trade. The most important things the student learned was the importance of accurate building measurement layout and what plumb and level actually do especially when they are not correct.

Masonry is the building of structures from individual units laid and bound together by mortar; the term *masonry* can also refer to the units themselves. The common materials of masonry construction are brick, building stone such as marble, granite, travertine, limestone, cast stone, concrete block, glass block, and cob. Masonry is generally a highly durable form of construction; however, the materials used, the quality of the mortar and workmanship, and the pattern in which the units are assembled can affect the durability of the overall masonry construction (<https://en.wikipedia.org/wiki/Masonry>).

Stone masonry is one of the earliest crafts in the history of construction and it is a central traditional skill. The Egyptian Pyramids, the Colosseum in Rome, India's Taj Mahal, the Great Wall of China - some of the world's most significant architectural achievements have been built through masonry. Architects and builders have chosen masonry for its beauty, versatility, and durability. It is resistant to fire, earthquakes, and sound. Masonry structures can withstand the normal wear and tear of centuries (<http://www.masoncontractors.org/history/>). As you look around at office buildings, schools, house, patios and fireplaces, you will notice many places that use some form of masonry.

Basic skills like masonry are becoming a lost art but teachers like Mr. Litz are making sure that East Tech CT students learn how to apply technology in construction in conjunction with learning basic skills so that they are well rounded and can work on any type of project. As future construction project managers, architects and engineers, they will know everything about building from the ground up.

One of the CT seniors summed up their four years of training by stating, “When I sit in a restaurant, I can immediately see how well a company completed the structure and I can notice if they did a great job or did not do a good job finishing the work and cut corners. It drives my family crazy but I am glad that I have a new way of looking at things and was trained to notice detail and correct building methods.”

ECTA Construction Technology Seniors Build Catapults for UNLV Recycling “Chuck-A-Pumpkin” Event

This was the first year that East Tech’s Construction Technology (CT) Program participated in UNLV’s Recycling Pumpkin Event. Mr. Vega and Mr. Bulah’s juniors and seniors were asked to build catapults that would later be used to “chuck” pumpkins in a fun event to recycle them. Tara Pike-Nordstrom, UNLV Sustainability Coordinator, and Dr. Hayes, Chair of UNLV’s Department of Construction Management and Civil Engineering, asked Mr. Vega this past summer if his students would be interested in designing and building the catapults and he said they would.

Students were placed in small teams of 6 to 8 and started the project by building miniature prototypes to test different designs. While building the five large catapults, each team used complex math, structural engineering, and physics to measure, cut and assemble the materials. Once the catapults were built, the students painted and designed them in various colors, including East Tech’s colors. Students then tested the catapults to make sure the stress of projecting a heavy pumpkin would not snap the boards that were supporting the main frame.

On Saturday, November 5, 2016, Mr. Vega and several of his students, traveled to Galleria Mall with the catapults. From 12:00 Noon until 4:00 p.m. each team loaded their catapult with pumpkins and threw them into a large garbage bin. The students worked very hard all afternoon and felt a sense of accomplishment and satisfaction as they watched their catapults successfully work to help UNLV recycle over two hundred and fifty pumpkins. Mr. Vega said, “This was a great experience for students and myself. I cannot wait to see what we will do next year with some new modifications.” Angely Ventura, a senior in the CT Program, said “I thought our catapult would not work out because we had to make so many changes, but in the end it did and it was chosen as the favorite design at the event!” Charles Avery, also a senior and on the same team as Angely, added, “We had to learn to switch out bunge cords, which were too weak, and instead used garage springs. We also had to switch out our metal pole and replace it with a thicker pole.” That shows East Tech collaboration and problem solving skills at work!

All of the remains of the pumpkins will be composted at Terra Firma Organics to incorporate the pumpkins back into the Las Vegas Valley. <http://ionnewsroom.com/chuck-a-pumpkin-promotes-recycling-fun-at-galleria-at-sunset/>.

Below, ECTA students work to complete and test their catapults.





ECTA Construction Management Students Preparing for their Futures

OSHA 10 Certifications

Every senior in Mr. Vega's Construction Management Advanced Studies class recently passed their OSHA 10 certification. This required Occupational & Safety Health Administration 10 hour course will enable students to accept a construction job the day they graduate from high school. The OSHA 10 class is intended for entry level workers and helps ensure that workers are more knowledgeable about workplace hazards and their rights.

Career Readiness

Mr. Vega is also a certified fork lift and scissor lift instructor. Later this year, seniors will train to become certified to drive both lifts.

Inspector Certification Ready

East Tech recently collaborated with the Southern Nevada International Code Council (SNICC) to teach juniors and seniors to learn about residential building codes. East Tech is the first high school in the state of Nevada to begin this program. The long term goal upon completion of this training is to enable students to take state tests to become certified residential code inspectors after they graduate.

What the Future Holds at East Tech

Mr. Vega and Mr. Litz continue to find resources to prepare their students to fill future positions in the predicted national and global shortage of skilled workers. In a recent article, "A Skills Mismatch Makes French Unemployment Worse" published in Business Week, the French Mechanical Industry Federation will need about 40,000 people over the next five years to replace retiring workers and expand. The U.S. Bureau of Labor Statistics forecasts that by 2012, there will be a shortfall of nearly 3 million skilled workers in American and by 2020, that number will be 10 million in manufacturing-related industries. Through the classroom training and certifications provided by East Tech's Construction Management Program, students can successfully enter postgraduate training to eventually help fill these shortages and enjoy sustainable long term and well paid careers.

Giving Back to the Community

In addition to working on certifications in their program classes, students are encouraged to give back to the community. As a PBL (Project Based Learning) activity, Mr. Vega instructed his students to design and build fifteen computer desks for children who attend an after school program that is run by a local church. The objective of the PBL is to teach students finish carpentry, along with counter top installation and counter top fabrication skills. The entire project will take four weeks – three weeks to build the desks and one week to install them. The students take pride in knowing that in addition to their carpentry skills, their problem solving skills, communication skills, and collaboration skills. Their class is helping them build high quality work stations that will contribute to designing a productive educational environment for a younger generation.

Speakers Impart Wisdom to Students in East Tech's Construction Management Program

Being involved with the community is one of the rewarding aspects of the programs at East Tech. One program, in particular, has had exceptional professionals visit their Construction Management classes to explain the expectations and standards that students will be expected to meet as they think about college and/or a career. Each of the professionals emphasized the importance of students' current coursework and explained how it would be relevant in the real world, especially in the construction fields. They spoke about how they use math, science, English and even history in their own careers. The list of invitees included:

Bobbie Whitmore, Training Manager, Southwest Carpenter's Training Fund

Ms. Whitmore explained the qualifications for entering the Carpenters Union and how they are once again recruiting students and will help pay for college tuition.

Dawn Rogers, Recruiter for Del Webb School of Construction, Arizona State University

Mrs. Rogers described ASU's program and the requirements to be admitted. She also gave students advice about applying for scholarships. Her school has a 100% graduation placement rate within industry.

David Baird, Director of the UNLV School of Architecture

Mr. Baird talked about the various strands within the School of Architecture including interior design, landscape design, and architecture. He explained that it is a competitive major, but provides small classes and is gaining national recognition. Students have to attend school for six years to become an architect and four years for interior design and landscape architecture.

Ed Kaminski, Clark County Fire Engineer

Mr. Kaminski explained his role as mechanical engineer and the importance of fire safety and fire suppression equipment within a buildings design. Mr.

Kaminski explained the project Cesar's Palace is working on is a high roller observation wheel. The 550-foot wheel is taking shape adjacent to the Las Vegas monorail behind the Imperial Palace. The wheel will be able to transport 2,240 passengers per hour. It will take 30 minutes to make one revolution, at a cost of about \$25 per person. He also explained the requirements to become an engineer.

Quentin Abramo, Architect and President of FaciliteQ

Mr. Abramo shared insight and information about sustainable building designs and products and new ways to build more efficiently for the future.

Guy Voss, Project Manager, Black & Veatch Engineering

Mr. Voss will visit in November and will discuss civil engineering and waste and wastewater projects in Las Vegas and the western United States.

Pictures!



Above, the storage cabinet for the ECTA's program.



Mailboxes made by the ECTA students.



An ECTA student shows the hidden door that he constructed.



ECTA students pose with a dresser set up that they constructed.



A bed constructed by ECTA students with built in storage.



ECTA students developing their masonry skills.



An ECTA student laying blocks.



ECTA students pose with the bed they constructed. Looking sharp!