The Career Center Courier

Aerial Photos provided by Matt Baker

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Building Trades Takes a Step Up

Stair Stringers and Making the Cut

Pictured above Top to Bottom: **Top**, Jon Clark of Ottawa High School models the stringer that the Building Trades class cut out of the 2 X 10 planks that are used for the building process. **Bottom**: Logan Clepper (Hall) left and Sam Sondgeroth (Mendota) right working on the skirt board. They are using a saber saw to cut the numerous bends that will follow the outline of the stairs. (A skirt board is an architectural feature that is used to cover the sides of a stairwell and is employed for both esthetic and safety reasons.

The Building Trades program at the ACC (taught by Mr. Harold Burr) teaches all aspects of the construction of a home. Whether it be framing of walls, rafters for roofing, or in the case of this article, the designing of stringers for stair installation, students walk out of the class understanding the necessity to plan for the final cut that leads to installation.

An old carpenter saying is: “Measure twice, cut once.” That saying is evident when one has to take the time to plan out the measurement and cutting of stair stringers. In addition to the material being fairly expensive, the cutting of stringers involves the use of Algebra and Geometry and is a tricky concept (at first).

To cut the stringer, one has to know the requirements of local building codes (e.g.—how much space between steps and how wide should the step be). For our mathematically inclined friends, these are referred to as the rise and the run (e.g.—slope). Once you have determined how far off the ground the steps have to rise, you can then divide that by what the code says should be the vertical distance between steps (7” is a pretty good rule of thumb, but it can vary). If you divide how far off the ground the steps have to rise, by the 7” distance this will tell you how many steps you will need.

Once you know how many steps are needed, simply multiply that by how wide each step is (usually a 10” width for comfort). That will tell you the run of the stairs. From there it is planning for the cutting of the stringer. The video below will detail this for you.

Click here for a short video on measuring and cutting an accurate stair stringer.

Machine Tech Has Its “Vises”

One of the little-known aspects of the Machine Technology class is that included in the curriculum is the teaching of Computer Programming. This computer programming is a proprietary language that speaks directly to the lathes and mills that are being used for shaping the materials used in the class (mostly metals, but also plastics and wood). The programming uses languages known as G and M codes.

G-Codes can be thought of as commands that relate to the geometry of the piece of material that is being shaped (hence G-Code). These codes may tell the machine to locate a specific coordinate (pieces can be three dimensional so they use the X,Y,Z system), or how to find the center of circle (for cutting that involves arcs and circles). In addition to these location commands, G code may also tell the machine in what increments it should do the cutting and a number of other specifications that relate to how the final shape will turn out. While G-codes relate to how the object being shaped is treated, M-Codes relate to how the Machine responds and is treated.

M-Codes relate to the treatment of the machine (hence M-code). These commands may relate to how the spindle rotates the object being shaped, or what tool is being (or to be) used. The combination of G and M codes give the complete set of instructions to shaping the material worked upon.

Click here to learn more about G Codes and M Codes.

Pictured to left: Mason Monroe of La Moille works with the Haas lathe. The Haas lathe is a programmable lathe that uses G-Code. Mason is pictured putting the finishing touches on his project (making a vise). The final picture at bottom shows how the machine can be programmed. The piece of metal to the right of the rod sticking out of the vise, is a solid piece of material that was carved by the lathe.

Student of the Month
Name: Maureen Gensler
Home School: St. Bede H.S

Pictured above is Maureen Gensler with her Child Care instructor Mrs. Lori Johnson.

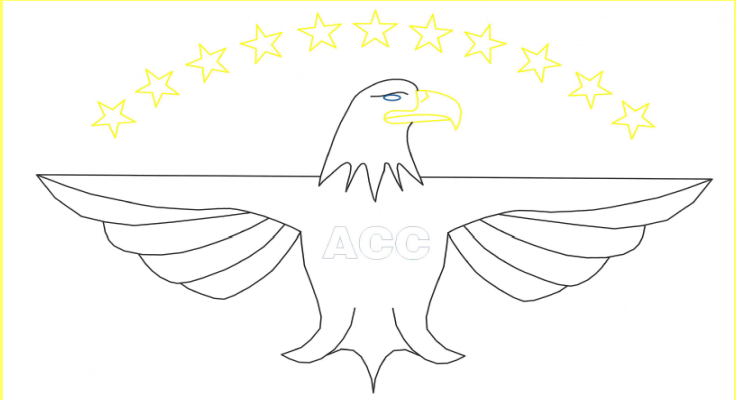
According to Mrs. Johnson Maureen has been an asset to the Edu-Program since day one. She entered the classroom with a positive attitude and has been an outstanding role model to both her peers and the preschoolers. She encourages and supports her peers as well as the children. Maureen plans developmentally appropriate activities and modifies lessons to meet the needs and interests of the preschoolers. She engages in intentional play with the children in order to scaffold their learning and document their progress. She has an intuitive sense of when the classroom environment needs to be modified and takes the initiative to make changes in order to maximize the children's learning. Maureen will make an excellent teacher and I truly believe she has found her calling.

Excellent work Maureen, we are proud of you and are glad you are a part of the ACC!

ACC Celebrates its Lights

Due to the generous donation of Mrs. Jeanette Maurice, and the talented work of ACC CAD I student Yesenia Valle (De Pue H.S), the Career Center will be represented at the Celebration of Lights. Each Christmas Season, the City of La Salle puts on a tremendous display of spirit and warmth with its annual celebration. Starting in the 2022 holiday season, the Area Career Center will be represented with the display depicted below.

With a desire to memorialize her husband (who was a tradesman) Ms. Maurice dedicated a donation to the making of a light display that both honors the Career Center while paying tribute to her husband. The 11 Stars represent the 11 schools who send students to the Career Center and the Eagle represents the ability to build strong and independent students.



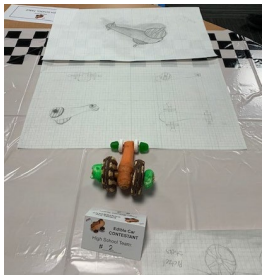
Pictured to the left:

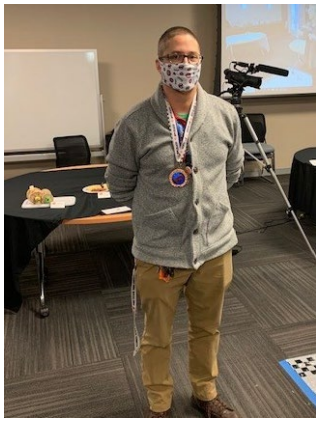
(Left) ACC Employee and benefactor **Mrs. Jeanette Maurice**

(Right) ACC CAD student **Yesenia Valle** (De Pue H.S.) designer of display.

ACC Eats up Edible Car Competition

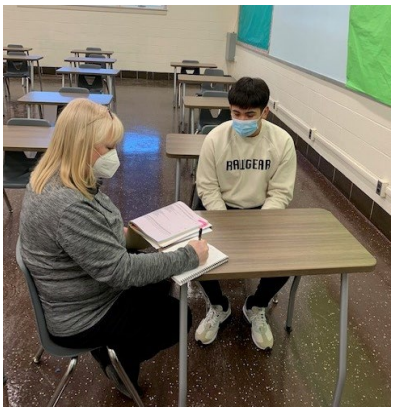
Annually, Illinois Valley Community College hosts a competition known as the Edible Car Contest. The basic thrust of the competition is to design a car that is entirely edible and can complete a racecourse in the fastest time possible. This year, the ACC competed and was able to secure the number one fastest vehicle (as well as a number of other awards per category). The top picture on the left shows Martin Murillo (Mendota) and Faith Pack (PCHS) who won the overall fastest car competition. Also pictured are students from Mr. Andrew Wiercinski's ACC CAD class (Middle Left) Eli Keighin, Ethan Picco who won third place in overall design. Mr. Wiercinski (bottom right) himself won an award in the faculty category for the second fastest vehicle. Pictured bottom left, Mr. Wiercinski's vehicle (directly below are vehicles designed by ACC CAD students—students not only made the vehicle but provided the schematic designs for the car).





ACC CAD students (from left) Martin Murillo (Mendota), Ethan Picco (LPHS), Eli Keighin (La Moille), Mr. Wiercinski, Amy Munoz Ugalde (De Pue), and Faith Pack (PCHS).

Around the ACC



Top: Students in Mr. Matthew Dawson's Residential Wiring class work on a unit that takes them through the ins and outs of wiring outside appliances. Student Josue Bustos (LPHS top left) and student Andrew Santiago (Ottawa middle) put the finishing touches on their outside wiring project. **Left:** Student Josue Bustos works with IVCC representative Ms. Susan Monroe to complete a scholarship application. IVCC offers many scholarship opportunities (and assistance) for ACC students.

Right: Students in Mrs. Lori Johnson's Child Care class work with pre-school students to build a marble maze (part of tactile learning units) **Left:** Hall students Kylie Dilling and Kambria Simmons prepare custard filling for Paczki's as part of a Mardi Gras unit.