

POLARIS

CAREER CENTER

Construction Trades Tech Prep Junior year

Instructor: Mr. Jeff Busser

Location: Polaris Career Center

Office Hours: 7:15-3:00

Office Phone: (440) 891-7677

Email: jbusser@polaris.edu

Room 138

Class 7:50 to 10:50 Daily

Communication

During class visit

Students will create Remind account and set up Polaris Career Center computer account

Students are expected to remember passwords that they create.

Students will need to check their remind and google classroom about once a week over the summer for updates and occasional jobsite pictures.

Parents must fill out student infinite campus paper work before the first day of class, so that student can participate.

Description of Construction Trades 1

In this program, students will learn the basics of residential construction along with understanding how a construction site operates. Students will learn how to be safe on a jobsite along with safe operation of power tools. Construction Trades 1 prepares students to enter the construction field with knowledge in jobsite prep, concrete formwork, foundation installation, rough framing of new homes, roofing, siding, windows, and doors. Construction Trades 2 builds upon knowledge obtained during the junior year. This includes commercial carpentry, electrical, and plumbing systems. Students will also be introduced to the operation of a CNC (Computer Numerical Controlled) machine to create projects that they design.

Possible Employment Fields

Rough Carpenter	Roofer	Electrician
Finish Carpenter	Sider	Plumber
Masonry (Bricklayer)	Window and Door installer	
Concrete finisher	CNC operator	

Equipment used:

- Hands tools
- Hand Power tools (circular saws, drills, reciprocating saw)
- Proper use of level and transit
- Stationary power tools (table saw, jointer, planer)
- Tow motor
- CNC woodworking machine
- Ladder and scaffold safety

Instructional Philosophy:

This course will require the highest level of safety possible in everything we do. Class will consist of a great deal of hands-on laboratory work that simulates real life construction jobs. Students will be expected to take pride in all of their projects. At times students will work individually and as groups to complete projects. All students are expected to treat each other, materials, and tools with respect. At the beginning of class new concepts will be introduced in a typical classroom setting. Students will be graded upon homework, quizzes, tests, quality of classroom projects, and safe lab participation.

Proper dress, attendance, safety, and tools will effect student's grade.

(Positively and Negatively)

Unsafe behavior will not be tolerated. Unsafe behavior will result in automatic Alternative Behavior Class (ABC) for the day, which will result in book work for the day.

Construction Trades Possibilities

Internships: Students may complete an internship in their senior year.

Certifications: Students complete their OSHA 30-hour certification, Forklift training

Articulations: Available college credit awarded upon meeting articulation requirements.

Club Organizations: Students are members of Skills USA.

Learning Objectives:

The Ohio Department of Education's office of Career and Technical Development has created career pathways to the following (3) courses that we will cover our junior year and (3) courses that will be cover our senior year.

Construction Safety and Crew Leadership– (Junior Year)

Subject Code: 178018

Students will learn OSHA standards (30-hr OSHA) and requirements as they apply to the construction industry and crew/management. Topics include safety and health hazards, safe practices, construction safety management, and crew management. Emphasis is on hazard identification, avoidance, control, and prevention.

Carpentry and Masonry Technical Skills- (Junior Year)

Subject Code: 178001

Students will learn materials, methods, and equipment used in carpentry and masonry. Students will organize a project work sequence by interpreting plans and diagrams within a construction drawing set. They will layout and install basic wall, floor and roof applications. Students will perform introductory concrete applications including formwork, reinforcement, mixing, and finishing. Current advancements in technology, safety, applicable code requirements and correct practices are learned

Plan Reading- (Junior Year)

Subject Code: 178019

Students learn blueprint reading as it relates to the architecture and construction. Students will use scaling, orthographic projections, dimensioning practices, symbols, notations, and abbreviations to perform area calculations and to interpret floor plan, section, and elevations. Using construction plans, students will identify problems or shortcomings related to the layout and installation of materials for the project.

Residential Electrical Systems- (Senior Year)

Subject Code 178008

This course will emphasize electrical theory, materials, equipment and general methods used in residential construction. Students will navigate the National Electrical Code, learn worksite safety and understand licensing and permitting requirements. They will interpret plans and job specifications and calculate loads and service requirements. Students will install, test and repair receptacle outlet, lighting and small appliance circuits. They will understand circuit protection concepts and install a subpanel. Specialty circuit installation will be addressed.

Pipefitting and Plumbing Systems- (Senior Year)

Subject Code 178010

This course will emphasize the physical principles, general methods, materials and equipment used in the plumbing and pipefitting. Students will learn worksite safety and understand licensing and permitting requirements. They will interpret plans and job specifications and calculate service requirements. Students will rough in water supply and drainage lines following plumbing codes and municipal building standards. Additionally, students will install and maintain plumbing fixtures.

Structural Coverings and Finishes- (Senior Year)

Subject Code 178004

This course will address applications of interior and exterior finish work. Students will identify material properties and select for appropriate application. Students will install thermal and moisture protection including roofing, siding, fascia and soffits, gutters, and louvers. Students will install drywall; trim-joinery and molding and apply wall, floor and ceiling coverings and finishes. Throughout the course, the safe handling of materials, personal safety, prevention of accidents and the mitigation of hazards are emphasized.

Hand Tools: Personal hand tools will need to be obtained for the first day of school.
See attached tool list

Dress Code: Students are expected to wear Safety glasses, Polaris shirt, work pants and work boots every day for class. (Polaris shirts and sweatshirts can be ordered through Polaris website)

Power Tools : Supplied by School

Supplies: Lumber and construction material for projects will be provide by the career tech program.

Shop/Jobsite Safety

As a part of students' laboratory learning experience, they will operate machines, use equipment, tools, and materials specific to the Construction Trades Program. Students must pass safety tests with 100% accuracy prior to using machines, equipment, tools, and materials. Upon passage of tests students will assume responsibility for all safe practices that they were taught.

I promise to wear safety glasses at all times

I promise to follow all safety rules for the shop and jobsites

I promise to never use a machine, tool, piece of equipment, or practice a procedure without first having been properly instructed how to use safely.

I promise to report any accident or injury to the instructor immediately

No eating or drinking in class or shop besides water

Attendance

Students are to be on time daily as this is a Job Training Program

Absences shall add up to more than 9 days per year

Remember our class is 3 hours long so missing a day is like missing 3 regular school days

Grading System

Grades will be posted If you have a question about your grade, feel free to ask or email me.

Safety and job readiness will greatly effect grade

Students earn points through two different methods

Shop safety and participation is worth 20 points daily

Worksheets and quizzes will be worth various amounts of points

90-100 A

80-89 B

70-79 C

60-69 D

Below 59 F

KEEP the above SYLLABUS for your records.

Please return this RECEIPT OF SYLLABUS page SIGNED.

DUE: Before student is allowed to participate in the shop

I acknowledge the expectations for the Construction Trades 1 program. I understand that it is my professional/personal obligation to abide by the standards as set forth in this syllabus; otherwise, I will receive consequences for my actions/inactions. If I have any questions/problems, I will email Mr. Jeff Busser at jbusser@polaris.edu or call (440) 891-7677.

Mr. Jeff Busser

Student name (printed): _____

Student name (signed): _____

Student cell phone #: _____

Guardian name (printed): _____

Guardian name (signed): _____

Guardian cell phone #: _____

Construction Trades Juniors and seniors Tool List

Small tool bag
4 in 1 pipe cleaner tool for
 $\frac{1}{2}$ " and $\frac{3}{4}$ " copper
Masonry Trowel 10"
large tin snips
Masonry jointer $\frac{3}{8}$ "
6 carpenters pencils
6' folding ruler
Chalk Line with chalk
25' tape measure
Speed square
Retractable utility knife and extra utility blades
Hammer
Tool belt
Chisel 1"
6 in 1 screwdriver
Cats Paw
Calculated Industries Construction master 5 Calculator
 $\frac{3}{4}$ " spade bit
2" Phillips bit
Wire strippers
Stair gauges
2' level
Copper Pipe cutter
1 lbs solder
Small tub of plumbing flux with brush