

**BLCT - 1016 Operations - Part I, 6.00 Credits**

Level: Lower

This course covers the use and maintenance of the most commonly used machines on a construction site. The course emphasizes safe operation as well as basic operating techniques for each machine. This will include safe setup of machines as well as excavating foundations, septic systems, driveways, etc.

**BLCT - 1022 Wood Fabrication Technology I, 2.00 Credits**

Level: Lower

Course Fee \$25.00

This course introduces hand and power tools. Skills are developed through practical experience in tool usage through a series of required projects. Students will learn hand tool skills by completing a series of wood joints using chisels, planes, handsaws, and layout tools. Students will expand on these skills while building two shop projects. One project using only hand tools and the other project introducing them to stationary power tools, usage, setup and safety. Power tools used include: table saws, radial arm saws, jointers, planers, band saws, drills, and sanders.

**BLCT - 1024 Construction Essentials II, 4.00 Credits**

Level: Lower

This course provides students with a basic knowledge of residential floor and wall framing and introduces them to codes relevant to these systems. The course content includes applicable terminology, plan reading necessary for layout, and instruction in framing conventional floor and wall systems. Units also included are sheathing materials and installation, insulation products with reference to energy code and installation, roofing materials, and hand tool/power hand tool safety.

**BLCT - 1034 Workplace Environment & Safety, 4.00 Credits**

Level: Lower

This course explores the opportunities provided by the various occupations associated with the construction trades and covers the insurance requirements, as well as the risk management and loss control issues in this industry. Much of this course will follow the training requirements set forth by the Occupational Safety & Health Administration (OSHA) Construction Safety Outreach Program including the use of personal protective equipment, electrical safety, fall protection and the safe use of scaffolding and ladders. Excavation safety and materials handling, proper record keeping requirements, and harassment policies will also be covered in this course.

**BLCT - 1043 Introduction to Earth Moving, 3.00 Credits**

Level: Lower

Provides a broad introduction to the processes of planning and executing earth moving activities on various types of construction projects. Explains the uses of heavy equipment such as bulldozers, scrapers, excavators, and loaders.

**BLCT - 1044 Blueprint Reading & Grades-Par, 4.00 Credits**

Level: Lower

This course is an introduction to different types of plans and how they represent finished grades of buildings. This course will present the parts of blueprints in detail including symbols, the title block, and grid lines. Students will be introduced to site plans and the concept of preparing graded surfaces using heavy equipment. Identification of construction stakes and interpretation of marks on each type of stake will be covered. The process for grading slopes will also be discussed.

**BLCT - 1052 Soils - Part I, 2.00 Credits**

Level: Lower

This course provides an overview of soil composition and characteristics. The students will describe different types of soil classification methods and how to use them. The course introduces the concept of soil compaction in highway and building construction.

**BLCT - 1053 Safety & Ident of Hvy Equip, 3.00 Credits**

Level: Lower

This course introduces the most used pieces of heavy equipment. The course describes the functional operation for each piece of equipment while providing a comprehensive overview of safety requirements on job sites with emphasis on OSHA, and NIOSH requirements. Basic requirements for personal protection, safely operating equipment, and HazCom will be presented.

**BLCT - 1124 Construction Essentials I, 4.00 Credits**

Level: Lower

This course provides the student with an introduction to foundation layout, blueprints, and light commercial construction. Course content includes applicable terminology, reading of construction drawings to interpret dimensions, building layout, foundation layout, and light commercial building techniques. Infused in this course will be discussions on critical and creative thinking, methods to optimize personal performance, as well as how goals contribute to a successful construction project.

**BLCT - 1132 Estimating I, 2.00 Credits**

Level: Lower

This course develops mathematical concepts and application skills necessary for the carpenter and mason to estimate building quantities and associated costs. Topics include arithmetic operations with whole numbers, decimals, and fractional numbers. Formulas for area, volume, board foot quantities, and basic geometry as it pertains to construction will be studied. The quantities estimated are in the framing/sheathing stages of enclosing a building including concrete, brick, and block calculations.

**BLCT - 1142 Masonry I, 2.00 Credits**

Level: Lower

Applied Learning-Practicum

This course covers basic block laying, sizes, uses, layout, bonding, and foundations. Mortar mixing is studied along with an introduction to concrete footers and footer forming. Foundation drainage and damp proofing are also covered in this course.

**BLCT - 2023 Equipment Safety - Part II, 3.00 Credits**

Level: Lower

This course presents safety requirements for operating heavy equipment, activities of the Occupational Safety and Health Administration relative to OSHA inspections and reporting requirements, and use of protective gear. This course will prepare students for the OSHA 10-hour certification exam.

**BLCT - 2032 Wood Fabrication Technology II, 2.00 Credits**

Prerequisite(s): BLCT 1022 with D or better

Level: Lower

Course Fee \$68.00

This course expands on BLCT 1022 Wood Fabrication Technology I, covering hand and power tools usage through practical experience with the tools. Each student will build projects that will require shop drawing interpretation and copying pieces from a jig or actual item. Compound bevels and cutting techniques are introduced that require advanced setups on the table saw and other power tools in the lab. Students are expected to produce a higher quality project. All tool usage is encouraged (hand and power).

**BLCT - 2033 Equip Preventive Maintenance, 3.00 Credits**

Level: Lower

This course covers preventive maintenance responsibilities including specifying basic equipment subsystems and major mechanical systems; knowing how and when to service equipment; and how and when to complete routine inspections of equipment.

**BLCT - 2034 Grades & Blueprint Reading II, 4.00 Credits**

Level: Lower

This course presents proper practices for setting grades off benchmarks and describes methods of setting grades using various types of levels. The student is taught how to read and interpret construction plans to determine grading requirements. The course will review basic grading operations, and also cover site prep, D.S.N.Y., contours, establishing grades, reading and understanding site plans.

**BLCT - 2036 Operations Part II, 6.00 Credits**

Prerequisite(s): BLCT 2033 with D or better \*

Level: Lower

Applied Learning-Practicum

This course continues the study of tractors, dump trucks and front-end loaders. Safe operation practices as well as preventive maintenance requirements will be covered for each piece of equipment. Common uses of each piece of equipment and their attachments will also be discussed. Site training will also continue on the back hoe and bulldozer. Students will be introduced to advanced positioning systems and automated controls.

**BLCT - 2044 Construction Essentials III, 4.00 Credits**

Level: Lower

This course is an introduction to drywall, plaster, steel buildings, and transits. An introduction to commercial construction is also included with a focus on apprenticeship training, energy insulated foam systems, and pre-fab concrete systems.

**BLCT - 2054 Construction Essentials IV, 4.00 Credits**

Level: Lower

This course provides the student with a basic knowledge of residential siding. Course content includes applicable terminology, comparisons of different siding types and installation instruction for several types of siding. A unit on cornice design and installation and a unit on windows are included, covering design criteria as specified by building and energy codes as well as installation.

**BLCT - 2064 Structural Components, 4.00 Credits**

Prerequisite(s): BLCT 1024 with D or better

Level: Lower

This course explores a variety of structural components and building practices in frame construction. Major topics include manufactured building materials, span and load bearing requirements, floor systems, roof system, fastening techniques, and estimating, as well as common frame construction techniques. The lab exercises allow the student to practice the layout, assembly, and construction of a variety of structural components with concentration on common rafters and manufactured joists, trusses, and beams.

**BLCT - 2092 Soils Part II, 2.00 Credits**

Prerequisite(s): BLCT 1052 with D or better

Level: Lower

This course describes basic soil classification methods, details factors affecting classification, and presents soil density and compaction requirements. The course also includes requirements for handling and combining different types of materials.

**BLCT - 2132 Estimating II, 2.00 Credits**

Level: Lower

The Estimating II course is a continuation of Estimating I. This course develops mathematical concepts and application skills necessary for the carpenter and mason to estimate building quantities and associated costs. Topics include formulas for area, lineal footage, board foot quantities, and basic geometry as it pertains to construction. The student will be required to figure material takeoffs for sidings, roof materials, and cornice. These are the exterior finish materials for building a house. Upon completion of this course the student will be able to estimate a structure to the point of trimming it out.

**BLCT - 2142 Masonry II, 2.00 Credits**

Level: Lower

Applied Learning-Practicum

This course covers the various types of mortar mixes and their appropriate uses, reinforces and builds on trade aspects and skills introduced in BLCT 1142. The evolution of the masonry trade, tools, and materials used will be studied. We will develop the skills needed by those restoring or maintaining historic masonry structures. Bricklaying and stone veneers will be introduced. The basics of plasterwork will be covered.

**BLCT - 3002 Blueprint Reading Part III, 2.00 Credits**

Level: Lower

This course covers the equipment and supplies required to perform structural work. Discussions include the following topics: bridge types and materials, bridge substructures, bridge superstructures, structural concrete and structural steel. Reading and interpreting site plans will also be reinforced.

**BLCT - 3003 Advanced Equipment Safety, 3.00 Credits**

Level: Lower

This course teaches advanced safety techniques and requirements for heavy equipment operators and emphasizes organizing and conducting safety meetings. Discussions include OSHA hazardous material requirements and safe operation of equipment. Course topics also include safety reporting, inspections and investigations.

**BLCT - 3005 Operations Part III, 5.00 Credits**

Prerequisite(s): BLCT 1016 with D or better and BLCT 2036 with D or better

Level: Lower

This course presents the use, safe operation, and maintenance of excavators, trucks, and trailers. Students will explain and demonstrate the use of excavators in ditching, grading, and slope-finishing operations, describing various operating techniques. The course describes the types of trucks used in highway/heavy construction including rigid frame trucks, such as dump trucks, transit-mix trucks, and tractor trailer trucks. The trailers discussed include bulk haulers and flatbed trailers. Truck controls and components, preventive maintenance and operation, and required licensing are also covered. This course will continue to reinforce correct operation of backhoes, bulldozers, and front end loaders.

**BLCT - 3012 Soils - Part III, 2.00 Credits**

Level: Lower

This course addresses problems associated with bridged areas and breakthroughs, as well as soil stabilization. It presents the proper use of geo-textile materials. Students will review soil compaction requirements, specific procedures for running moisture-density tests and methods of fixing compaction problems.

**BLCT - 3013 Paving Part I, 3.00 Credits**

Level: Lower

This course includes the processing and preparation of asphalt and concrete, including quarrying, crushing, screening, and testing. The operation of concrete plants, hot mix asphalt plants, and pug mills is also explained. Students will be prepared for MSHA (Mine Safety Health Administration) certification.

**BLCT - 3023 Supervision Part I, 3.00 Credits**

Level: Lower

In this course students will learn the principles of project planning, scheduling, estimating, and management, and the basic skills required for supervising personnel.

**BLCT - 3033 Cabinet & Counter Top Const, 3.00 Credits**

Prerequisite(s): BLCT 1022 with D or better and BLCT 2032 with D or better

Level: Lower

This course covers the principles of cabinet construction and countertop fabrication. The students will build cabinets and work on fabricating laminate countertops in the laboratory.

**BLCT - 3123 Constructn Drawings & Specifct, 3.00 Credits**

Prerequisite(s): BLCT 2054 with D or better

Level: Lower

The four major plan groups are architectural, structural, mechanical, and civil. The students will be able to identify major types of plans. Emphasis is placed on residential plan reading and development.

**BLCT - 3159 Masonry III, 9.00 Credits**

Level: Lower

This course covers job supervision, foundations, material estimates, fireplace design and construction, stone masonry skills in these areas and to provide repetition to increase production and accuracy.

**BLCT - 3169 Masonry IV, 9.00 Credits**

Level: Lower

This course provides instruction in mortar types for specific applications, masonry repair and restoration, ornamental masonry and bonding patterns. Cold weather construction techniques relevant to concrete and masonry construction is studied. A unit on engineered brick masonry and prefabrication is included. Lab activities are provided to develop hands-on skills.

**BLCT - 3203 Estimating III, 3.00 Credits**

Prerequisite(s): BLCT 2132 with D or better

Level: Lower

This course is a study of cost and quantity estimating, for materials, labor, and work units for residential and light commercial construction. Construction Specification Institute (CSI) Division specifications are applied in an estimate and bid project as part of the course requirements.

**BLCT - 3213 Exterior Construction Details, 3.00 Credits**

Prerequisite(s): BLCT 2054 with D or better

Level: Lower

This course covers the methods used in the construction and installation of residential exterior elements. The course content includes the construction of porches, decks and breezeways. Students will learn about flooring and decking materials, different types of entrance doors and their installation, garage doors, footings and fasteners, railing systems and structural supports, and building code requirements.

**BLCT - 3223 Home Remodeling, 3.00 Credits**

Level: Lower

This course covers the evaluation of overall conditions found in older buildings. Students will learn about the construction techniques used in remodeling and how they differ from new construction. This will include the process of identifying and handling hazardous materials, historical framing styles, and different styles of interior and exterior trim.

**BLCT - 3233 Advanced Framing, 3.00 Credits**

Prerequisite(s): BLCT 2054 with D or better

Level: Lower

Applied Learning-Practicum

This course will teach roof design, including the cutting and fitting of hip and valley rafters. The course will also cover truss design and installation of trusses.

**BLCT - 3313 Basic CAD for Resid Drawings, 3.00 Credits**

Prerequisite(s): BLCT 2054 with D or better

Level: Lower

Course instruction provides basic computer aided drafting (CAD) techniques. Eight initial projects incorporate the application of appropriate commands, including drawing file management and software settings. CAD basics introduced in lecture are then applied in a laboratory setting with emphasis on developing CAD preliminary residential prints.

**BLCT - 3323 Interior Trim, 3.00 Credits**

Prerequisite(s): BLCT 1024 with D or better and BLCT 2044 with D or better

Level: Lower

Applied Learning-Practicum

This course covers hanging and trimming doors; trimming windows; and installing interior moldings in a laboratory setting.

**BLCT - 3413 Blueprint Reading-Bldg Construct, 3.00 Credits**

Corequisite(s):

Level: Lower

This course covers instruction in blueprint reading, concentrating on plumbing blueprints, building blueprints, and instruction in the use of the architect's scale for taking measurements. The course covers all components of a wood frame structure including foundations. Students will be taught the proper installation of piping and fixtures so as not to jeopardize the building's structural integrity.

**BLCT - 3423 Pipe Fitting - Math Estimating, 3.00 Credits**

Corequisite(s):

Level: Lower

This course covers basic math and materials estimating the plumbing trades. Pipe fitting math is practiced and applied to ensure proper plumbing drainage, as well as water and gas line pipe length installations. Material lists and job estimating is also taught as it pertains to various plumbing systems and fixtures. The students are given instruction on materials mark up for profit, proper customer billing, and required income and sales tax as it pertains to a self-run plumbing business.

**BLCT - 3433 Cop Pipe & Tub, Water Sys Des, 3.00 Credits**

Corequisite(s):

Level: Lower

This course covers the study and installation of various types of copper pipe and tubing and proper methods of joining. Also includes instruction on fitting use and proper code applications. The methods of testing potable water lines are also covered.

**BLCT - 3443 Drainage Systems & Piping, 3.00 Credits**

Corequisite(s):

Level: Lower

Applied Learning-Practicum

This course covers the instruction in the design, joining, installation, and proper application of various types of drainage piping used in drainage and venting systems. Also covered will be instruction and study of public and private sewage systems, their make-up, various aspects of troubleshooting and maintenance.

**BLCT - 3453 Plumb Trade History & Safety, 3.00 Credits**

Level: Lower

This course covers the study of safety practices and OSHA training related to the plumbing trades. All students obtain a 10-hour OSHA training card upon successful completion of the course. The history of plumbing and how plumbing systems and codes originated is covered. This course also covers the instruction in the proper care, use, and application of various hand and power tools used in the plumbing trade.

**BLCT - 3463 Water Heaters-Plumb Fix Inst/Rpr, 3.00 Credits**

Corequisite(s):

Level: Lower

This course covers the instruction and study of selection and installation of water heaters for industry standards. Instruction is also given on gas and electric water heater troubleshooting and repairs. This course also covers the instruction of plumbing fixture specifications and installation. Fixture troubleshooting and repair is also covered in this course.

**BLCT - 3473 Heating Fuels-Comb Theo&Troubl, 3.00 Credits**

Prerequisite(s): BLCT 3453 with D or better

Level: Lower

This course is an introduction to the various fuels used in the heating trades and the methods of converting fuels for various applications. The theory of combustion and combustion troubleshooting is also covered in the course. Common forced air furnace parts and components are discussed and various manufactured retrofit products are applied. This course also includes basic wiring of conventional forced air furnaces and principles and troubleshooting of furnace electronic ignition.

**BLCT - 3483 Electrical Fundamentals, 3.00 Credits**

Prerequisite(s): BLCT 3453 with D or better \*

Level: Lower

The objective of this course is to develop knowledge of electricity and the units used to describe and measure it. The course will also show how different types of electrical circuits function and what different electrical components do in those circuits. Special emphasis is placed on temperature controls and switching. Elementary wiring diagrams are introduced.

**BLCT - 3493 Forced Air Furnace Controls, 3.00 Credits**

Prerequisite(s): BLCT 3453 with D or better

Level: Lower

The objective of this course is to develop skills in the installation and service of electrical components of gas and oil forced air furnaces. This includes gas standing pilot and electronic ignition systems. It applies to both 80% and 90% efficient furnaces including those with integrated circuit boards.

**BLCT - 3503 Hydro Comp, Circu Pump&Ht Emit, 3.00 Credits**

Prerequisite(s): BLCT 3453 with D or better

Level: Lower

Applied Learning-Practicum

The purpose of the course is to develop an understanding of piping materials, fittings and various components used in hydronic heating systems. This includes knowledge about types and performance of circulating pumps. Also included are heat emitters which have been used in the past and several new types which are currently gaining popularity.

**BLCT - 3513 Hydronic Controls and Motors, 3.00 Credits**

Prerequisite(s): BLCT 3453 with D or better

Level: Lower

This course covers electrical components as they apply to hydronic heating. Students will produce wiring diagrams for external boiler wiring as it applies to zone valves and pumps. Investigation into areas of multiple boiler controls, injection mixing controls and outdoor reset controls are pursued. The theory and application of different motors used in the HVAC industry are also presented.

**BLCT - 3523 Hydronic Funda & Heat Sources, 3.00 Credits**

Prerequisite(s): BLCT 3453 with D or better

Level: Lower

This course will introduce students to basic thermodynamic principles. The course will explore the advantages of hot water and steam heating, as well as the various types of boilers used in the industry.

**BLCT - 3533 Hydronic Piping Systems, 3.00 Credits**

Prerequisite(s): BLCT 3453 with D or better

Level: Lower

The objective of this course is to develop an understanding of various piping systems used in hydronic heating systems including series loop, one pipe two pipe (direct and reverse return) and primary/secondary piping. The course will also cover the applications and installations available for a variety of radiant heating types.

**BLCT - 4002 Below Grade Const(Hvy Highway), 2.00 Credits**

Level: Lower

Applied Learning-Practicum, Course Fee \$136.00

This course discusses the below grade construction processes that are necessary to perform highway/heavy construction. Excavation support systems, excavation safety, underground piping materials and fittings, joining methods for underground pipe, box culverts, and catch basins are covered.

**BLCT - 4003 Paving Part II, 3.00 Credits**

Prerequisite(s): BLCT 3013 with D or better

Level: Lower

This course explains how to perform hot mix asphalt paving and concrete paving. The course covers the operation of asphalt pavers and all equipment required to perform paving. Discussions will include concrete paving equipment such as concrete pavers, slip-form pavers, and texture/curing machines.

**BLCT - 4004 Operations Part IV, 4.00 Credits**

Prerequisite(s): BLCT 3005 with D or better

Level: Lower

Applied Learning-Practicum

This course presents information on the operation and maintenance of excavators. Students learn basic operation of equipment and apply this knowledge in performing earth work activities such as ditching, placing riprap, and slope finishing. Included are safety issues and preventive maintenance activities.

**BLCT - 4012 Earth Moving (Hvy Highway), 2.00 Credits**

Level: Lower

Applied Learning-Practicum

This course describes the necessary procedures for preparing ground for highway/heavy construction. It explains soil basics, including terminology, identification, and classification. Earthmoving operations, such as laying out slopes and grades, site excavation, and hauling, are addressed along with methods of stabilizing soils.

**BLCT - 4013 Supervision Part II, 3.00 Credits**

Prerequisite(s): BLCT 3023 with D or better

Level: Lower

Applied Learning-Practicum

This course will reinforce Supervision - Part I. In addition to this the student will learn about prevailing wage schedules used by DOL, professional ethics, customer focus, ability to listen, teamwork, communication, attitude, responsibility, and patience.

**BLCT - 4022 Finish Operations, 2.00 Credits**

Level: Lower

Applied Learning-Practicum

This course contains information about the responsibilities of the finish operator. It discusses leadership abilities in relation to organizing and directing workers and operations, and how to understand and interpret production requirements and specifications. Also the course explains how to set up and adjust leveling instruments.

**BLCT - 4023 Form Building, 3.00 Credits**

Level: Lower

This course provides the basics of building footer forms and installing concrete wall forms. It will also introduce students to SMAW (Shielded Metal Arc Welding) electric arc welding and cutting steel with an oxy-acetylene torch.

**BLCT - 4032 Finishing & Grading, 2.00 Credits**

Level: Lower

This course provides instruction in the use of various types of heavy equipment to finish and trim grades and slopes of roads, pads, ditches, and other structures; specifications used for grading will be discussed as well as procedures for checking the final grade.

**BLCT - 4033 Historic Framing Techniques, 3.00 Credits**

Level: Lower

This course will look at the evolution of systems used in the construction of wooden house frames throughout the history of building in America. We will begin with an in-depth look at the centuries-old techniques employed in timber framing, and then follow the progression through braced-frame and balloon frame buildings. Students will apply these techniques to new and/or existing structures.

**BLCT - 4042 Construct Business Operation, 2.00 Credits**

Prerequisite(s): BLCT 3203 with D or better \*

Level: Lower

This course is an overview of the basic requirements of ownership and operation of a small construction business. The course also covers the building code sections that establish minimum standards for public safety and protect consumers from hazardous design and construction.

**BLCT - 4043 Masonry Sketching & Detailing, 3.00 Credits**

Prerequisite(s): BLCT 3169 with D or better

Level: Lower

This course will give students the knowledge and ability to use an architect's scale and basic drafting skills to produce shop drawing sketches of masonry wall systems, masonry details, shapes for architectural building stone and architectural pre-cast.

**BLCT - 4053 Blueprint Reading for Masonry, 3.00 Credits**

Prerequisite(s): BLCT 3169 with D or better

Level: Lower

Students will develop a working knowledge of blueprints and specifications for masonry projects. Topics will include masonry cost and material estimating, jobsite preparation and construction. Students will interpret and apply standards commonly used in masonry construction.

**BLCT - 4143 Basic House Wiring-Forced Air, 3.00 Credits**

Prerequisite(s): BLCT 3453 with D or better

Level: Lower

Course Fee \$13.00

This course offers instruction and application of basic house wiring and theory. The student is also introduced to the heating trade and to the theory of proper furnace installation. Reasons for human comfort and discomfort as it pertains to forced air heat are discussed. Troubleshooting of disturbing and distressing noises and conditions as well as indoor air quality is also covered in this course.

**BLCT - 4153 Sheet Metal Fabrication, 3.00 Credits**

Prerequisite(s): BLCT 3453 with D or better

Level: Lower

Course Fee \$24.00

This course covers the instruction and the application of various materials of the sheet metal trade. Students are also instructed in the forming and use of different seams and edges required for various applications. Instruction and proper application of methods of joining sheet metal such as riveting, welding, brazing, and soldering is also covered.

**BLCT - 4163 Mid & Hi Effy Furn-Alt Warm Ar, 3.00 Credits**

Prerequisite(s): BLCT 3453 with D or better

Level: Lower

This course covers the proper evaluation and installation of mid and high efficiency furnaces. Fuel oil burner breakdown, maintenance, and installations are covered in this course. Instruction is given on the proper sizing and installation of natural gas and propane gas distribution pipelines. Alternate warm air heat sources, types, and installations are also taught. Proper trade practices of the HVAC technician, heat system analysis, and maintenance are also covered in this course.

**BLCT - 4173 Sheet Mtl Air Dist System & Vent, 3.00 Credits**

Prerequisite(s): BLCT 3453 with D or better

Level: Lower

This course covers the many types of furnace ductwork and proper application of various duct fittings. Proper application and installation of furnace air distribution systems is also covered. Instruction on Type B galvanized sheet metal vent pipe and components is given and the proper sizing and installation of this metal piping is covered. Sheet metal math such as perimeter, area, and volume is also included in this course.

**BLCT - 4176 Masonry V, 6.00 Credits**

Level: Lower

To give the student a working knowledge of the concrete industry by showing form construction as well as various types of concrete and their uses. Stair building, brick and concrete are also included within this course. This is a five (5) week course.

**BLCT - 4183 Sheet Metal Trade Safety, 3.00 Credits**

Prerequisite(s): BLCT 3453 with D or better

Level: Lower

This course covers instruction in the proper use and application of various hand and power tools used in the sheet metal trade. Sheet metal trade and tool safety is also covered in this unit. Students will be introduced to different sheet metal types and their proper applications as well as mechanical drawing. Students will develop and lay out patterns for sheet metal to be cut and formed.

**BLCT - 4186 Masonry VI, 6.00 Credits**

Level: Lower

This course serves as an overview of contracting, applying for jobs, small business and structural details on commercial and heavy construction. This is a five-week course.

**BLCT - 4203 Air Cond Components & Install, 3.00 Credits**

Level: Lower

Students will learn about air conditioning components and accessories. Students will learn how to install air conditioning including pressure testing, evacuation, and charging.

**BLCT - 4212 Construction Safety, 2.00 Credits**

Prerequisite(s): BLCT 1034 with D or better

Level: Lower

Construction Safety is a comprehensive study of the requirements of an effective safety and health program that focuses on worker safety, improved productivity and accident risk management. This is done using an OSHA Outreach safety training format designed to provide students with a basic understanding and application of the OSHA standards relative to their field of study.

**BLCT - 4213 Air Conditioning Fundamentals, 3.00 Credits**

Level: Lower

This course teaches the fundamentals of air conditioning and how the components of the system work together to perform the cooling process. This includes an examination of types of systems, and detailed look at the types and performance of evaporators and compressors.

**BLCT - 4223 Air Cond Perf & Trou & Ht Pump, 3.00 Credits**

Level: Lower

This course teaches electrical and mechanical troubleshooting capabilities that are usable in real life applications. Students will also study heat pumps and a variety of applications in which they are feasible.

**BLCT - 4233 Heat Loss & Heat Gain, 3.00 Credits**

Prerequisite(s): BLCT 3523 with D or better

Level: Lower

Students will determine the heat loss and heat gain in a residential or small commercial building, which would allow a technician to determine what size equipment and to select and size heating and cooling ductwork and diffusers.

**BLCT - 4243 Refrigeration Handling Cert, 3.00 Credits**

Level: Lower

This course prepares students to take the EPA Refrigerant Handling Certification test.

**BLCT - 4253 Residential Duct System Design, 3.00 Credits**

Prerequisite(s): BLCT 4233 with D or better \*

Level: Lower

Students will learn the fundamentals of duct system design as it applies to residential forced air heating and cooling systems. This includes an in-depth look at blower performance and equipment which affects airflow in ductwork.

**BLCT - 4303 Interior Surfaces, 3.00 Credits**

Prerequisite(s): BLCT 3323 with D or better

Level: Lower

This course covers the installation of finished ceiling, floor, and wall materials as well as the principles of stair building. The student will install floor and wall materials as well as calculate, cut and assemble stair parts in the laboratory.

**BLCT - 4312 Intro to Resid Jobsite Manage, 2.00 Credits**

Level: Lower

Course instruction provides basic management skills for a residential jobsite lead carpenter or supervisor. This course includes information on hiring workers, managing sub-contractors, material deliveries, scheduling, contracts, and documentation.