

CONSTRUCTION (& CARPENTER TRADE) COURSE SUMMARIES

INTRODUCTORY

CON1010: CONSTRUCTION TOOLS & MATERIALS

Students develop basic hand tool and production skills to transform common building materials safely into useful products.

Prerequisite: None

CON1070: BUILDING CONSTRUCTION

Students examine common building systems and develop basic skills related to building a simple model or full-size system/structure.

Prerequisite: CON1010: *Construction Tools & Materials*

CON1120: PRODUCT MANAGEMENT

Students develop basic shop drawing and estimating skills and apply them to build a product.

Prerequisite: CON1010: *Construction Tools & Materials*

CON1130: SOLID STOCK CONSTRUCTION

Students develop basic hand and power tool skills to build a product made from solid wood.

Prerequisite: CON1010: *Construction Tools & Materials*

CON1140: TURNING OPERATIONS

Students use wood turning equipment and techniques to create a faceplate and spindle turning made from solid and/or built-up stock.

Prerequisite: CON1010: *Construction Tools & Materials*

CON1160: MANUFACTURED MATERIALS

Students select and use the appropriate materials and tools to build a product or structure from a wood composite or another manufactured material.

Prerequisite: CON1010: *Construction Tools & Materials*

CON1180: MOULD MAKING & CASTING

Students apply knowledge of casting and moulding materials and processes to prepare a mould and produce a casting.

Prerequisite: CON1010: *Construction Tools & Materials*

CON1910: CON PROJECT A

Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

Prerequisite: None

INTERMEDIATE

CON2010: SITE PREPARATION

Students develop the knowledge and skills to acquire a building permit and to locate and prepare a site for excavation and foundation work.

Prerequisite: CON1070: *Building Construction*

CON2020: CONCRETE FORMING

Students develop knowledge and skills related to the preparation and construction of a concrete foundation.

Prerequisite: CON1010: *Construction Tools & Materials*

CON2030: ALTERNATIVE FOUNDATIONS

Students develop basic knowledge and skills related to the design and construction of an alternative foundation system.

Prerequisite: CON1010: *Construction Tools & Materials*

CON2035: FRAMING SYSTEMS – FLOOR

Students develop basic framing knowledge and skills associated with the construction of a floor and wall system.

Prerequisite: CON1010: *Construction Tools & Materials*

CON2045: FRAMING SYSTEMS – WALL

Students develop basic framing knowledge and skills associated with the construction of a wall system.

Prerequisite: CON1010: Construction Tools & Materials

CON2050: ROOF STRUCTURES 1

Students develop basic knowledge and skills associated with framing and finishing a simple roof system.

Prerequisite: CON1010: Construction Tools & Materials

CON2060: DOORS, WINDOWS & SIDING

Students apply and develop basic knowledge of door, window and siding systems and of installation skills and procedures.

Prerequisite: CON1010: Construction Tools & Materials

CON2070: ELECTRICAL SYSTEMS

Students apply electrical principles and develop an understanding of residential electrical code requirements and installation procedures.

Prerequisite: CON1010: Construction Tools & Materials

CON2080: PLUMBING SYSTEMS

Students develop basic knowledge and skills to fabricate and make repairs to residential drainage, waste and vent (DWV) and water supply systems.

Prerequisite: CON1010: Construction Tools & Materials

CON2090: CLIMATE CONTROL SYSTEMS

Students investigate common heating, ventilating and air conditioning (HVAC) systems and principles and participate in the installation or maintenance of one of these systems.

Prerequisite: CON1010: Construction Tools & Materials

CON2100: AGRI-STRUCTURES

Students apply construction principles and skills and use pre-engineered designs to build a structure to be used for agricultural purposes.

Prerequisite: CON1010: Construction Tools & Materials

CON2120: MULTIPLE MATERIALS

Students develop a product that incorporates two or more types of material in its construction.

Prerequisite: CON1120: Product Management

CON2130: FURNITURE – BOX CONSTRUCTION

Students develop basic joinery skills and knowledge related to case construction by producing a box-type piece of furniture.

Prerequisite: CON1120: Product Management

CON2140: FURNITURE MAKING – FRAME & PANEL

Students use solid and/or composite materials to build a frame and panel product or component.

Prerequisite: CON1120: Product Management

CON2150: FINISHING & REFINISHING

Students use knowledge of finishing materials and finishing techniques to apply new and replacement finishes.

Prerequisite: CON1010: Construction Tools & Materials

CON2160: CABINETMAKING – WEB & FACE FRAME

Students apply web and face frame construction techniques and use solid and/or manufactured materials to produce a built-in or modular cabinet.

Prerequisite: CON1120: Product Management

CON2170: CABINETMAKING – DOOR & DRAWER

Students use solid and composite materials to develop skills in building cabinet doors and drawers.

Prerequisite: CON1120: Product Management

CON2180: WOOD FORMING

Students apply skills in mould making and wood conditioning to make a formed part or component.

Prerequisite: CON1120: Product Management

CON2190: MANUFACTURING SYSTEMS

Students investigate the nature of manufacturing systems used to produce durable goods.

Prerequisite: None

CON2200: PRODUCT DEVELOPMENT

Students work, individually or as team members, to research, design and build a product suitable for mass production and marketing.

Prerequisite: CON1010: Construction Tools & Materials

CON2910: CON PROJECT B

Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

Prerequisite: None

CON2920: CON PROJECT C

Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

Prerequisite: None

CON2950: CON INTERMEDIATE PRACTICUM

Students apply prior learning and demonstrate the attitudes, skills and knowledge required by an external organization to achieve a credential/credentials or an articulation.

Prerequisite: None

ADVANCED**CON3010: CONCRETE – STRUCTURES & FINISHES**

Students develop essential skills to form, place and finish a concrete project.

Prerequisite: CON1010: Construction Tools & Materials

CON3020: MASONRY WORK – STRUCTURES & FINISHES

Students develop basic knowledge and skills related to masonry materials, structures and finishes.

Prerequisite: CON1010: Construction Tools & Materials

CON3030: WALL & CEILING FINISHING

Students develop basic knowledge and skills to insulate, install and finish an interior wall/ceiling surface.

Prerequisite: CON1010: Construction Tools & Materials

CON3040: STAIR CONSTRUCTION

Students develop the knowledge and skills required to build a straight flight of stairs.

Prerequisite: CON1010: Construction Tools & Materials

CON3050: ROOF STRUCTURES 2

Students develop basic competencies in laying out, cutting and assembling common, hip and valley rafters in relation to specialized structures and coverings.

Prerequisite: CON2050: Roof Structures 1

CON3060: DOORS & TRIM

Students apply basic finish carpentry knowledge and skills to install doors, railings and moldings.

Prerequisite: CON1010: Construction Tools & Materials

CON3070: FLOORCOVERING

Students develop skills in selecting and installing typical floor coverings used in residential, institutional and commercial buildings

Prerequisite: CON1010: Construction Tools & Materials

CON3080: ENERGY-EFFICIENT HOUSING

Students investigate construction practices and support systems to create an energy-efficient housing design.

Prerequisite: CON1070: Building Construction

CON3090: RENOVATIONS/RESTORATIONS

Students work with a client to plan and complete a building renovation and/or restoration.

Prerequisite: CON1070: Building Construction

CON3105: COMMERCIAL STRUCTURES

Students investigate structural designs, construction techniques and work site practices related to commercial construction.

Prerequisite: CON1070: Building Construction

CON3110: SITE MANAGEMENT

Students consider the efficient and timely delivery of a quality product. They investigate and report on site management theories and practices to produce a project management plan.

Prerequisite: CON1070: Building Construction

CON3120: TOOL MAINTENANCE

Students develop skills in preventive maintenance by routinely inspecting and servicing production tools and equipment.

Prerequisite: CON1010: Construction Tools & Materials

CON3130: FURNITURE – LEG & RAIL

Students use solid and/or manufactured materials and leg-and-rail or pedestal construction techniques to build a free-standing piece of furniture.

Prerequisite: CON1120: Product Management

CON3140: FURNITURE – SURFACE ENHANCEMENT

Students explore and demonstrate the use of veneer, inlay, carving and/or marquetry techniques to enhance the appearance of a product or component.

Prerequisite: CON1120: Product Management

CON3150: FURNITURE REPAIR

Students apply basic knowledge of furniture construction and materials to repair or replace existing components or coverings.

Prerequisite: CON1120: Product Management

CON3160: CABINETMAKING – CABINETS & COUNTERTOPS

Students develop the knowledge and skills required to build and install a simple cabinet/countertop, complete with an appropriate backsplash and edge treatment.

Prerequisite: CON1120: Product Management

CON3170: CABINETMAKING – LAYOUT & INSTALLATION

Students develop a floor/wall cabinet plan and order and install a set of pre-built cabinets.

Prerequisite: CON1120: Product Management

CON3190: PRODUCTION PLANNING

Students plan, individually or as team members, a production system and create the necessary work cells and floor plan to produce a given product in a safe and efficient manner.

Prerequisite: CON2200: Product Development

CON3200: PRODUCTION MANAGEMENT

Students identify and enhance management skills in relation to the development and deployment of people and physical resources.

Prerequisite: CON3190: Production Planning

CON3210: FRAMING SYSTEMS ADVANCED

Students develop appropriate layout and assembly skills to install conventional and/or engineered framing components associated with residential and/or light commercial construction.

Prerequisites: CON2035: Framing Systems – Floor
CON2045: Framing Systems – Wall

CON3910: CON PROJECT D

Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant

Prerequisite: None

CON3920: CON PROJECT E

Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

Prerequisite: None

CON3950: CON ADVANCED PRACTICUM

Students apply prior learning and demonstrate the attitudes, skills and knowledge required by an external organization to achieve a credential/credentials or an articulation.

Prerequisite: None

CARPENTRY APPRENTICESHIP (FIRST PERIOD APPRENTICESHIP)**CRA3400: INTRODUCTION TO WORK SITE SAFETY**

Students develop an understanding of basic work site safety practices.

Prerequisite: None

CRA3405: BASIC HAND, POWER TOOLS & SAFETY

Students develop basic hand and power tool and production skills to safely transform common building materials into useful products.

Prerequisite: None

CRA3410: CONSTRUCTION MATERIALS & PROCESSES

Students examine common building materials, processes and how they relate to common building systems in the construction trade.

Prerequisite: None

CRA3415: SITE PREPARATION & FLOOR SYSTEMS

Students examine common site preparations and floor frame systems.

Prerequisite: None

CRA3420: FOUNDATIONS & CONCRETE STRUCTURES

Students develop knowledge and skills related to the preparation and construction of a concrete foundation and/or alternative foundations

Prerequisite: None

CRA3425: BLUEPRINT DRAWINGS & SKETCHING

Students develop the knowledge and skills to use instruments to produce and interpret meaningful drawings.

Prerequisite: None

CRA3430: CONSTRUCTION MACHINES, TOOLS & EQUIPMENT

Students examine and develop basic knowledge and skills related to construction machines, tools and equipment.

Prerequisite: None

CRA3435: BLUEPRINT INTERPRETATION

Students learn to read blueprints and gain the necessary skills required to interpret a set of working drawings.

Prerequisite: CRA3425: Blueprint Drawings & Sketching

CRA3440: CRA PRACTICUM COURSE A

Students, on the work site, continue to develop and refine those competencies developed in related Career and Technology Studies (CTS) occupational areas, previous practicums and other experiences.

Prerequisite: None

CRA3445: CRA PRACTICUM COURSE B

Students, on the work site, continue to develop and refine those competencies developed in related Career and Technology Studies (CTS) occupational areas, previous practicums and other experiences.

Prerequisite: None

CRA3450: CRA PRACTICUM COURSE C

Students, on the work site, continue to develop and refine those competencies developed in related Career and Technology Studies (CTS) occupational areas, previous practicums and other experiences.

Prerequisite: None

CRA3455: CRA PRACTICUM COURSE D

Students, on the work site, continue to develop and refine those competencies developed in related Career and Technology Studies (CTS) occupational areas, previous practicums and other experiences.

Prerequisite: None