



EFFECTIVE: 01/05/2022

**Addition of New Programs: Building Construction Technology – AAS
 Building Construction Technology - CER**

2021-22 College Catalog

Page: 118

Program:

Building Construction Technology – AAS

Building Construction Program prepares individuals to apply technical knowledge and skills to residential and commercial building construction and remodeling. Includes instruction in construction equipment and safety; site preparation and layout; construction estimating; blueprint reading; building codes; framing; heating, ventilation, and air conditioning; electrical and mechanical systems; interior and exterior finishing; and plumbing.

Area I: Written Composition - 3 Credit Hours

Course	Title	Credit Hours
ENG101	English Composition I	3

Area II: Humanities and Fine Arts – 6 Credit Hours

Course	Title	Credit Hours
ART100	Art Appreciation or Other Area II	3
SPH107	Fundamentals of Public Speaking	3

Area III: Natural Sciences and Mathematics - 6 Credit Hours

Course	Title	Credit Hours
MTH100	Intermediate College Algebra	3
MTH112	Precalculus Algebra	3

**Area IV: History, Social and Behavioral Sciences – 3
Credit Hours**

Course	Title	Credit Hours
PSY200	General Psychology or other Area IV	3

**Area V: Pre-Professional, Major and Elective
Courses - 51 Credit Hours**

Core Major - 37

Course	Title	Credit Hours
BUC110	Basic Construction Tools and Materials	3
BUC113	Basic Construction Print Reading	3
BUC115	Roof and Ceiling Framing	3
BUC121	Floors and Wall Framing	3
BUC133	Building Codes	3
BUC141	On-Grade Concrete Applications	3
BUC142	Construction Estimating	3
BUC150	Homebuilders License Exam Review	3
CMT101	Construction Materials and Methods	3
CMT114	Construction Safety OSHA	1
CMT206	Construction Estimating	3
CMT208	Project Planning and Scheduling	3
DDT113	Blueprint Reading	3

Institutional Requirements - 2 Credit Hours

Note: ORI101 must be taken in the first semester.

BSS220 must be taken in the final semester.

Course	Title	Credit Hours
ORI101	Orientation to the College	1
BSS220	Professional Transitions	1

Electives - 12 Credit Hours

Course	Title	Credit Hours
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ADM102	Computer Aided Design	3
BUC112	Construction Measurements & Calculations	3
CMT170	HVAC Systems	3
CMT175	Electrical and Plumbing Systems	3

Total Credit Hours - 69

Building Construction Technology – CER

Building Construction certificate program prepares individuals to apply technical knowledge and skills to residential and commercial building construction and remodeling. Includes instruction in construction equipment and safety; site preparation and layout; construction estimating; blueprint reading; building codes; framing; heating, ventilation, and air conditioning; electrical and mechanical systems; interior and exterior finishing; and plumbing.

Area I: Written Composition - 3 Credit Hours

Course	Title	Credit Hours
ENG101	English Composition I	3

Area II: Humanities and Fine Arts – 0 Credit Hours

Area III: Natural Sciences and Mathematics – 3 Credit Hours

Course	Title	Credit Hours
MTH100	Intermediate College Algebra	3

Area IV: History, Social and Behavioral Sciences – 0 Credit Hours

Area V: Pre-Professional, Major and Elective Courses - 26 Credit Hours

Pre-Professional Major – 21 Credit Hours

Course	Title	Credit Hours
BUC110	Basic Construction Tools and Materials	3
BUC115	Roof and Ceiling Framing	3
BUC121	Floors and Wall Framing	3
BUC133	Building Codes	3
BUC141	On-Grade Concrete Applications	3

BUC142	Construction Estimating	3
CMT101	Construction Materials and Methods	3

Institutional Requirements - 2 Credit Hours

Note: ORI101 must be taken in the first semester.

BSS220 must be taken in the final semester.

Course	Title	Credit Hours
ORI101	Orientation to the College	1
BSS220	Professional Transitions	1

Electives - 3 Credit Hours

Course	Title	Credit Hours
ADM102	Computer Aided Design	3

Total Credit Hours - 32

Page: 119

Course Descriptions

Building Construction Technology (BUC)

BUC110 - Basic Construction Tools and Materials - Total Credit Hours 3

This course emphasizes the tools and materials used in the construction industry. Topics include safety, hand tools, hand held power tools and construction materials. Upon completion, students should be able to work safely within the industry and operate various hand tools and power equipment.

BUC113 - Basic Construction Print Reading - Total Credit Hours 3

This course introduces students to construction print reading. Topics include symbols and abbreviations, basic plans, elevations, sections and details. Upon completion, students should be able to read basic construction plans and trade information for major crafts employed at a construction site.

BUC115 - Roof and Ceiling Framing - Total Credit Hours 3

This course focuses on construction framing above the wall-plate line. Topics include ceiling framing roof framing, and trusses. Upon completion, students should be able to frame residential ceilings and roofs, design and build trusses and apply heavy timber construction principals.

BUC121 - Floors and Walls Framing - Total Credit Hours 3

This course focuses on floor and wall layout. Topics include leveling tools, framing, layouts, and components of wall and floor framing to include beams, girders, floor joists, sub-flooring, partitions, bracing, headers, sills, doors, and corners. Upon completion, students should be able to properly perform basic construction framing procedures for floor and walls.

BUC133 - Building Codes - Total Credit Hours 3

This course focuses on building codes, real estate, and project scheduling. Topics include real estate, project planning, specifications, company structure and organization, building codes and related legal aspects. Upon completion, students should be able to identify the components of the construction process, locate information in building code books, plan construction projects and understand the implications of various real estate issues.

BUC141 - On-Grade Concrete Applications - Total Credit Hours 3

This course emphasizes techniques and principles required to design on-grade concrete forms. Topics include concrete curbs, edge forms, footing forms, concrete wall forms, concrete piers and columns, and templates with anchor bolts and dowels. Upon completion, students should be able to perform on-grade concrete slab forming, wall forming, curb forming, and set templates with anchor bolts.

BUC142 - Construction Estimating - Total Credit Hours 3

This course covers the procedures involved in planning and estimating a residential structure. Topics include labor and equipment with emphasis placed on quantity take-off of materials necessary to construct a residential structure. Upon completion, students should be able to accurately complete a take-off of materials and equipment needs and plan the labor to construct a residential structure.

BUC150 - Homebuilders License Exam Review - Total Credit Hours 3

This course prepares students to take the State Builders License exam for residential construction. Topics include basic residential frame and finish review, basic estimating, and associated areas. With appropriate field experience, upon completion, students should qualify to take the residential contractor's exam.

CMT101 – Construction Materials and Methods - Total Credit Hours 3

The purpose of this course is to introduce the student to the materials, methods, and equipment used in building construction. Emphasis will be placed on the construction process and how the various materials and equipment relate to the different stages of the process. Upon completion of this course the student will understand the total building process, know the various materials used in each stage of construction, understand the techniques and methods used with different materials, and specify materials with essential characteristics.

CMT114 – 10 Hour OSHA Construction Safety - Total Credit Hours 1

The purpose of this course is to introduce the student to OSHA and the regulations present within the construction industry. Upon completion of this course the student will be able to identify the primary safety rules established by OSHA, know reporting procedures, as well as, being able to use the OSHA manual. Emphasis will be placed on the importance of safety, OSHA, safety programs, and safety procedures. Students completing this course will receive their ten-hour OSHA certification.

CMT170 – HVAC Systems - Total Credit Hours 3

The purpose of this course is to introduce the student to major mechanical systems used in buildings. Emphasis will be placed on heating, cooling, and ventilation equipment. Upon completion of this course the student will be knowledgeable of the basic principles of heating, cooling, ventilation, and related hardware and will understand design considerations that impact the selection of equipment.

CMT175 – Electrical & Plumbing Systems - Total Credit Hours 3

The purpose of this course is to introduce the student to the plumbing, electrical, and lighting systems used in buildings. Emphasis will be on design considerations based on plumbing and electrical codes. Upon completion of this course the student will understand the basic principles and hardware requirements in designing plumbing, electrical and lighting systems.

CMT206 – Construction Estimating - Total Credit Hours 3

The purpose of this course is to introduce the student to the principles and practices used in estimating construction costs. Emphasis will be on a methodical approach to estimating each cost element of a construction project. Upon completion of this course the student will know the methods and procedures used in estimating, making quantity surveys from working drawings, developing unit costs, developing subcontractor costs, and will be able to identify the major considerations involved in the total pricing of a construction project.

CMT208 – Project Planning and Scheduling - Total Credit Hours 3

The purpose of this course is to introduce the student to the tools and techniques used to plan, schedule and control a construction project. Students will learn how to prepare Gantt Charts and schedules using the Critical Path Method, Precedence Networks, PERT, GERT and the Linear Scheduling Method. Special emphasis will be placed on using scheduling software. Upon completion, the student will be able to prepare project schedules using various scheduling tools and technology, allocate and level resources, maintain and update a project schedule, and resolve construction delay claims.