Program Planning Guide
Building Construction Technology, Associate in Applied Science, A35140

Program Length: 5 semesters
Career Pathway Options: Associate in Applied Science in Building Construction Technology
Program Location/s: Chatham Main Campus

Suggested Course Schedule:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Class</th>
<th>Lab</th>
<th>Credit</th>
<th>Grade</th>
<th>Semester</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Semester</td>
<td>ACA</td>
<td>Student Success Course</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BPR 130</td>
<td>Print Reading Construction</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CST 111</td>
<td>Construction I</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CST 131</td>
<td>OSHA/Safety/Certification</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MAT 121</td>
<td>Algebra/Trigonometry I</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MAS 140</td>
<td>Intro to Masonry</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd Semester</td>
<td>CST 112</td>
<td>Construction II</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CST 211</td>
<td>Construction Surveying</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CST 150</td>
<td>Building Science</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ELC 113</td>
<td>Residential Wiring</td>
<td>2</td>
<td>6</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PLU 111</td>
<td>Intro to Plumbing</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd Semester</td>
<td>CST 113</td>
<td>Construction III</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SST 140</td>
<td>Green Bldg. &amp; Design Concepts</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ENG 111</td>
<td>Writing and Inquiry</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th Semester</td>
<td>ENG 114</td>
<td>Professional Research &amp; Reporting</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SST 120</td>
<td>Energy Use Analysis</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CST 221</td>
<td>Statics/Structures</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CST 241</td>
<td>Planning and Estimating I</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5th Semester</td>
<td>ARC 111</td>
<td>Intro to Architecture</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CMT 120</td>
<td>Codes and Inspections</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WBL 111</td>
<td>Work-based Learning I</td>
<td>0</td>
<td>10</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Humanities/Fine Arts elective</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social/Behavioral Science elective</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Semester Hours Credit: 68

Course Descriptions:

ACA 111 College Student Success 1-0-1
This course introduces the college's physical, academic, and social environment and promotes the personal development essential for success. Topics include campus facilities and resources; policies, procedures, and programs; study skills; and life management issues such as health, self-esteem, motivation, goal-setting, diversity, and communication. Upon completion, students should be able to function effectively within the college environment to meet their educational objectives.

ACA 118 College Study Skills 1-2-2
This course covers skills and strategies designed to improve study behaviors. Topics include time management, note taking, test taking, memory techniques, active reading strategies, critical thinking, communication skills, learning styles, and other
strategies for effective learning. Upon completion, students should be able to apply appropriate study strategies and techniques to the development of an effective study plan.

**ACA 122 College Transfer Success 0-2-1**
This course provides information and strategies necessary to develop clear academic and professional goals beyond the community college experience. Topics include the CAA, college policies and culture, career exploration, gathering information on senior institutions, strategic planning, critical thinking, and communications skills for a successful academic transition. Upon completion, students should be able to develop an academic plan to transition successfully to senior institutions. This course has been approved for transfer under the CAA as a premajor and/or elective course requirement. This course has been approved for transfer under the ICAA as a premajor and/or elective course requirement.

**ARC 111 Intro to Arch Technology 1-6-3**
This course introduces basic architectural drafting techniques, lettering, use of architectural and engineer scales, and sketching. Topics include orthographic, axonometric, and oblique drawing techniques using architectural plans, elevations, sections, and details; reprographic techniques; and other related topics. Upon completion, students should be able to prepare and print scaled drawings within minimum architectural standards.

**BPR 130 Print Reading-Construction 3-0-3**
This course covers the interpretation of prints and specifications that are associated with design and construction projects. Topics include interpretation of documents for foundations, floor plans, elevations, and related topics. Upon completion, students should be able to read and interpret construction prints and documents.

**CMT 120 Codes and Inspections 3-0-3**
This course covers building codes and the code inspections process used in the design and construction of residential and commercial buildings. Emphasis is placed on commercial, residential, and accessibility (ADA) building codes. Upon completion, students should understand the building code inspections process and apply building code principals and requirements to construction projects.

**CST 111 Construction I 3-3-4**
This course covers standard and alternative building methods to include wall framing. Topics include safety and footings, foundations, floor framing systems, and wall framing systems commonly used in the construction industry. Upon completion, students should be able to safely erect all framing necessary to begin roof framing.

**CST 112 Construction II 3-3-4**
*Prerequisite: Take CST 111*
This course covers building methods and materials used to dry-in a building. Topics include safety, ceiling/roof framing applications, roof finishes, windows, and exterior doors. Upon completion, students should be able to safely erect different roof types and properly install windows and exterior doors, roofing, and exterior finish materials.

**CST 113 Construction III 3-3-4**
*Prerequisite: Take CST 112*
This course covers building methods and materials used to complete the interior of a structure. Topics include safety, installation of thermal and acoustical barriers, and interior finishes including millwork, cabinets, interior doors, flooring, and wall treatments. Upon completion, students should be able to safely and accurately install interior treatments including insulation, paneling, drywall, molding, doors, flooring, and cabinetry.

**CST 131 OSHA/Safety/Certification 2-2-3**
This course covers the concepts of work site safety. Topics include OSHA regulations, tool safety, and certifications which relate to the construction industry. Upon completion, students should be able to identify and maintain a safe working environment based on OSHA regulations and maintain proper records and certifications.

**CST 150 Building Science 2-2-3**
This course introduces concepts and techniques for the design and interaction of the mechanical systems of high performance buildings. Topics include building envelope, heating, ventilation and air conditioning (HVAC), indoor air quality, lighting, plumbing and electrical. Upon completion, students should be able to understand building systems interaction and performance.

**CST 211 Construction Surveying 2-3-3**
*Prerequisite: Take one: MAT 121 or MAT 171*
This course covers field surveying applications for residential and commercial construction. Topics include building layout and leveling, linear measurement and turning angles, plumbing vertical members, and topographic and utilities surveys. Upon completion, students should be able to properly and accurately use surveying equipment to lay out residential and commercial buildings.

**CST 221 Statics/Structures 3-3-4**
*Prerequisite: Take one set:*
Set 1: ARC-112 and MAT-110; Set 2: ARC-112 and MAT-121; Set 3: ARC-112 and MAT-171; Set 4: CAR-112 and MAT-110; Set 5: CAR-112 and MAT-121; Set 6: CAR-112 and MAT-171; Set 7: CST-112 and MAT-110; Set 8: CST-112 and MAT-121; Set 9: CST-112 and MAT-171
This course covers the principles of statics and strength of materials as applied to structural building components. Topics include forces on columns, beams, girders, and footings and connection points when timber, steel, and concrete members are used. Upon completion, students should be able to accurately analyze load conditions present in structural members.

**CST 241 Planning/Estimating I 2-2-3**
*Prerequisite: Take one: BPR 130, MAT 121, or MAT 171*
This course covers the procedures involved in planning and estimating a construction/building project. Topics include performing quantity take-offs of materials necessary for a building project. Upon completion, students should be able to accurately complete a take-off of materials and equipment needs involved in a construction project.

Effective Term: Fall 2016
**ELC 113 Residential Wiring 2-6-4**
This course introduces the care/usage of tools and materials used in residential electrical installations and the requirements of the National Electrical Code. Topics include NEC, electrical safety, and electrical print reading; planning, layout; and installation of electrical distribution equipment; lighting; overcurrent protection; conductors; branch circuits; and conduits. Upon completion, students should be able to properly install conduits, wiring, and electrical distribution equipment associated with residential electrical installations.

**ENG 111 Writing and Inquiry 3-0-3**
Prerequisite: Take one set: Set 1: ENG 090 and RED 090; Set 2: ENG 095; Set 3: DRE 098
This course is designed to develop the ability to produce clear writing in a variety of genres and formats using a recursive process. Emphasis includes inquiry, analysis, effective use of rhetorical strategies, thesis development, audience awareness, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English.

**ENG 114 Professional Research & Reporting 3-0-3**
Prerequisite: Take ENG 111
This course, the second in a series of two, is designed to teach professional communication skills. Emphasis is placed on research, listening, critical reading and thinking, analysis, interpretation, and design used in oral and written presentations. Upon completion, students should be able to work individually and collaboratively to produce well-designed business and professional written and oral presentations.

**MAS 140 Intro to Masonry 1-2-2**
This course introduces basic principles and practices of masonry. Topics include standard tools, materials, and practices used in basic masonry and other related topics. Upon completion, students should be able to demonstrate an understanding of masonry and be able to use basic masonry techniques.

**MAT 121 Algebra/Trigonometry I 2-2-3**
Prerequisite: Take all: DMA 010, DMA 020, DMA 030, DMA 040, DMA 050, and DMA 060
This course provides an integrated approach to technology and the skills required to manipulate, display, and interpret mathematical functions and formulas used in problem solving. Topics include the properties of plane and solid geometry, area and volume, and basic proportion applications; simplification, evaluation, and solving of algebraic equations and inequalities and radical functions; complex numbers; right triangle trigonometry; and systems of equations. Upon completion, students will be able to demonstrate the ability to use mathematics and technology for problem-solving, analyzing and communicating results.

**PLU 111 Intro to Basic Plumbing 1-3-2**
This course introduces basic plumbing tools, materials, and fixtures. Topics include standard tools, materials, and fixtures used in basic plumbing systems and other related topics. Upon completion, students should be able to demonstrate an understanding of a basic plumbing system.

**SST 120 Energy Use Analysis 2-2-3**
This course introduces the principles of analyzing energy use, energy auditing tools and techniques, conservation techniques, and calculating energy savings. Topics include building system control theory, calibrating digital controls, energy loss calculations, and applicable conservation techniques. Upon completion, students should be able to demonstrate an understanding of energy use, audits, and controls in the analysis of energy consumption.

**SST 140 Green Bldg & Design Concepts3-0-3**
This course is designed to introduce the student to sustainable building design and construction principles and practices. Topics include sustainable building rating systems and certifications, energy efficiency, indoor environmental quality, sustainable building materials and water use. Upon completion, students should be able to identify the principles and practices of sustainable building design and construction.

**WBL 111 Work-based Learning I 0-10-1**
This course provides a work-based learning experience with a college-approved employer in an area related to the student’s program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

Effective Term: Fall 2016