

**Florida Department of Education  
Curriculum Framework**

**Program Title:** Carpentry  
**Program Type:** Career Preparatory  
**Career Cluster:** Architecture & Construction

Career Certificate Program	
Program Number	C510300
CIP Number	0646020117
Grade Level	30, 31
Standard Length	1200 Hours
Teacher Certification	Refer to the <b>Program Structure</b> section.
CTSO	SkillsUSA
SOC Codes (all applicable)	47-3012 – Helpers-Carpenters 47-2031– Carpenters
CTE Program Resources	<a href="http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.shtml">http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.shtml</a>
Basic Skills Level	Mathematics: 9 Language: 9 Reading: 9

### **Purpose**

The purpose of this program is to prepare students for employment in the carpentry industry with an emphasis on fundamental carpentry skills. This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Architecture and Construction career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Architecture and Construction career cluster. The content includes but is not limited to developing rough and finish carpentry skills.

**Additional Information** relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

## **Program Structure**

This program is a planned sequence of instruction consisting of four occupational completion points.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44(3)(b), F.S.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	BCV0112	Introduction to Carpentry	CAB WOODWK @7 7G CARPENTRY @7 7G BLDG CONST @7 7G TEC CONSTR @7 7G	150 Hours	47-3012
B	BCV0122	Rough Framing Carpentry (formerly 'Carpenter, Rough')		450 Hours	47-2031
C	BCV0125	Finish Trim Carpentry		450 Hours	47-2031
D	BCV0123	Foundation and Form Carpentry		150 Hours	47-2031

### **Common Career Technical Core – Career Ready Practices**

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.
2. Apply appropriate academic and technical skills.
3. Attend to personal health and financial well-being.
4. Communicate clearly, effectively and with reason.
5. Consider the environmental, social and economic impacts of decisions.
6. Demonstrate creativity and innovation.
7. Employ valid and reliable research strategies.
8. Utilize critical thinking to make sense of problems and persevere in solving them.
9. Model integrity, ethical leadership and effective management.
10. Plan education and career path aligned to personal goals.
11. Use technology to enhance productivity.
12. Work productively in teams while using cultural/global competence.

## **Standards**

After successfully completing this program, the student will be able to perform the following:

- 1.0 Apply shop safety skills.
- 2.0 Select and use hand and power tools relevant to the carpentry profession.
- 3.0 Demonstrate mathematics knowledge and skills relevant to the carpentry field.
- 4.0 Create basic construction drawings and/or sketches.
- 5.0 Recommend appropriate building materials for specific scenarios.
- 6.0 Select appropriate fasteners and hardware for specific scenarios.
- 7.0 Set up and install basic rigging and scaffolding.
- 8.0 Investigate sustainability issues related to the carpentry profession (Optional).
- 9.0 Explain the importance of employability and entrepreneurship skills.
- 10.0 Perform site-preparation and layout activities.
- 11.0 Layout and construct a building foundation.
- 12.0 Identify and discuss engineered structural lumber.
- 13.0 Cut and install framing members for a floor system (wood and/or metal).
- 14.0 Cut and install a wall framing system (wood and/or metal).
- 15.0 Comply with hurricane codes.
- 16.0 Frame a roof.
- 17.0 Frame walls using cold-formed steel.
- 18.0 Lay out and construct an exterior stair system.
- 19.0 Apply roofing applications.
- 20.0 Apply thermal and moisture protection.
- 21.0 Install windows and exterior doors.
- 22.0 Install drywall.
- 23.0 Fasten stock and joints.
- 24.0 Read and understand construction documents.
- 25.0 Install cabinets and components.
- 26.0 Identify and describe types of interior and exterior doors (wood and/or metal).
- 27.0 Interpret interior door and door hardware requirements based on plans and specifications.
- 28.0 Install trim and finish carpentry using plans and specifications.
- 29.0 Install interior wall and ceiling materials.
- 30.0 Lay out and construct an interior-stair system.
- 31.0 Apply interior trim.
- 32.0 Apply exterior finishes.
- 33.0 Demonstrate an understanding of trenching and excavation.
- 34.0 Erect, plumb and brace a simple concrete form with reinforcement.
- 35.0 Explain or identify various foundation forms.
- 36.0 Use plans and specifications for form carpentry.
- 37.0 Construct vertical formwork.

- 38.0 Construct horizontal formwork.
- 39.0 Explain and demonstrate how to place reinforcing bars in walls, columns, beams, girders, joists and slabs.
- 40.0 Explain the transport and placement of concrete.

**Florida Department of Education  
Student Performance Standards**

**Program Title:** Carpentry  
**Career Certificate Program Number:** C510300

**Course Number:** BCV0112  
**Occupational Completion Point:** A

**Introduction to Carpentry –150 Hours – SOC Code 47-3012**

1.0 Apply shop safety skills--The student will be able to:

1.1 Maintain a clean, orderly and safe work area.

1.2 Transport, handle and store materials safely.

1.3 Operate a fire extinguisher.

1.4 Qualify in basic first-aid procedures.

1.5 Identify and report safety hazards.

1.6 Demonstrate the inspection, use and care of personal protective equipment (PPE).

1.7 Describe "Right-to-Know" Law as recorded in (29 CFR-1910.1200).

1.8 Explain the purpose of the Occupational Safety and Health Administration (OSHA).

1.9 Identify health-related problems that may result from exposure to hazardous materials.

1.10 Describe the proper precautions for handling hazardous materials.

1.11 Explain eligibility and the procedures for obtaining worker's compensation.

1.12 Explain the importance of complying with the Americans with Disabilities Act (ADA) requirements.

2.0 Select and use hand and power tools relevant to the carpentry profession--The student will be able to:

2.1 Identify and describe the use of various hand and power tools.

2.2 State the general safety rules for operating all power tools, regardless of type.

2.3 Clean and care for tools and equipment.

2.4 Demonstrate proficiency in the safe use of hand and power tools.

2.5	Read and use carpenter's measuring tools.
3.0	Demonstrate mathematics knowledge and skills relevant to the carpentry field--The student will be able to:
3.1	Apply geometry and algebra skills to solve math problems related to carpentry with and without a calculator.
3.2	Demonstrate knowledge of arithmetic operations.
3.3	Solve problems for distance, perimeter, area and volume.
3.4	Analyze and apply data and measurements to solve problems and interpret documents.
3.5	Construct charts/tables/graphs using functions and data.
4.0	Create basic construction drawings and/or sketches--The student will be able to:
4.1	Recognize and identify basic construction drawing terms, components and symbols.
4.2	Relate information on construction drawings to actual locations on the print.
4.3	Recognize different classifications of construction drawings.
4.4	Interpret and use drawing dimensions and architectural scales.
4.5	Draw or sketch basic floor plans and/or shop drawings.
5.0	Recommend appropriate building materials for specific scenarios--The student will be able to:
5.1	Identify the grades and species of lumber and their appropriate uses.
5.2	Identify the actual and nominal sizes of lumber.
5.3	Identify the grades of plywood and wood products.
5.4	Identify defects and blemishes that affect the durability and strength of lumber.
5.5	Explain the effects of temperature extremes, chemical reaction and moisture content on building materials.
5.6	Explain the uses of various types of engineered lumber.
6.0	Select appropriate fasteners and hardware for specific scenarios--The student will be able to:
6.1	Identify fasteners commonly used in carpentry.
6.2	Identify hardware commonly used in carpentry.
7.0	Set up and install basic rigging and scaffolding--The student will be able to:

7.1	Identify and explain rigging equipment.
7.2	Inspect rigging equipment, following safety precautions.
7.3	Estimate size, weight and center of the load.
7.4	Explain how to rig and move materials and equipment, following safety precautions.
7.5	Set up and install scaffolds, following safety precautions.
7.6	Inspect various types of ladders and scaffolds, following safety precautions.
7.7	Explain how to rig and move materials and equipment, following safety precautions.
8.0	Investigate sustainability issues related to the carpentry profession (Optional)--The student will be able to:
8.1	Describe the impact of the construction industry on the natural environment.
8.2	Describe the life cycle phases of a building and its impacts on the environment throughout the life of the building.
8.3	Recommend sustainable alternatives to conventional carpentry practices.
8.4	Identify specific practices that can lessen adverse impacts on the environment.
9.0	Explain the importance of employability and entrepreneurship skills--The student will be able to:
9.1	Identify and demonstrate positive work behaviors needed to be employable.
9.2	Develop personal career plan that includes goals, objectives and strategies.
9.3	Examine licensing, certification and industry credentialing requirements.
9.4	Maintain a career portfolio to document knowledge, skills and experience.
9.5	Evaluate and compare employment opportunities that match career goals.
9.6	Identify and exhibit traits for retaining employment.
9.7	Identify opportunities and research requirements for career advancement.
9.8	Research the benefits of ongoing professional development.
9.9	Examine and describe entrepreneurship opportunities as a career planning option.



**Rough Framing Carpentry – 450 Hours – SOC Code 47-2031**

10.0	Perform site-preparation and layout activities--The student will be able to:
10.1	Identify building layout from plans and specifications using math skills.
10.2	Use a transit, a builder's level and laser level.
10.3	Erect batter boards and locate building lines.
10.4	Locate building line points on batter boards using a builder's level and measuring instruments.
10.5	Locate building lines on a plot plan.
10.6	Square a building, using the 3-4-5-triangle method and the diagonal (Pythagorean Theorem) method.
11.0	Layout and construct a building foundation--The student will be able to:
11.1	Establish building and final grade elevations.
11.2	Identify various types of footing and foundations.
11.3	Discuss various footings used to support different types of foundation.
11.4	Describe construction of a selected footing and foundation using an established gridline.
11.5	Layout and construct a building foundation. (Optional)
12.0	Identify and discuss engineered structural lumber--The student will be able to:
12.1	Identify engineered lumber components.
13.0	Cut and install framing members for a floor system (wood and/or metal)--The student will be able to:
13.1	Identify and describe floor-framing members including subfloor.
13.2	Identify supports for structures (e.g., sills, columns, beams and girders).
13.3	Identify various types of joists and openings, including joists for a cantilevered floor.
13.4	Identify various types of bridging.
13.5	Identify various types of subfloors, applying fastening techniques.
13.6	Cut and install framing members for a floor system.
14.0	Cut and install a wall framing system (wood and/or metal)--The student will be able to:

14.1	Identify framing members used in wall and partition construction.
14.2	Lay out wall lines and partition locations on a floor.
14.3	Lay out walls for studs, doors and windows.
14.4	Identify studs, trimmers, cripples, headers and fire stops to length.
14.5	Identify T's, corners and headers.
14.6	Identify wall layouts.
14.7	Identify various wall sheathing and/or diagonal bracing systems used in exterior walls.
14.8	Identify and describe various insulation materials, moisture and air barrier materials and systems.
14.9	Cut and install framing members for a wall system.
15.0	Comply with hurricane codes--the student will be able to:
15.1	Install hurricane anchors.
15.2	Install hurricane clips.
15.3	Install hurricane straps.
15.4	Explain the purpose and importance of the codes relating to hurricanes.
15.5	Identify and construct shear walls.
16.0	Frame a roof--The student will be able to:
16.1	Understand the terms associated with roof framing.
16.2	Identify the roof framing members used in gable and hip roofs.
16.3	Identify the methods used to calculate the length of a rafter.
16.4	Identify the various types of trusses used in roof framing.
16.5	Use a rafter framing square, speed square and calculator to lay out a roof system.
16.6	Identify various types of sheathing used in roof construction.
16.7	Frame a gable roof with vent openings.
16.8	Frame a roof opening.

16.9	Understand how to construct a gable roof using conventional framing methods.
16.10	Estimate the materials used in framing and sheathing a roof.
16.11	Cut and install framing members for a roof system.
17.0	Frame walls using cold-formed steel--The student will be able to:
17.1	Identify the components of a steel framing system.
17.2	Identify and select the tools and fasteners used in a steel framing system.
17.3	Identify applications for steel framing systems.
17.4	Demonstrate the ability to build back-to-back, box and L-headers. (Optional)
17.5	Lay out and install a steel stud structural wall with openings to include bracing and blocking. (Optional)
17.6	Lay out and install a steel stud non-structural wall with openings to include blocking and bracing. (Optional)
18.0	Lay out and construct an exterior stair system--The student will be able to:
18.1	Identify the types of exterior stair systems.
18.2	Identify the parts of an exterior stair system.
18.3	Calculate the number of treads and risers for an exterior stair system.
18.4	Lay out, cut and assemble an exterior and/or interior stair system.
19.0	Apply roofing applications--The student will be able to:
19.1	Identify the materials and methods used in roofing.
19.2	Explain the safety requirements for roofing installation jobs.
19.3	Install fiberglass shingles on gable and hip roofs.
19.4	Close up a valley using fiberglass shingles.
19.5	Explain how to make various roof projections watertight when using fiberglass shingles.
19.6	Complete the proper cuts and install hip and ridge caps using fiberglass shingles.
19.7	Lay out, cut and install a cricket or saddle.
19.8	Demonstrate the techniques for installing other selected types of roofing materials.

20.0	Apply thermal and moisture protection--The student will be able to:
20.1	Identify the characteristics of various types of insulation material.
20.2	Calculate the required amounts of insulation for a structure.
20.3	Install selected insulation materials.
20.4	Describe the requirements for moisture control and fresh air ventilation.
20.5	Install or discuss the installation of moisture and vapor barriers.
20.6	Describe various methods of waterproofing and moisture management.
20.7	Describe air infiltration and exfiltration control requirements.
21.0	Install windows and exterior doors--The student will be able to:
21.1	Identify various types of fixed, sliding and swinging windows including sliding, patio and French doors.
21.2	Identify various materials and techniques used to install a window.
21.3	Identify the requirements for a proper window installation.
21.4	Install a pre-hung window in accordance with manufacturer's installation instructions.
21.5	Identify the common types of exterior doors and explain how they are constructed.
21.6	Identify various materials and techniques used to install a door.
21.7	Identify the types of thresholds and door frames used with exterior doors.
21.8	Install a pre-hung exterior door.
21.9	Identify the various types of locksets used on exterior doors and explain how they are installed.
21.10	Install a lockset.

**Course Number: BCV0125**  
**Occupational Completion Point: C**

**Finish Trim Carpentry – 450 Hours – SOC Code 47-2031**

22.0	Install drywall--The student will be able to:
22.1	Identify the different types of drywall and their uses.
22.2	Select the type and thickness of drywall required for specific installations.

	22.3	Select fasteners for drywall installation.
22.4		Perform single-layer and multi-layer drywall installations using different types of fastening systems including nails, drywall screws and adhesives.
	22.5	Install gypsum drywall on steel studs.
	22.6	Estimate material quantities for a drywall installation.
	23.0	Fasten stock and joints--The student will be able to:
	23.1	Identify types of glues and fasteners and describe their applications.
	23.2	Fasten stock with glue and clamps.
23.3		Fasten stock and joints with appropriate fasteners such as nails, staples, screws and bolts.
	23.4	Fill and finish nail and screw holes with fillers and plugs.
	23.5	Glue and clamp stock using various techniques.
	24.0	Read and understand construction documents--The student will be able to:
24.1		Identify various types of construction drawings and shop drawings to construct buildings and interior and exterior finishes.
	24.2	Draw sketches of shop projects and/or residential floor plans and elevations.
	24.3	Identify the different types of lines used on construction drawings.
	24.4	Identify selected abbreviations commonly used on plans.
24.5		Read and interpret plans, elevations, schedules, sections and details contained in basic construction drawings.
	24.6	State the purpose of written specifications.
	24.7	Identify and describe the parts of a specification.
	24.8	Conduct quantity takeoff for materials.
	24.9	Interpret and understand scopes of work guidelines.
	25.0	Install cabinets and components--The student will be able to:
25.1		Install hardware such as hinges, catches, pulls, knobs and guides on assembled cabinets.
	25.2	Install fasteners.
	25.3	Install drawers.

25.4	Install various types of doors including overlay, lipped and flush. (Optional)
25.5	Install adjustable shelving. (Optional)
25.6	Install glass panels and metal grills.(Optional)
25.7	Install specialty hardware such as wire racks and “pull-outs”. (Optional)
25.8	Install sliding doors and track. (Optional)
25.9	Install cabinets, countertops and other components.
26.0	Identify and describe types of interior and exterior doors (wood and/or metal)--The student will be able to:
26.1	Identify the types and parts of door systems.
26.2	Identify door jamb components.
26.3	Identify door hardware.
27.0	Interpret interior door and door hardware requirements based on plans and specifications--The student will be able to:
27.1	Identify various types of door jambs and frames and demonstrate the installation procedures for placing selected door jambs and frames in different types of interior partitions.
27.2	Identify different types of interior doors.
27.3	Identify different types of interior door hardware and demonstrate the installation procedures for selected types.
27.4	List and identify specific items included on a typical door schedule.
27.5	Explain the procedure for placing and hanging a specified door.
28.0	Install trim and finish carpentry using plans and specifications--The student will be able to:
28.1	Read an architect's scale to determine measurements for a trim and finish carpentry job.
28.2	Cut and apply trim such as crown molding, baseboard, door and window molding, wainscoting and chair rail.
28.3	Install an interior door.
29.0	Install interior wall and ceiling materials--The student will be able to:
29.1	Identify and describe furring strips.
29.2	Identify and describe drywall materials.
29.3	Identify paneling and trim.

29.4	Identify types of ceiling materials and systems.
30.0	Lay out and construct an interior-stair system--The student will be able to:
30.1	Identify the types and styles of interior-stair systems.
30.2	Identify the components of an interior-stair system.
30.3	Calculate the number of risers and treads for an interior-stair system.
30.4	Describe an interior-stair system (rough and finish).
31.0	Apply interior trim--The student will be able to:
31.1	Identify the different types of standard moldings and describe their uses.
31.2	Make square and miter cuts using a power miter saw.
31.3	Select and properly use fasteners to install trim.
31.4	Install interior trim including door, window, base and ceiling trim.
31.5	Estimate the quantities of different trim materials required for selected rooms.
32.0	Apply exterior finishes--The student will be able to:
32.1	Describe the purpose of weather resistant barriers, wall insulation and flashing.
32.2	Install selected common cornices.
32.3	Demonstrate lap and panel siding estimating methods.
32.4	Describe the types and applications of common wood siding.
32.5	Describe fiber-cement siding and its uses.
32.6	Describe the types and styles of vinyl and metal siding.
32.7	Describe the types and applications of stucco and masonry veneer finishes.
32.8	Describe the types and applications of special exterior finish systems.
32.9	Install three types of siding commonly used in your area.

**Course Number: BCV0123**  
**Occupational Completion Point: D**

**Foundation and Form Carpentry – 150 Hours – SOC Code 47-2031**

33.0 Demonstrate an understanding of trenching and excavation--The student will be able to:

33.1 Identify the different types, bearing capacities and classifications of soils.

33.2 Identify ways to increase soil density.

33.3 State the purpose of soil density (compaction) tests.

33.4 Explain the safety considerations for trenches and deep excavations.

34.0 Erect, plumb and brace a simple concrete form with reinforcement--The student will be able to:

34.1 Identify the properties of cement.

34.2 Describe the composition of concrete.

34.3 Estimate volumes of concrete.

34.4 Identify types of concrete reinforcement materials and describe their uses.

34.5 Identify various types of footings and explain their uses.

34.6 Identify the parts of various types of forms.

34.7 Explain the safety procedures associated with the construction and use of concrete forms.

34.8 Construct and brace a simple concrete form with reinforcement.

35.0 Explain or identify various foundation forms--The student will be able to:

35.1 Identify types of footings.

35.2 Explain method for setting a pier footing form.

35.3 Explain how to strip a form for reuse.

35.4 Explain edge forms for a floor with or without foundation walls and for a stoop.

35.5 Explain various types of curb and gutter forms.

35.6 Identify various types of beams, columns and slabs used with various form systems.

35.7 Discuss the different types and uses of flying forms for decks and shear walls.

35.8 Explain concrete pressure and its implications for form work routines.



35.9	Identify form-work accessories such as snap-ties, wedges, pigs-feet, whalers, and stiffbacks for forming walls, beams and columns with plywood and 2'x 4' material.
36.0	Use plans and specifications for form carpentry--The student will be able to:
36.1	Read an architect's scale for form carpentry job.
36.2	Determine dimensions from plans.
36.3	Relate information on plans and specifications to real parts, locations, hardware and fasteners.
37.0	Construct vertical formwork--The student will be able to:
37.1	Explain safety procedures associated with using concrete wall forms.
37.2	Identify the various types of concrete wall forms.
37.3	Identify the components of each type of vertical forming system.
37.4	Discuss how to plumb and brace a selected wall.
37.5	Recognize various types of manufactured forms.
37.6	State the differences in construction and use among different types of forms.
37.7	Discuss how to plumb and brace a column form.
37.8	Discuss how to plumb and brace a stair form.
37.9	Describe how to locate and install bulkheads and embedded forms.
37.10	Identify and explain types of cranes.
37.11	Construct a small vertical form with reinforcement.
38.0	Construct horizontal formwork--The student will be able to:
38.1	Identify the safety hazards associated with elevated deck formwork and explain how to eliminate them.
38.2	Identify the different types of elevated decks.
38.3	Identify the different types of flying form systems.
38.4	Identify different types of handset form systems.
38.5	Describe how to install plumb, brace and level different types of handset deck form systems.
38.6	Describe the installation of edge forms, blockouts, embedments and construction joints.

38.7	Distinguish characteristics of joints: control, expansion and construction.
38.8	Describe templates, keyways and embedments.
38.9	Form and strip pier foundation forms and prepare for resetting at another location.
38.10	Identify the different classes of slabs-on-grade.
38.11	Identify edge forms and explain their purpose.
38.12	Construct and disassemble edge forms.
38.13	Describe the installation of vapor barrier, reinforcement and control joints.
38.14	Establish finish grade and fill requirements.
39.0	Explain and demonstrate how to place reinforcing bars in walls, columns, beams, girders, joists and slabs--The student will be able to:
39.1	Describe the applications of reinforcing bars, the uses of reinforced structural concrete and the basic processes involved in placing reinforcing bars.
39.2	Recognize and identify the bar bends standardized by the American Concrete Institution (ACI).
39.3	Read and interpret bar lists and describe the information found on a bar list.
39.4	List the types of ties used in securing reinforcing bars.
39.5	Demonstrate the proper use of common ties for reinforcing bars.
39.6	Describe methods by which reinforcing bars may be cut and bent in the field.
39.7	Use the tools and equipment needed for installing reinforcing bars.
39.8	Safely use selected tools and equipment to cut, bend and install reinforcing materials.
39.9	Explain the necessity of concrete cover in placing reinforcing bars.
39.10	Identify lapped splices.
39.11	Install reinforcing bars in concrete wall, beam, girder and slab forms.
40.0	Explain the transport and placement of concrete--The student will be able to:
40.1	List various types of equipment used to transport and place concrete.
40.2	Describe the factors that contribute to the quality of concrete placement.
40.3	Demonstrate the correct methods for placing and consolidating concrete into forms.

40.4	Use a screed to strike off and level concrete to the proper grade in a form.
40.5	Use tools for placing, floating and finishing concrete.
40.6	Explain when conditions permit the concrete finishing operation to start.
40.7	Name the factors that affect the curing of concrete and describe the methods used to achieve proper curing.
40.8	Care for and safely use hand and power tools used when working with concrete.
40.9	Place concrete in a horizontal form, screed, edge and trowel finish.

## **Additional Information**

### **Laboratory Activities**

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

### **Special Notes**

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student. Access MyCareerShines by visiting: [www.mycareershines.org](http://www.mycareershines.org).

### **Career and Technical Student Organization (CTSO)**

SkillsUSA is the intercultural career and technical student organization for providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

### **Cooperative Training – OJT**

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

### **Basic Skills (if applicable)**

In Career Certificate Programs offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Mathematics 9, Language 9, and Reading 9. These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02(7), Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

## **Accommodations**

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

## **Additional Resources**

For additional information regarding articulation agreements, Bright Futures Scholarships, Fine Arts/Practical Arts Credit and Equivalent Mathematics and Equally Rigorous Science Courses please refer to:

<http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml>