Florida Department of Education
Curriculum Framework

Program Title: **Drafting**
Program Type: **Career Preparatory**
Career Cluster: **Architecture and Construction**

Career Certificate Program		
Program Number	C100200	
CIP Number	0615130100	
Grade Level	30,31	
Program Length	1500 Hours	
Teacher Certification	Refer to the **Program Structure** section.	
CTSO	SkillsUSA	
SOC Codes (all applicable)	For program SOC codes, please see the Program and Course Tables section of the CTE Program Resources page linked below.	
CTE Program Resources	http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml	
Basic Skills Level	Computations (Mathematics): 10	Communications (Reading and Language Arts): 9

Purpose

The purpose of this program is to prepare students for employment in the drafting industry.

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 freehand sketching, drafting by hand and computer and 3D modeling.

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 seven occupational completion points. When the recommended sequence is followed, the structure will allow students to complete specified portions of the program for employment or to remain for advanced training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or become an occupational completer.

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
A	TDR0070	Introduction to Drafting	BLDG CONSTR @7 7G DRAFTING @7 7G TEC DRAFT 7G TEC CONSTR @7 7G	150 Hours
B	TDR0370	Drafting Assistant		450 Hours
C	TDR0775 TDR0776	Drafting Detailer 1 Drafting Detailer 2		150 Hours 150 Hours
D	TDR0570	Architectural Drafter		150 Hours
E	TDR0874	Civil Drafter		150 Hours
F	TDR0777	Mechanical Drafter		150 Hours
G	TDR0875	Structural Drafter		150 Hours

Florida's Career Readiness Skills for CTE Programs

Employability Skills	
01.0	Apply academic skills to workplace scenarios.
01.01	Use reading skills.
01.02	Use writing skills.
01.03	Use mathematical strategies and procedures.
01.04	Use scientific principles and procedures.
02.0	Design a solution to an industry problem.
02.01	Use critical thinking.
02.02	Use creativity.
02.03	Make sound decisions.
02.04	Solve problems.
02.05	Reason.
02.06	Plan and organize.
03.0	Manage resources within an industry project
03.01	Manage time.
03.02	Manage money or resources.
03.03	Manage materials.
03.04	Manage personnel.
04.0	Oversee the subcomponents, operations and output of a technical or organizational system.
04.01	Manage systems.
04.02	Monitor systems.
04.03	Improve systems.
05.0	Use information for decision making.
05.01	Locate information.
05.02	Organize information.
05.03	Use information.

	05.04 Analyze information.
	05.05 Communicate information.
06.0	Apply relevant technology to workplace scenarios to aid productivity.
	06.01 Use technology.
07.0	Interpret and express interpersonal communication.
	07.01 Communicate verbally.
	07.02 Listen actively.
	07.03 Comprehend written material.
	07.04 Convey information in writing.
	07.05 Communicate nonverbally.
	07.06 Interpret nonverbal communication.
08.0	Interact with others to accomplish workplace goals.
	08.01 Collaborate with others in a team.
	08.02 Respond to customer needs.
	08.03 Exercise leadership.
	08.04 Negotiate to resolve conflict.
	08.05 Respect others.
09.0	Manage personal behavior to maximize productivity and professional growth.
	09.01 Demonstrate responsibility and self-discipline.
	09.02 Adapt and show flexibility.
	09.03 Work independently.
	09.04 Demonstrate a willingness to learn.
	09.05 Demonstrate integrity.
	09.06 Demonstrate professionalism.
	09.07 Take initiative.
	09.08 Display positive attitude.
	09.09 Take responsibility for professional growth.

Job Attainment	
10.0	Find, assess and apply to job opportunities.
10.01	Identify online job posts relevant to his or her career aspirations.
10.02	Compare and contrast the job posts' required qualifications, job duties, compensation, benefits and employers.
10.03	Define what information, documentation and writing prompts are required for the positions.
11.0	Communicate personal competence, character and fit for a job opportunity.
11.01	Develop a resume.
11.02	Write a cover letter.
11.03	Curate a professional portfolio that includes work products.
11.04	Prepare for and experience a mock job interview.
12.0	Cultivate and leverage relationships to professionally advance.
12.01	Request a signed reference letter, letter of recommendation and/or an online skill/professionalism endorsement.
12.02	Develop a plan to cultivate a professional digital footprint.
12.03	Develop a networking plan for a specific industry of interest.

Standards

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

01.0 Apply basic drafting skills.
02.0 Demonstrate algebra mathematics knowledge and skills related to drafting.
03.0 Prepare multi-view drawings.
04.0 Prepare sectional views.
05.0 Prepare auxiliary drawings.
06.0 Apply basic dimensioning.
07.0 Prepare pictorial drawings.
08.0 Prepare surface developments.
09.0 Perform basic Computer-Aided Drafting (CAD) functions.
10.0 Prepare physical three-dimensional (3-D) model from a two-dimensional (2-D) drawing.
11.0 Prepare basic architectural drawings.
12.0 Demonstrate geometry and mathematics knowledge and skills related to drafting.
13.0 Demonstrate mathematics knowledge and skills with respect to market and industry applications of drafting.
14.0 Apply tolerance dimensioning.
15.0 Demonstrate an understanding of basic civil drawings.
16.0 Demonstrate basic electrical/electronic literacy.
17.0 Perform advanced CAD functions.
18.0 Prepare a basic digital 3-D model from a 2-D drawing.
19.0 Explain the importance of employability and entrepreneurship skills.
20.0 Prepare computer-aided 3-D architectural drawings.
21.0 Prepare architectural multi-level residential drawings.
22.0 Prepare a basic site/plot plan drawing.
23.0 Prepare a basic landscape plan drawing.
24.0 Convert a basic architectural 3-D model to a mechanically created prototype.
25.0 Prepare advanced computer-aided mechanical working drawings.
26.0 Convert a computer-aided 3-D model to a rapid prototype of a mechanical device.
27.0 Prepare a typical wall section.
28.0 Prepare a basic foundation plan drawing.
29.0 Prepare a basic electrical plan drawing.
30.0 Prepare a basic Heating, Ventilation and Air-Conditioning (HVAC) plan drawing.
31.0 Prepare a basic plumbing plan drawing.
32.0 Prepare a digital scale 3-D model from a 2-D drawing.
33.0 Prepare architectural drawings for a commercial building.
34.0 Prepare basic building utility drawings for a commercial building.
35.0 Prepare presentation drawings for a commercial building.
36.0 Integrate drawing sets.

37.0 Convert computer-aided 3-D or building information models to rapid prototypes of a building design or building components.
38.0 Engage in project planning activities to expedite the completion of architectural projects.
39.0 Prepare computer-aided map details.
40.0 Understand surveying and mapping procedures.
41.0 Prepare advanced map drawings.
42.0 Prepare advanced civil drawings.
43.0 Engage in project planning activities to expedite the completion of civil drafting projects.
44.0 Prepare advanced mechanical drawings.
45.0 Prepare production drawings using 3-D CAD techniques.
46.0 Prepare pneumatic/hydraulic drawings.
47.0 Prepare tool drawings using 3-D CAD techniques.
48.0 Engage in project planning activities to expedite the completion of mechanical drafting projects.
49.0 Prepare structural details.
50.0 Prepare structural steel drawings.
51.0 Prepare reinforced concrete drawings.
52.0 Prepare structural wood drawings.
53.0 Prepare advanced 3-D computer-aided drawings.

Florida Department of Education
Student Performance Standards

Program Title: Drafting
Career Certificate Program Number: C100200

Course Number: TDR0070 **Occupational Completion Point: A** **Introduction to Drafting – 150 Hours**	
01.0	Apply basic drafting skills. The student will be able to:
01.01	Use drafting equipment, measuring scales and drafting instruments.
01.02	Identify the various drafting media and techniques.
01.03	Use various freehand and other architectural lettering techniques including cursive and block.
01.04	Prepare title blocks and other drafting formats.
01.05	Demonstrate the use of the Alphabet of Lines.
01.06	Prepare axonometric, oblique and multi-view freehand sketches.
01.07	Prepare charts, graphs and diagrams.
01.08	Apply geometric construction techniques.
02.0	Demonstrate algebra mathematics knowledge and skills related to drafting. The student will be able to:
02.01	Demonstrate knowledge of arithmetic operations.
02.02	Solve arithmetic problems.
02.03	Solve algebra problems.
02.04	Solve geometry problems.
02.05	Apply multiple discipline calculations.
02.06	Construct charts, tables and graphs using functions and data.
03.0	Prepare multi-view drawings. The student will be able to:
03.01	Prepare multi-view scaled drawings.

	03.02 Select proper drawing scale, views and layout.
	03.03 Prepare drawings containing horizontal and vertical surfaces.
	03.04 Prepare drawings containing circles and/or arcs.
	03.05 Prepare drawings incorporating removed details and conventional breaks.
04.0	Prepare sectional views. The student will be able to:
	04.01 Prepare drawings containing full sections and half sections.
	04.02 Prepare drawings containing offset sections.
	04.03 Prepare drawings containing revolved sections.
	04.04 Prepare drawings containing removed sections and broken-out sections.
	04.05 Prepare a sectional assembly drawing applying material symbols.
05.0	Prepare auxiliary drawings. The student will be able to:
	05.01 Prepare drawings containing primary auxiliary views.
	05.02 Prepare drawings containing auxiliary views that include curved lines.
06.0	Apply basic dimensioning. The student will be able to:
	06.01 Prepare drawings containing linear, angular and circular standard dimensions.
	06.02 Prepare drawings using metric dimensions.
	06.03 Prepare drawings using general and local notes.
	06.04 Apply basic tolerance techniques and tolerance dimensioning.
	06.05 Understand the differences between dimensioning architectural, civil and mechanical drawings.
07.0	Prepare pictorial drawings. The student will be able to:
	07.01 Prepare isometric and oblique pictorial drawings.
	07.02 Prepare one-point and two-point perspectives.
08.0	Prepare surface developments. The student will be able to:

	08.01 Prepare developments of a prism, a cylinder, a cone and a pyramid.
	08.02 Prepare developments of a transition piece.
	08.03 Prepare drawing involving intersecting pieces.
09.0	Perform basic Computer-Aided Drafting (CAD) functions. The student will be able to:
	09.01 Perform drawing set up.
	09.02 Construct geometric figures of lines, splines, circles and arcs.
	09.03 Create and edit text using appropriate style and size to annotate drawings.
	09.04 Use and control accuracy enhancement tools for entity positioning methods such as snap and XYZ.
	09.05 Utilize editing commands.
	09.06 Control entity properties by level or layer, color and line style or type.
	09.07 Use viewing commands to perform zooming and panning.
	09.08 Plot or print drawings on media using layout and scale.
	09.09 Apply standard dimensioning rules.
10.0	Prepare physical three-dimensional (3-D) model from a two-dimensional (2-D) drawing. The student will be able to:
	10.01 Create a primitive physical 3-D model from a 2-D design containing linear and angular dimensions.
	10.02 Create a physical primitive 3-D model from a 2-D design containing circular dimensions.

Course Number: TDR0370 Occupational Completion Point: B Drafting Assistant – 450 Hours	
11.0	Prepare basic architectural drawings. The student will be able to:
	11.01 Understand architectural terminology.
	11.02 Read and interpret architectural drawings.
	11.03 Prepare a plot/site plan.

	11.04 Prepare a floor plan.
	11.05 Prepare a roof plan.
	11.06 Prepare exterior elevations.
	11.07 Prepare a typical wall section.
12.0	Demonstrate geometry and mathematics knowledge and skills related to drafting. The student will be able to:
	12.01 Solve right-angle trigonometric problems.
	12.02 Analyze and apply data and measurements to solve problems and interpret documents.
13.0	Demonstrate mathematics knowledge and skills with respect to market and industry applications of drafting. The student will be able to:
	13.01 Demonstrate an understanding of federal, state and local taxes and their computation.
	13.02 Solve problems for volume, weight, area, circumference and perimeter measurements for rectangles, squares and cylinders.
	13.03 Measure tolerances on horizontal and vertical surfaces using millimeters, centimeters, feet and inches.
	13.04 Determine the correct purchase price, to include sales tax, for a materials list containing a minimum of six items.
14.0	Apply tolerance dimensioning. The student will be able to:
	14.01 Apply tolerance dimensioning in inches and feet.
	14.02 Dimension tolerance using millimeters and centimeters.
15.0	Demonstrate an understanding of basic civil drawings. The student will be able to:
	15.01 Understand civil drawing terminology.
	15.02 Read and interpret civil drawings.
	15.03 Prepare a civil plan with topography and profile drawing.
16.0	Demonstrate basic electrical/electronic literacy. The student will be able to:
	16.01 Identify electrical/electronic symbols.
	16.02 Prepare schematic/block diagrams and/or electric plans.
17.0	Perform advanced CAD functions. The student will be able to:

	17.01 Identify, create, store and use standard part symbols and libraries.
	17.02 Understand how to minimize file size.
	17.03 Use query commands to interrogate database for entity characteristics, distance, area and status.
18.0	Prepare a basic digital 3-D model from a 2-D drawing. The student will be able to:
	18.01 Create a basic digital 3-D model from a 2-D design containing linear and angular dimensions.
	18.02 Create a basic digital 3-D model from a 2-D design containing circular dimensions.
19.0	Explain the importance of employability and entrepreneurship skills. The student will be able to:
	19.01 Identify and demonstrate positive work behaviors needed to be employable.
	19.02 Develop a personal career plan that includes goals, objectives and strategies.
	19.03 Prepare a resume.
	19.04 Examine licensing, certification and industry credentialing requirements.
	19.05 Maintain a career portfolio to document knowledge, skills and experience.
	19.06 Evaluate and compare employment opportunities that match career goals.
	19.07 Identify and exhibit traits for retaining employment.
	19.08 Identify opportunities and research requirements for career advancement.
	19.09 Research the benefits of ongoing professional development.
	19.10 Examine and describe entrepreneurship opportunities as a career planning option.
	19.11 Demonstrate knowledge of the "Right-To-Understand" law as recorded in (29 CFR-1910.1200).

Course Number: TDR0775 **Occupational Completion Point: C** **Drafting Detailer 1 – 150 Hours**	
20.0	Prepare computer-aided 3-D architectural drawings. The student will be able to:
	20.01 Draw a floor plan.

	20.02 Prepare isometric exterior views.
	20.03 Prepare perspective exterior views.
21.0	Prepare architectural multi-level residential drawings. The student will be able to:
	21.01 Prepare a first floor plan.
	21.02 Prepare a second floor plan.
	21.03 Prepare a basic roof framing layout drawing.
	21.04 Prepare a two-story elevation drawing.
	21.05 Prepare a second floor framing plan.
	21.06 Create a stair drawings and details.
22.0	Prepare a basic site/plot plan drawing. The student will be able to:
	22.01 Layout a residential site/plot plan.
	22.02 Indicate site/plot size, orientation and limits.
	22.03 Layout a public street, sidewalk and public utility lines.
	22.04 Write a site/plot legal description.
	22.05 Dimension a building location.
	22.06 Layout and label specialty features (patio, deck, pool, gazebo, etc.).
	22.07 Locate easements and setbacks.
23.0	Prepare a basic landscape plan drawing. The student will be able to:
	23.01 Layout landscape features.
	23.02 Develop a schedule of plants and shrubs.
	23.03 Develop a list of landscape symbols.
24.0	Convert a basic architectural 3-D model to a mechanically created prototype. The student will be able to:
	24.01 Use a digital 3-D model design, containing linear and angular features, to 3-D print a basic prototype.

	24.02 Use a digital 3-D model design, containing circular features, to 3-D print a basic prototype.

Course Number: TDR0776 Occupational Completion Point: C Drafting Detailer 2 – 150 Hours	
25.0	Prepare advanced computer-aided mechanical working drawings. The student will be able to:
	25.01 Prepare dimensioned multi-view drawings applying CAD techniques.
26.0	Convert a computer-aided 3-D model to a rapid prototype of a mechanical device. The student will be able to:
	26.01 Prepare computer-aided 3-D mechanical model.
	26.02 Use a digital 3-D model, containing linear and angular features, to 3-D print a prototype of a mechanical device.
	26.03 Use a digital 3-D model, containing circular dimensions, to 3-D print a prototype of a mechanical device.
27.0	Prepare a typical wall section. The student will be able to:
	27.01 Prepare a two-story residential wall section.
	27.02 Apply notes and dimensions to a residential wall section.
28.0	Prepare a basic foundation plan drawing. The student will be able to:
	28.01 Prepare a foundation plan drawing for a residence.
	28.02 Prepare foundation detail drawings.
29.0	Prepare a basic electrical plan drawing. The student will be able to:
	29.01 Prepare an electrical plan for a residence.
	29.02 Prepare an electrical symbols legend for an electrical plan.
30.0	Prepare a basic Heating, Ventilation and Air-Conditioning (HVAC) plan drawing. The student will be able to:
	30.01 Prepare an HVAC plan for a residence.
	30.02 Prepare an HVAC symbols legend for an HVAC plan.
31.0	Prepare a basic plumbing plan drawing. The student will be able to:

	31.01 Prepare a plumbing plan for a residence.
	31.02 Prepare a plumbing symbols legend for a plumbing plan.
32.0	Prepare a digital scale 3-D model from a 2-D drawing. The student will be able to:
	32.01 Create a digital scale 3-D model from a 2-D design containing linear and angular features.
	32.02 Create a digital scale 3-D model from a 2-D design containing circular features.

Course Number: TDR0570 Occupational Completion Point: D Architectural Drafter – 150 Hours	
33.0	Prepare architectural drawings for a commercial building. The student will be able to:
	33.01 Interpret commercial catalogs, specifications, technical tables, codes and ordinances.
	33.02 Prepare a commercial site plan.
	33.03 Prepare a floor plan with dimensions.
	33.04 Prepare a foundation plan with dimensions and a footing schedule.
	33.05 Prepare a roof plan to include a drainage plan and a roof framing plan.
	33.06 Prepare elevation drawings.
	33.07 Prepare building section drawings.
	33.08 Prepare door and window schedules.
34.0	Prepare basic building utility drawings for a commercial building. The student will be able to:
	34.01 Prepare an electrical plan.
	34.02 Prepare a riser diagram.
	34.03 Prepare a plumbing plan.
	34.04 Prepare an HVAC plan.
35.0	Prepare presentation drawings for a commercial building. The student will be able to:

	35.01 Produce color pictorial drawings.
	35.02 Prepare dynamic presentation zoom views or a walk-thru.
	35.03 Create a drawing portfolio.
36.0	Integrate drawing sets. The student will be able to:
	36.01 Compile a full drawing set to describe a complete building.
37.0	Convert computer-aided 3-D or building information models to rapid prototypes of a building design or building components. The student will be able to:
	37.01 Use a digital 3-D model containing a parametric component to 3-D print a prototype of a building design.
38.0	Engage in project planning activities to expedite the completion of architectural projects. The student will be able to:
	38.01 Understand what it takes to schedule and plan for architectural project tasks.
	38.02 Understand how to network with stakeholders to manage budgets, resources and deadlines.
	38.03 Produce project deliverables per negotiated obligations.

Course Number: TDR0874 **Occupational Completion Point: E** **Civil Drafter – 150 Hours**	
39.0	Prepare computer-aided map details. The student will be able to:
	39.01 Prepare a map using bearings.
	39.02 Prepare a map using coordinates.
	39.03 Convert a map into metric dimensions.
40.0	Understand surveying and mapping procedures. The student will be able to:
	40.01 Analyze basic mapping specifications.
	40.02 Interpret aerial photogrammetry.
	40.03 Identify horizontal measures.
	40.04 Identify leveling procedures.

	40.05 Interpret angular measurements.
	40.06 Interpret legal descriptions.
41.0	Prepare advanced map drawings. The student will be able to:
	41.01 Prepare a traverse drawing.
	41.02 Prepare a street layout drawing.
	41.03 Prepare an advanced map drawing.
	41.04 Prepare a highway drawing.
	41.05 Prepare a topographic drawing.
42.0	Prepare advanced civil drawings. The student will be able to:
	42.01 Prepare a drainage drawing.
	42.02 Prepare a plat drawing.
	42.03 Prepare an advanced plan and profile drawing.
	42.04 Prepare a utility drawing.
43.0	Engage in project planning activities to expedite the completion of civil drafting projects. The student will be able to:
	43.01 Understand what it takes to schedule and plan for civil project tasks.
	43.02 Understand how to network with stakeholders to manage budgets, resources and deadlines.
	43.03 Produce project deliverables per phasing and negotiated obligations.

Course Number: TDR0777 **Occupational Completion Point: F** **Mechanical Drafter – 150 Hours**	
44.0	Prepare advanced mechanical drawings. The student will be able to:
	44.01 Analyze problems using the descriptive geometry method of projection.
	44.02 Identify the various manufacturing methods.

	44.03 Use precision dimensioning to include Geometric Dimensioning and Tolerancing (GDT) for fits and finishing.
	44.04 Make engineering changes on drawings.
	44.05 Prepare fastener drawings.
	44.06 Prepare a cam drawing with dimensions.
	44.07 Prepare a gear drawing with dimensions.
	44.08 Prepare a spring drawing with dimensions.
45.0	Prepare production drawings using 3-D CAD techniques. The student will be able to:
	45.01 Make a pattern shop detail drawing.
	45.02 Make a casting drawing.
	45.03 Make a forging detail drawing.
	45.04 Make a machining detail drawing.
	45.05 Make a 3D stamping drawing.
	45.06 Make a 3D welding drawing.
	45.07 Prepare an installation drawing.
	45.08 Prepare a Bill of Materials (BOM).
46.0	Prepare pneumatic/hydraulic drawings. The student will be able to:
	46.01 Prepare a piping drawing.
	46.02 Prepare a pictorial piping drawing.
	46.03 Prepare a sectional drawing.
	46.04 Prepare a diagram.
47.0	Prepare tool drawings using 3-D CAD techniques. The student will be able to:
	47.01 Prepare a 3D jig and fixture drawing.
	47.02 Prepare a 3D cutting die drawing.

	47.03 Prepare a 3D forming die drawing.
48.0	Engage in project planning activities to expedite the completion of mechanical drafting projects. The student will be able to:
	48.01 Understand what it takes to schedule and plan mechanical project tasks.
	48.02 Understand how to network with stakeholders to manage budgets, resources and deadlines.
	48.03 Produce project deliverables per phasing and negotiated obligations.

Course Number: TDR0875 Occupational Completion Point: G Structural Drafter – 150 Hours	
49.0	Prepare structural details. The student will be able to:
	49.01 Interpret structural manuals and technical tables.
	49.02 Draw structural connections.
50.0	Prepare structural steel drawings. The student will be able to:
	50.01 Interpret codes and specifications.
	50.02 Use the Timber Construction Manual and other technical data.
	50.03 Understand reactions and stresses.
	50.04 Interpret shear and moment diagrams.
	50.05 Detail bolted connections.
	50.06 Detail welded connections.
	50.07 Prepare erection plans and schedules.
	50.08 Prepare an advance bill for ordering materials.
51.0	Prepare reinforced concrete drawings. The student will be able to:
	51.01 Interpret codes and specifications.
	51.02 Interpret engineering drawings.

	51.03 Prepare beam and column drawings and schedules.
	51.04 Prepare footing and foundation drawings.
	51.05 Prepare floor and roof detail drawings.
	51.06 Prepare special structure detail drawings.
	51.07 Prepare a bar list and schedule.
52.0	Prepare structural wood drawings. The student will be able to:
	52.01 Interpret codes and specifications.
	52.02 Prepare fastening and connection details.
	52.03 Prepare framing plans.
53.0	Prepare advanced 3-D computer-aided drawings. The student will be able to:
	53.01 Produce structural (steel, wood and reinforced concrete) 3-D drawings.

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.

Career and Technical Student Organization (CTSO)

CTSOs are co-curricular career and technical student organizations 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. Other CTSOs not listed in this curriculum framework or recognized by the Florida Department of Education are permissible provided they support student mastery over the standards and benchmarks of this curriculum framework.

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

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: Computation (Mathematics) and Communications (Reading and Language Arts). 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, 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, F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College System Institution must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91, F.S.

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.