Florida CTE

Game & Simulation Programming (2026)

Identify functions of information processing. The student will be able to: 41.0	1 **Identify characteristics of high-level languages.** 41.01
	2 **Identify characteristics of operating systems.** 41.02
	3 **Identify characteristics of a network.** 41.03
	4 **Identify needs for software development in the game/simulation industry.** 41.04
	5 **Identify causes of software development problems in the game/simulation industry.** 41.05
	6 **Identify most appropriate languages for solving game/simulation industry problems.** 41.06
	7 **Manipulate data between numbering systems.** 41.07
	8 **Identify how numeric and non-numeric data are represented in memory.** 41.08
	9 **Distinguish among integer, fixed-point, and floating-point calculations.** 41.09
Test programs. The student will be able to: 42.0	1 **Develop a plan for testing programs.** 42.01
	2 **Develop test harnesses for use in program testing.** 42.02
	3 **Perform debugging activities.** 42.03
	4 **Distinguish among the different types of program and design errors.** 42.04
	5 **Evaluate program test results.** 42.05
	6 **Execute programs and subroutines as they relate to the total application.** 42.06
	7 **Use trace routines of compilers to assist in program debugging.** 42.07
	8 **Compile and run programs.** 42.08
	9 **Create a stable code base.** 42.09

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Plan program design. The student will be able to: 43.0	1 **Formulate a plan to determine program specifications individually or in groups.** 43.01
	2 **Use a graphical representation or pseudo code to represent the structure in a program or subroutine.** 43.02
	3 **Design programs to solve problems using problem-solving strategies.** 43.03
	4 **Prepare proper input/output layout specifications.** 43.04
	5 **Examine existing utility programs and subroutines for use with other programs.** 43.05
	6 **Manually trace the execution of programs and verify that programs follow the logic of their design as documented.** 43.06
Code programs. The student will be able to: 44.0	1 **Utilize reference manuals.** 44.01
	2 **Write programs according to recognized programming standards.** 44.02
	3 **Write internal documentation statements as needed in the program source code.** 44.03
	4 **Code programs in high-level languages for game/simulation applications.** 44.04
	5 **Write code that accesses sequential, random, and direct files.** 44.05
	6 **Code programs using logical statements (e.g., If-Then-Else, Do...While).** 44.06
	7 **Enter and modify source code using a program language editor.** 44.07
	8 **Code routines within programs that validate input data.** 44.08
	9 **Use the rounding function in calculations within programs.** 44.09
	10 **Write programs as part of a development team.** 44.10
	11 **Write event-driven programs.** 44.11
	12 **Write programs using timed-event strategies and methodologies.** 44.12
	13 **Write programs that include score keeping.** 44.13
Perform program maintenance. The student will be able to: 45.0	1 **Review requested modification of programs and establish a plan of action.** 45.01
	2 **Design needed modifications in conformance with established standards.** 45.02
	3 **Code, test, and debug modifications prior to updating production code.** 45.03
	4 **Update production programs and documentation with changes.** 45.04

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	5 Analyze output to identify and annotate errors or enhancements. 45.05
Create and maintain documentation. The student will be able to: 46.0	1 Write documentation to assist operators and end-users. 46.01
	2 Follow established documentation standards. 46.02
	3 Update existing documentation to reflect program changes. 46.03
Evaluate assigned game programming tasks. The student will be able to: 47.0	1 Estimate the time necessary to write a program. 47.01
Implement enhanced program structures. The student will be able to: 48.0	1 Write programs that include tables or arrays and routines for data entry and lookup. 48.01
	2 Write programs to import/export data from external sources. 48.02
	3 Write programs that use iteration. 48.03
	4 Write routines that incorporate “help” text. 48.04
	5 Write programs that read and write random files. 48.05
	6 Write interactive programs. 48.06
	7 Design screen layouts for use in interactive programs. 48.07
	8 Write programs using object-oriented languages. 48.08
	9 Write programs that include data structures (e.g., stacks, queues, trees, linked lists). 48.09
	10 Write programs that are event-driven to support player goals and actions. 48.10
Demonstrate the importance of health, safety, and environmental management systems in organizations and their importance to organizational performance and regulatory compliance. The student will be able to:	1 Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments. 49.01
	2 Explain emergency procedures to follow in response to workplace accidents. 49.02
	3 Create a disaster and/or emergency response plan. 49.03

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Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives. The student will be able to: 50.0	1 **Employ leadership skills to accomplish organizational goals and objectives.** 50.01
	2 **Establish and maintain effective working relationships with others in order to accomplish objectives and tasks.** 50.02
	3 **Examine licensing, certification, and industry credentialing requirements.** 50.03
	4 **Maintain a career portfolio to document knowledge, skills, and experience.** 50.04
	5 **Evaluate and compare employment opportunities that match career goals.** 50.05
	6 **Identify and exhibit traits for retaining employment.** 50.06
	7 **Identify opportunities and research requirements for career advancement.** 50.07
	8 **Research the benefits of ongoing professional development.** 50.08
	9 **Examine and describe entrepreneurship opportunities as a career planning option.** 50.09
Demonstrate personal money-management concepts, procedures, and strategies. The student will be able to: 51.0	1 **Identify and describe the services and legal responsibilities of financial institutions.** 51.01
	2 **Describe the effect of money management on personal and career goals.** 51.02
	3 **Develop a personal budget and financial goals.** 51.03
	4 **Complete financial instruments for making deposits and withdrawals.** 51.04
	5 **Maintain financial records.** 51.05
	6 **Read and reconcile financial statements.** 51.06
	7 **Research, compare and contrast investment opportunities.** 51.07