



Atlantic Technical College

Game/Simulation/Animation Programming

Program Syllabus

2017-2018



Instructor Name: <i>Chandrakasan Iyar</i> Department Name: <i>Business and Information Technology</i> Office/Classroom Location: <i>Building 7 – Room 176</i> Phone Number: <i>(754) 321-5100 x 493-3043</i> Email Address: <i>chandrakasan.iyar@browardschools.com</i>		Instructor Office Hours: <i>M-F: 6:30 am – 7:00 am</i> <i>2:00 pm – 3:30 pm by appointment</i>													
Student Hours: Monday – Friday <i>7:30 am – 2: 00 pm PSAV</i> Lunch <i>11:00 am – 11:35 am</i>		Program Name: <i>Game/Simulation/Animation Programming</i>													
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">OCPs</th> <th style="text-align: left;">Course Number : Course Name</th> <th style="text-align: left;">Hours / Days</th> </tr> </thead> <tbody> <tr> <td>A</td> <td><i>DIG0070 : Game/Simulation Designer</i></td> <td><i>300 / M-F</i></td> </tr> <tr> <td>B</td> <td><i>DIG0075 : Game/Simulation Programmer</i></td> <td><i>150 / M-F</i></td> </tr> <tr> <td>C</td> <td><i>DIG0076 : Game/Simulation Software Developer</i></td> <td><i>150 / M-F</i></td> </tr> </tbody> </table>	OCPs	Course Number : Course Name	Hours / Days	A	<i>DIG0070 : Game/Simulation Designer</i>	<i>300 / M-F</i>	B	<i>DIG0075 : Game/Simulation Programmer</i>	<i>150 / M-F</i>	C	<i>DIG0076 : Game/Simulation Software Developer</i>	<i>150 / M-F</i>	
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B	<i>DIG0075 : Game/Simulation Programmer</i>	<i>150 / M-F</i>													
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Technical College Policy/Adult Student Attendance: <ul style="list-style-type: none"> A student must be withdrawn after being absent for six (6) consecutive days. Two (2) additional absences may be allowed under certain circumstance with appropriate documentation. Please refer to the Student Handbook for postsecondary students. <p style="text-align: center;">http://www.atlantictechnicalcollege.edu/wp-content/uploads/2016/08/BTC_Handbook_2016-17.pdf</p>															
Magnet High School/Attendance Policy: A student who has had at least five unexcused absences, or absences for which the reasons are unknown, within a calendar month, or 10 unexcused absences, or absences for which the reasons are unknown, within a 90-calendar-day period, may be exhibiting a pattern of non-attendance (F.S.1003.26 (1) (b)) and the School Board of Broward County, Policy 5.5.															
Required Book(s): <ol style="list-style-type: none"> 1. <i>CIW JavaScript Specialist Electronic Student Kit</i> 		Required Materials/Supplies: <ol style="list-style-type: none"> 1. <i>Computer Headset</i> 2. <i>USB Drive / 8GB</i> 3. <i>Three-ring binder with index tabs</i> 4. <i>Pen, Pencil & Notebook</i> 													

All required books & most materials/supplies can be purchased from the school bookstore. Stop by during operational hours for pricing & purchasing information.

<p>Grading System:</p> <p>A 90 - 100%</p> <p>B 80 - 89%</p> <p>C 70 - 79%</p> <p>D 60 - 69%</p> <p>F 0 - 59%</p> <p>I Incomplete</p>	<p>Additional Program Specific Grading Information:</p> <p>Weekly Assignments 30%</p> <p>Projects & Labs 30%</p> <p>Exams & Test 30%</p> <p>Work Habits/Cert Prep 10%</p>
<p>Course Grading Policy:</p> <ul style="list-style-type: none"> Scheduled assignments are due each Monday by 11:59 pm. Late submission of work will affect the assignment grade. Students assume full responsibility for the content and integrity of the academic work they submit. The guiding principle of academic integrity shall be that a student's submitted work, examinations, reports, and projects must be that of the student's own work. Unless otherwise stated by the instructor, external references including books, calculators, notes and/or the Internet may not be utilized during assessments or exams. Blank scratch paper will be permitted during certain assessments. Exams may include an oral or lab/skills component and final exams will be completed in-person during a class/lab session. 	
<p>View Your Grades:</p> <p>Grades can be viewed online by following the directions below:</p> <ol style="list-style-type: none"> Go to https://browardfocus.com (access FOCUS using Chrome, Firefox or Safari) Student ID which is on your student schedule. Passcode: Student's date of birth formatted as YYYYMMDD. <i>Four digits for the year, two digits for the month and two digits for the day.</i> 	
<p>Class Room/ Lab Rules:</p> <ul style="list-style-type: none"> ✓ No food or beverages in the lab ✓ Cell phones on vibrate or turned off ✓ Sign in on the attendance sheet ✓ Follow all instructions given by ATC staff ✓ Come to class prepared to work ✓ Call or email instructor when absent 	
<p>Industry Credentials:</p> <ul style="list-style-type: none"> ✓ CIW JavaScript Specialist ✓ State of Florida Ready to Work 	<p>Outstanding Student Recognition Information:</p> <p>A gold seal will be applied to a Program Completion Certificate or an Applied Technology Diploma if the student has earned a 3.5 GPA or higher in their Career and Technical Education (CTE) classes.</p>

Program Name: Game/Simulation/Animation Programming

Course Number: DIG0070

Course Name: Game/Simulation Designer

Occupational Completion Point: A

Intended Outcomes: (From FL DOE Curriculum Framework)

- Create a game design production plan that describes the game play, outcomes, controls, interface and artistic style of a video game.
- Use information technology tools.
- Design and create a playable game.
- Categorize the different gaming genres.
- Categorize different gaming platforms.
- Understand the historical significance of electronic and non-electronic games.
- Describe the trends in current and future game development.
- Identify the business model commonly used in game development industries.
- Examine and categorize the significant processes in the production of games.
- Understand the core tasks and challenges that face a video game design team.
- Identify legal issues that affect games, developers and players.
- Demonstrate the professional level of written and oral communication required in the game development industry.
- Investigate career opportunities in the game industry.
- Demonstrate an understanding of the vocabulary of the industry for discussing games and play.
- Demonstrate research and information fluency.
- Demonstrate an understanding of the techniques used to evaluate game mechanics, game play, flow, and game design.
- Identify popular games and identify commonality between them.
- Understand the general procedure and requirements of game design.
- Explore the methods used to create and sustain player immersion.
- Become familiar with popular game tools such as DirectX, 3DMax, and different gaming engines.
- Demonstrate language arts knowledge and skills.
- Demonstrate mathematics knowledge and skills.
- Demonstrate science knowledge and skills.
- Create a working game or simulation individually or as part of a team.
- Describe the game development life cycle.
- Identify hardware constraints on video games including processors and I/O devices.
- Understand the general principles of storytelling.
- Understand character archetypes and character design.
- Understand the use of storyboarding in game design.
- Develop a game design document or cut.
- Understand outlining in game designs.
- Explore elements of puzzle design.
- Discuss game designer strategy considerations.
- Understand the process of creating and designing player choice.
- Create and design the game flow as it relates to story and plot.

- Assess common principles and procedures in game flow design.
- Describe player challenge rule creation elements.
- Identify tools and software commonly used in game development.
- Understand the technical methodologies for integrating digital media into a game or simulation.
- Identify commonly used art and animation production tools in the game design industry.
- Understand the general concepts of environmental design.
- Describe how environmental design is used in conjunction with game level design.
- Describe pertinent issues facing game designers.
- Describe Monte Carlo simulation as it relates to game design.
- Understand the use of inventory systems in game design.
- Use information technology tools.
- Describe the roles within a game studio.
- Describe the importance of professional ethics and legal responsibilities.

Program Name: Game/Simulation/Animation Programming

Course Number: DIG0075

Course Name: Game/Simulation Programming

Occupational Completion Point: B

Intended Outcomes: (From FL DOE Curriculum Framework)

- Identify functions of information processing.
- Test programs.
- Plan program design.
- Code programs.
- Perform program maintenance.
- Create and maintain documentation.
- Evaluate assigned game programming tasks.
- Implement enhanced program structures.
- Demonstrate the importance of health, safety, and environmental management systems in organizations and their importance to organizational performance and regulatory compliance.
- Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives.
- Explain the importance of employability skill and entrepreneurship skills.
- Demonstrate personal money-management concepts, procedures, and strategies.

Program Name: Game/Simulation/Animation Programming

Course Number: DIG0076

Course Name: Game/Simulation Software Developer

Occupational Completion Point: C

Intended Outcomes: (From FL DOE Curriculum Framework)

- Identify and describe basic network terminology and network security.
- Game configuration.
- Test programs.
- Plan program design.
- Create and maintain documentation.
- Code programs.
- Demonstrate an understanding of operating systems, environments, and platforms.
- Implement enhanced program structures.
- Implement multimedia programming.
- Develop an understanding of programming techniques and concepts.