



# Atlantic Technical College

## Game/Simulation/Animation Programming

### Program Syllabus

### 2017-2018



<b>Instructor Name:</b> <i>Ellen Williams</i> <b>Department Name:</b> <i>Business and Information Technology</i> <b>Office/Classroom Location:</b> <i>Building 7 – Room 177</i> <b>Phone Number:</b> <i>(754) 321-5100 x 493-3044</i> <b>Email Address:</b> <i>ellen.a.williams@browardschools.com</i>	<b>Instructor Office Hours:</b> <i>M-F: 6:30 am – 7:00 am</i> <i>2:00 pm – 3:00 pm by appointment</i>
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<b>Student Hours:</b> <b>Monday – Friday</b> <i>Online</i> <b>Lab Thursday</b> <i>5:30 pm – 8:30 pm</i>	<b>Program Name:</b> <i>Game/Simulation/Animation Programming – PSAV</i>												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%; padding: 5px;">OCPs</th> <th style="width: 60%; padding: 5px;">Course Number : Course Name</th> <th style="width: 30%; padding: 5px;">Hours</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">A</td> <td style="padding: 5px;"><i>DIG0070 : Game/Simulation Designer</i></td> <td style="text-align: center; padding: 5px;">300</td> </tr> <tr> <td style="text-align: center; padding: 5px;">B</td> <td style="padding: 5px;"><i>DIG0075 : Game/Simulation Programmer</i></td> <td style="text-align: center; padding: 5px;">150</td> </tr> <tr> <td style="text-align: center; padding: 5px;">C</td> <td style="padding: 5px;"><i>DIG0076 : Game/Simulation Software Developer</i></td> <td style="text-align: center; padding: 5px;">150</td> </tr> </tbody> </table>	OCPs	Course Number : Course Name	Hours	A	<i>DIG0070 : Game/Simulation Designer</i>	300	B	<i>DIG0075 : Game/Simulation Programmer</i>	150	C	<i>DIG0076 : Game/Simulation Software Developer</i>	150
OCPs	Course Number : Course Name	Hours											
A	<i>DIG0070 : Game/Simulation Designer</i>	300											
B	<i>DIG0075 : Game/Simulation Programmer</i>	150											
C	<i>DIG0076 : Game/Simulation Software Developer</i>	150											

**Technical College Policy/Adult Student Attendance:**

- A student must be withdrawn after being absent for six (6) consecutive days.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.

[http://www.atlantictechnicalcollege.edu/wp-content/uploads/2016/08/BTC\\_Handbook\\_2016-17.pdf](http://www.atlantictechnicalcollege.edu/wp-content/uploads/2016/08/BTC_Handbook_2016-17.pdf)

**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.

<b>Required Book(s):</b> <ol style="list-style-type: none"> <li>1. <i>Game Development Essentials (ISBN# 9781111307653)</i></li> <li>2. <i>CIW JavaScript Specialist Electronic Student Kit</i></li> </ol>	<b>Required Materials/Supplies:</b> <ul style="list-style-type: none"> <li><i>Computer Headset</i></li> <li><i>USB Drive / 8GB</i></li> <li><i>Three-ring binder with index tabs</i></li> <li><i>Pen, Pencil &amp; Notebook</i></li> <li><b>And most importantly, a positive attitude geared for success!</b></li> </ul>
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*All required books & most materials/supplies can be purchased from the school bookstore. Stop by during operational hours for pricing & purchasing information.*

<p><b>Grading System:</b></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><b>Additional Program Specific Grading Information:</b></p> <p>Assignments 40%</p> <p>Average of Tests 50%</p> <p>Work Habits 10%</p>
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<p><b>Course Grading Policy:</b></p> <ul style="list-style-type: none"> <li>Scheduled assignments are due each Monday by 11:59 pm. Late submission of work will affect the assignment grade.</li> <li>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.</li> <li>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.</li> <li>Exams may include an oral or lab/skills component and final exams will be completed in-person during a class/lab session.</li> </ul>
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<p><b>View Your Grades:</b></p> <p><b>Grades can be viewed online by following the directions below:</b></p> <ol style="list-style-type: none"> <li>Go to <a href="https://browardfocus.com">https://browardfocus.com</a> (access FOCUS using Chrome, Firefox or Safari)</li> <li>Student ID which is on your student schedule.</li> <li>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></li> </ol>
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<p><b>Class Room/ Lab Rules:</b></p> <ul style="list-style-type: none"> <li>✓ No food or beverages in the lab</li> <li>✓ Cell phones on vibrate or turned off</li> <li>✓ Sign in on the attendance sheet</li> <li>✓ Follow all instructions given by ATC staff</li> <li>✓ Come to class prepared to work</li> <li>✓ Call or email instructor when absent</li> </ul>
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<p><b>Industry Credentials:</b></p> <ul style="list-style-type: none"> <li>✓ CIW JavaScript Specialist</li> </ul>	<p><b>Outstanding Student Recognition Information:</b></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>
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**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.