

The Game Design and Development A.A.S. Degree prepare students for a broad range of careers in the Gaming industry, including independent game developer, computer programmer and game artist. Graduates of the degree may also elect to work in multimedia or graphic design capacities. Students will develop 2D and 3D digital modeling, digital animation, and programming skills using an industry standard gaming engine. Course electives allow students to gain experience with art concepts, digital sound editing and additional 3D modeling tools. Students will develop a Portfolio while completing the degree to show to prospective employers.

The number of local companies in Game development in Colorado is increasing; please check the Colorado Game developer association website for more information: <https://www.igda.org/colorado>. However, as U.S. game studios tend to be concentrated in specific cities, graduates may need to relocate to pursue a career in this field. Students can pursue a 4-year degree by transferring their courses to the University of Denver’s Animation and Game Development degree. Please see an advisor for more details.

Required Courses	Credits	Pre or Co Reqs Rqd	Course Availability		
			Fall	Spr	Sum
<b>General Education Courses</b>					
• ART 121 - Drawing I	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• BUS 217 - Business Communication & Report Writing	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• COM 115 - Public Speaking* OR COM 125 - Interpersonal Communication	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• ENG 121 - English Composition GT-CO1 OR ENG 131 - Technical Writing GT-CO1*	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• MAT 121 - College Algebra: GT-MA1 or Higher*	3-4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Major Courses</b>					
• CIS 289 - Capstone	3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• CSC 119 - Introduction to Programming OR CSC 116 - Programming Logic	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• CSC 126 - Game Design and Development	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• CSC 160 - Computer Science I: Java*	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• CSC 161 - Computer Science II: Java	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• CSC 200 - Game Programming I	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• CSC 227 - 3D Game Programming	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Major Elective (See Notes for specific requirements)	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• Major Elective (See Notes for specific requirements)	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• Major Elective (See Notes for specific requirements)	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• Major Elective (See Notes for specific requirements)	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• MGD 111 - Adobe Photoshop I	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• MGD 143 - Motion Graphic Design I	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• MGD 153 - 3D Animation I	3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Pre-Requisites, Co-Requisites, and Recommendations (grade C or better required)

Where requirements are listed as course categories (e.g. Electives, Arts/Humanities) rather than as specific courses, please note that depending upon course choice, pre-requisites may be required.

CSC 160 - Computer Science I: Java\*

- Pre-Requisite: CSC 119 - Introduction to Programming: Java

CSC 161 - Computer Science II: Java

- Pre-Requisite: CSC 160 - Computer Science I: Java

CSC 200 - Game Programming I

- Pre-Requisite: MGD 143 - Motion Graphic Design I

CSC 227 - 3D Game Programming

- Pre-Requisite: CSC 200 - Game Programming I
- Pre-Requisite: MGD 153 - 3D Animation I

### Program Outcomes

- Apply game design concepts to new environments.
- Understand the syntax of a computer language.
- Demonstrate ability to create a complete game.

### Notes

- \*This course requires college level readiness as measured by Accuplacer, ACT, or SAT scores; approved high school course work that is less than five years old; or successful completion of appropriate college-readiness course.
- AAA 101 – College 101: Student Experience is required for all new college students seeking degrees or transfer.
- Course availability is subject to change.
- Major Electives: Any approved class with a prefix of CSC or MGD.
- Recommended courses may be listed above for certain electives; consult with the Academic Advising Office ([advising@arapahoe.edu](mailto:advising@arapahoe.edu) or 303.797.5664) for additional elective recommendations.
- Refer to 19/20 catalog for specific requirements and important information about this degree.

### Graduation Requirements

- To graduate, students must apply for graduation (form available at [www.arapahoe.edu/departments-and-programs/graduation](http://www.arapahoe.edu/departments-and-programs/graduation)) by the deadline and meet all degree requirements.

RECOMMENDED COURSE SEQUENCE FULL-TIME TRACK

Year 1: Fall	Credits	Course
	3	ART 121 - Drawing I
	3	CSC 119 - Introduction to Programming
	3	CSC 126 - Game Design and Development
	3	ENG 121 - English Composition GT-CO1 OR ENG 131 - Technical Writing GT-CO1
	3-4	MAT 121 - College Algebra: GT-MA1 or Higher
Year 1: Spring	Credits	Course
	3	BUS 217 - Business Communication & Report Writing
	3	COM 115 - Public Speaking OR COM 125 - Interpersonal Communication
	4	CSC 160 - Computer Science I: Java
	3	MGD 111 - Adobe Photoshop I
	3	MGD 143 - Motion Graphic Design I
Year 2: Fall	Credits	Course
	4	CSC 161 - Computer Science II: Java
	3	CSC 200 - Game Programming I
	3	Major Elective ~Recommended Restricted Elective(s)~ ART 221 - Drawing II CIS 202 - Automated Project Management: MS Project CSC 129 - Introduction to Security Coding CSC 217 - Advanced Python Programming CSC 233 - Object-Oriented Prog.: (Java) MAR 106 - Marketing Your Image MAT 201 - Calculus I: GT-MA1
	3	Major Elective ~Recommended Restricted Elective(s)~ ART 131 - Visual Concepts 2-D Design BUS 120 - Introduction to E-Commerce CIS 118 - Intro to PC Applications CIS 202 - Automated Project Management: MS Project CSC 129 - Introduction to Security Coding CSC 217 - Advanced Python Programming MAT 122 - College Trigonometry: GT-MA1
Year 2: Spring	Credits	Course
	3	CIS 289 - Capstone
	3	CSC 227 - 3D Game Programming
	3	Major Elective ~Recommended Restricted Elective(s)~ CSC 129 - Introduction to Security Coding CSC 160 - Computer Science I: Java* CSC 233 - Object-Oriented Prog.: (Java) CSC 245 - Secure Software Development CSC 246 - Mobile App Development MAR 216 - Principles of Marketing MGD 112 - Adobe Illustrator I



60 Credits

- |   |   |
|---|---|
| 3 | Major Elective                            |
|   | ~Recommended Restricted Elective(s)~      |
|   | CSC 129 - Introduction to Security Coding |
|   | CSC 161 - Computer Science II: Java       |
|   | CSC 233 - Object-Oriented Prog.: (Java)   |
|   | CSC 245 - Secure Software Development     |
|   | CSC 246 - Mobile App Development          |
|   | MGD 112 - Adobe Illustrator I             |
|   | MGD 243 - Web Motion Graphic Design II    |
| 3 | MGD 153 - 3D Animation I                  |

RECOMMENDED COURSE SEQUENCE PART-TIME TRACK

Year 1: Fall	Credits	Course
	3	CSC 119 - Introduction to Programming
	3	CSC 126 - Game Design and Development
	3-4	MAT 121 - College Algebra: GT-MA1 or Higher
Year 1: Spring	Credits	Course
	3	ART 121 - Drawing I
	4	CSC 160 - Computer Science I: Java
	3	MGD 143 - Motion Graphic Design I
Year 1: Summer	Credits	Course
	3	BUS 217 - Business Communication & Report Writing
	3	ENG 121 - English Composition GT-CO1 OR ENG 131 - Technical Writing GT-CO1
Year 2: Fall	Credits	Course
	3	COM 115 - Public Speaking OR COM 125 - Interpersonal Communication
	3	CSC 200 - Game Programming I
	3	MGD 111 - Adobe Photoshop I
Year 2: Spring	Credits	Course
	3	CSC 227 - 3D Game Programming
	3	MGD 153 - 3D Animation I
Year 2: Summer	Credits	Course
	3	Major Elective ~Recommended Restricted Elective(s)~ ART 221 - Drawing II CIS 202 - Automated Project Management: MS Project CSC 129 - Introduction to Security Coding CSC 217 - Advanced Python Programming CSC 233 - Object-Oriented Prog.: (Java) MAR 106 - Marketing Your Image MAT 201 - Calculus I: GT-MA1
	3	Major Elective ~Recommended Restricted Elective(s)~ ART 131 - Visual Concepts 2-D Design BUS 120 - Introduction to E-Commerce CIS 118 - Intro to PC Applications CIS 202 - Automated Project Management: MS Project CSC 129 - Introduction to Security Coding CSC 217 - Advanced Python Programming MAT 122 - College Trigonometry: GT-MA1
Year 3: Fall	Credits	Course
	4	CSC 161 - Computer Science II: Java

3 Major Elective

~Recommended Restricted Elective(s)~  
 CSC 129 - Introduction to Security Coding  
 CSC 160 - Computer Science I: Java\*  
 CSC 233 - Object-Oriented Prog.: (Java)  
 CSC 245 - Secure Software Development  
 CSC 246 - Mobile App Development  
 MAR 216 - Principles of Marketing  
 MGD 112 - Adobe Illustrator I

**Year 3: Spring**

**Credits**

**Course**

3 CIS 289 - Capstone

3 Major Elective

~Recommended Restricted Elective(s)~  
 CSC 129 - Introduction to Security Coding  
 CSC 161 - Computer Science II: Java  
 CSC 233 - Object-Oriented Prog.: (Java)  
 CSC 245 - Secure Software Development  
 CSC 246 - Mobile App Development  
 MGD 112 - Adobe Illustrator I  
 MGD 243 - Web Motion Graphic Design II