

The Game Design and Development degree is a two-year Associate of Applied Science program that prepares students to work as a game developer or computer programmer.

There are three types of courses students will focus on in the degree: general computer science classes ensure every student has a solid programming background applicable to any development position, game development classes make certain students know how to apply their programming skill to create engaging games using an industry standard game engine, and art and multimedia courses provide the creative background necessary for students to effectively integrate with the diverse teams that work on modern games. Electives allow a student to customize their degree with additional classes in a chosen area of focus.

Required Courses	Credits	Pre or Co Reqs Rqd	Course Availability		
			Fall	Spr	Sum
<b>General Education Courses</b>					
• ART 121 - Drawing I (3 Cr.)	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• BUS 217 - Business Communication & Report Writing (3 Cr.)	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 Cr.)	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 checked="" 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Major Courses</b>					
• CIS 289 - Capstone (3 Cr.)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• CSC 119 - Introduction to Programming (3 Cr.)	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• CSC 126 - Game Design and Development (3 Cr.)	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• CSC 160 - Computer Science I* (4 Cr.)	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• CSC 161 - Computer Science II (4 Cr.)	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• CSC 200 - Game Programming I (3 Cr.)	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• CSC 227 - 3D Game Programming (3 Cr.)	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• CSC 246 - Mobile App Development (3 Cr.)	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Major Elective (See Notes for specific requirements)	3-4	<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 Cr.)	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• MGD 143 - Motion Graphic Design I (3 Cr.)	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• MGD 153 - 3D Animation I (3 Cr.)	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\* (4 Cr.)

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

CSC 161 - Computer Science II (4 Cr.)

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

CSC 200 - Game Programming I (3 Cr.)

- Pre-Requisite: CSC 126 - Game Design and Development

CSC 227 - 3D Game Programming (3 Cr.)

- Pre-Requisite: CSC 200 - Game Programming I

CSC 246 - Mobile App Development (3 Cr.)

- Pre-Requisite: CSC 161 - Computer Science II

ENG 121 - English Composition GT-CO1 OR ENG 131 - Technical Writing GT-CO1\*

- Co-Requisite: CCR 094 - Studio 121

MAT 121 - College Algebra: GT-MA1 or Higher\*

- Co-Requisite: MAT 093 - Algebra Lab\* (1 Cr.) OR MAT 077 - Prep Lab for College Algebra (2 Cr.)
- Pre-Requisite: MAT 055 - Algebraic Literacy (4 Cr.) or appropriate score

### 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.
- In order to meet program requirements, students registered for ENG 121 or ENG 131 must also register for CCR 094 unless they can demonstrate otherwise meeting the CCR 094 standard through assessment testing, prior college coursework, or recent High School coursework. See an Advisor for details.
- Major Electives: Students must take 9-10 credit hours from the following: ART 221, ART 131, BUS 120, CIS 118, CIS 202, CSC 165, CSC 217, CSC 236, MAR 106, MAR 216, MAT 201 or higher, MGD 101, MGD 112, MGD 163, MGD 243, or any MGD or CSC course approved by department.
- Recommended courses may be listed above for certain electives; consult with the Academic Advising Office (advising@arapahoe.edu or 303.797.5664) for additional elective recommendations.
- Refer to 21/22 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.



60 Credits

RECOMMENDED COURSE SEQUENCE FULL-TIME TRACK

Year 1: Fall	Credits	Course
	3	ART 121 - Drawing I (3 Cr.)
	3	CSC 119 - Introduction to Programming (3 Cr.)
	3	CSC 126 - Game Design and Development (3 Cr.)
	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	COM 115 - Public Speaking OR COM 125 - Interpersonal Communication (3 Cr.)
	4	CSC 160 - Computer Science I (4 Cr.)
	3	CSC 200 - Game Programming I (3 Cr.)
	3	MGD 111 - Adobe Photoshop I (3 Cr.)
	3	MGD 143 - Motion Graphic Design I (3 Cr.)
Year 2: Fall	Credits	Course
	3	BUS 217 - Business Communication & Report Writing (3 Cr.)
	4	CSC 161 - Computer Science II (4 Cr.)
	3	CSC 227 - 3D Game Programming (3 Cr.)
	3	Major Elective ~Recommended Restricted Elective(s)~ ART 131 - Visual Concepts 2-D Design (3 Cr.) BUS 120 - Introduction to E-Commerce (3 Cr.) CIS 118 - Intro to PC Applications (3 Cr.) CIS 202 - Automated Project Management: MS Project (3 Cr.) CSC 129 - Introduction to Security Coding (3 Cr.) CSC 165 - Discrete Structures (4 Cr.) CSC 217 - Advanced Python Programming
	3	MGD 153 - 3D Animation I (3 Cr.)
Year 2: Spring	Credits	Course
	3	CIS 289 - Capstone (3 Cr.)
	3	CSC 246 - Mobile App Development (3 Cr.)
	3-4	Major Elective ~Recommended Restricted Elective(s)~ CSC 129 - Introduction to Security Coding (3 Cr.) CSC 160 - Computer Science I* (4 Cr.) CSC 165 - Discrete Structures (4 Cr.) CSC 233 - Object-Oriented Prog.: (Java) (3 Cr.) CSC 245 - Secure Software Development (3 Cr.) CSC 246 - Mobile App Development (3 Cr.) MAR 216 - Principles of Marketing (3 Cr.) MGD 112 - Adobe Illustrator I (3 Cr.)

3 Major Elective

~Recommended Restricted Elective(s)~

CSC 129 - Introduction to Security Coding (3 Cr.)

CSC 161 - Computer Science II (4 Cr.)

CSC 165 - Discrete Structures (4 Cr.)

CSC 233 - Object-Oriented Prog.: (Java) (3 Cr.)

CSC 245 - Secure Software Development (3 Cr.)

CSC 246 - Mobile App Development (3 Cr.)

MGD 112 - Adobe Illustrator I (3 Cr.)

MGD 243 - Web Motion Graphic Design II

RECOMMENDED COURSE SEQUENCE PART-TIME TRACK

Year 1: Fall	Credits	Course
	3	CSC 119 - Introduction to Programming (3 Cr.)
	3	CSC 126 - Game Design and Development (3 Cr.)
	3-4	MAT 121 - College Algebra: GT-MA1 or Higher
Year 1: Spring	Credits	Course
	4	CSC 160 - Computer Science I (4 Cr.)
	3	CSC 200 - Game Programming I (3 Cr.)
	3	MGD 143 - Motion Graphic Design I (3 Cr.)
Year 1: Summer	Credits	Course
	3	ART 121 - Drawing I (3 Cr.)
	3	ENG 121 - English Composition GT-CO1 OR ENG 131 - Technical Writing GT-CO1
Year 2: Fall	Credits	Course
	4	CSC 161 - Computer Science II (4 Cr.)
	3	MGD 153 - 3D Animation I (3 Cr.)
Year 2: Spring	Credits	Course
	3	CSC 246 - Mobile App Development (3 Cr.)
	3	Major Elective ~Recommended Restricted Elective(s)~ ART 131 - Visual Concepts 2-D Design (3 Cr.) BUS 120 - Introduction to E-Commerce (3 Cr.) CIS 118 - Intro to PC Applications (3 Cr.) CIS 202 - Automated Project Management: MS Project (3 Cr.) CSC 129 - Introduction to Security Coding (3 Cr.) CSC 165 - Discrete Structures (4 Cr.) CSC 217 - Advanced Python Programming
	3	MGD 111 - Adobe Photoshop I (3 Cr.)
Year 2: Summer	Credits	Course
	3	BUS 217 - Business Communication & Report Writing (3 Cr.)
	3	COM 115 - Public Speaking OR COM 125 - Interpersonal Communication (3 Cr.)
Year 3: Fall	Credits	Course
	3	CSC 227 - 3D Game Programming (3 Cr.)
	3	Major Elective ~Recommended Restricted Elective(s)~ CSC 129 - Introduction to Security Coding (3 Cr.) CSC 161 - Computer Science II (4 Cr.) CSC 165 - Discrete Structures (4 Cr.) CSC 233 - Object-Oriented Prog.: (Java) (3 Cr.) CSC 245 - Secure Software Development (3 Cr.) CSC 246 - Mobile App Development (3 Cr.) MGD 112 - Adobe Illustrator I (3 Cr.) MGD 243 - Web Motion Graphic Design II



Year 3: Spring	Credits	Course
	3	CIS 289 - Capstone (3 Cr.)
	3-4	Major Elective
		~Recommended Restricted Elective(s)~
		CSC 129 - Introduction to Security Coding (3 Cr.)
		CSC 160 - Computer Science I* (4 Cr.)
		CSC 165 - Discrete Structures (4 Cr.)
		CSC 233 - Object-Oriented Prog.: (Java) (3 Cr.)
		CSC 245 - Secure Software Development (3 Cr.)
		CSC 246 - Mobile App Development (3 Cr.)
		MAR 216 - Principles of Marketing (3 Cr.)
		MGD 112 - Adobe Illustrator I (3 Cr.)