

COURSE OUTLINE**Computer Science and Information Systems/Art 267
Introduction to Game Development****I. Catalog Statement**

Computer Science and Information Systems/ART ___ presents a detailed overview of the game development process, addressing subjects such as game technologies, content creation strategies, production techniques, game psychology, and criteria that determine game success. Career paths in the game entertainment field will be discussed, as well as the history of video game design and programming. The student will examine future industry predictions and the relationship between industry inner workings and production tools.

Units – 3.0

Lecture Hours – 3.0

Prerequisite: None

II. Course Entry Expectations

Skills Level Ranges: Reading 4; Writing 4; Listening/Speaking 4; Math 3.

III. Course Exit Standards

Upon successful completion of the required coursework, the student will be able to:

1. discuss the history of game design and development and where it is headed in the future;
2. discuss the game market and various game types and elements;
3. explain and discuss the techniques of storytelling, character creation, game-play creation and level design;
4. explain and discuss the game development process and the roles of the various team members in the process.

IV. Course Content

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|----|--|---------|
| A. | History of Game Development | 2 hours |
| | 1. Arcade and pre-arcade | |
| | 2. Console games | |
| | 3. Personal computer revolution | |
| | 4. MMOGs (massive multiplayer online games) | |
| | 5. Convergence of console and PC games | |
| | 6. Looking ahead | |
| B. | Player Elements (The Game Market): Game Psychology, Motivation | 3 hours |
| | 1. Player motivation | |
| | a. Social and psychological motivators | |
| | b. Knowledge and self-growth motivators | |
| | 2. Player geographies (markets across the world) | |
| | 3. Player psychographics (values, attitudes, lifestyles) | |
| | 4. Player demographics | |
| | 5. Game markets of various generations | |
| C. | Game Elements (Types, Genres etc.) | 3 hours |

1. Game applications
 - a. Entertainment
 - b. Community building
 - c. Education
 - d. Recruitment and training
 - e. Marketing and advertising
 2. Platforms
 - a. Arcade, console, personal computer
 - b. Online (two network types), handheld, tabletop
 3. Player modes (single player etc)
 4. Genres
 - a. Action (shooter, racing etc.)
 - b. Adventure and action adventure
 - c. Puzzle
 - d. RPGs (role playing games)
 - e. Simulations
 - f. MMOGs (massive multiplayer online games)
 5. Concept development and documentation
- D. Storytelling (Creating Content) 3 hours
1. Generating ideas
 2. Traditional story structure
 3. Story elements
 4. Plot
 5. Game story devices
- E. Character Creation and Identity 3 hours
1. Game characters
 - a. Player characters and avatars
 - b. Non player characters
 2. Classic character archetypes
 3. Character development elements
 - a. Character triangle
 - b. Character arc
 4. Point of view
 5. Visual character development
 6. Verbal character development
 7. Character background, history and advancement planning
 8. Character description and documentation
- F. Gameplay Creation (Game World/Environment) 3 hours
1. Rules of play
 2. Interactivity modes
 3. Game theory
 4. Types of challenges
 5. Game balance
- G. Level Design 3 hours
1. Structure
 2. Time
 3. Space
- H. Interface Design 3 hours
1. Player centered design

2.	Interface and game features	
3.	Interface types	
a.	Manual interfaces	
b.	Visual interfaces	
4.	Interface components	
5.	Genre specific features	
6.	Usability	
7.	Save game options	
I.	Creating Atmosphere with Audio	3 hour
1.	Importance of audio	
2.	Game audio formats	
3.	Sound effects, voiceovers, music	
J.	Game Implementation (Programming)	3 hours
1.	Language selection	
a .	Java, C++, scripting languages	
b.	Roles of various languages	
c.	Strengths and weaknesses of various languages	
2.	The programming process	
a.	Code design	
b.	Prototyping	
c.	Code implementation	
d.	Debugging (five steps)	
3.	Network and multiplayer programming	
4.	Various programmer roles	
K.	Team Roles and Responsibilities	3 hours
1.	Company roles	
2.	Team roles	
a.	Production	
b.	Design	
c.	Art	
d.	Programming	
e.	Audio	
f.	Testing and quality assurance	
3.	Game development tools used	
L.	Game Development Process	3 hours
1.	Concept	
2.	Pre-Production	
3.	Prototype	
4.	Production	
5.	Alpha, beta, gold	
6.	Management of the game development process	
7.	Game documentation	
M.	Marketing and Maintenance	3 hours
N.	Future of Game Development	3 hours
O.	Developing and Creating a Complete Game Concept	7 hours

V. **Methods of Presentation**

The following instructional methodologies may be used in the course:

1. lecture/demonstration;

2. hands-on activities;
3. multimedia;
4. online.

VI. Assignments and Methods of Evaluation

1. Assignments and Projects
2. Midterm examination.
3. Final examination.

VII. Textbooks

Novak, J., Game Development Essentials, Current edition.
Clifton Park, NY: Delmar Cengage Learning, 2008.
10th Grade Textbook Reading Level. ISBN: 978-1-4180-4208-0.

Rabin, Steve, Introduction to Game Development, Current edition.
Boston, MA: Course Technology, 2008.
10th Grade Textbook Reading Level. ISBN: 978-1-58450-377-4.

Kenneth C. Finney, 3D Game Programming All in One, Second Edition.
Course Technology, 2007: Boston, MA
10th Grade Textbook Reading Level. ISBN: 978-1-5986-3266-8.

VIII. Student Learning Outcomes

Upon successful completion, the student will be able to:

1. discuss the history of game design and development and where it is headed in the future;
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