New York City College of Technology
The City University of New York

Department of Communication Design

COMD 3508 – Introduction to Game Design

Introduction to the principles, practice and techniques of game design. The first part of the course will focus on game design theory and history. Students will critically examine strategy and puzzle games, game structure types, 2D and 3D games, storytelling in games, cut scenes, difficulty curves and multiplayer/single player games. The course will also explore the game design process from research and development, to character and environment concepts, design specifications and level and user interaction design. The role of games editors, game physics and digital modeling will also be studied. The course will also examine the design production process, production realities, prototyping and how to pitch ideas. Case studies of contemporary games will be an integral part of lectures and laboratory exercises. Working individually or in teams, students will research, write, design, storyboard and pitch games. Software applications such as Maya, Milkshape 3D or Blender may be used.

2 cl hrs, 2 lab hrs, 3 crs

Prerequisite: COMD 2450 and COMD 3523, or MTEC 2120 and MTEC 3125;
Pre- or corequisite: COMD 3523

Course Objectives

INSTRUCTIONAL OBJECTIVES	ASSESSMENT
For the successful completion of this course, students should be able to:	**Evaluation methods and criteria**
I. Game Design Theory: Define and describe the theory and history of the game industry and the difference between non-digital and digital games.	Students will demonstrate understanding through laboratory exercises and a graded written exam.
Define and describe the differences between shoot-‘em-ups, first-person shooter, platform (hazardous gameworlds), strategy and puzzle games.	Students will demonstrate understanding through laboratory exercises and writing assignments.

INSTRUCTIONAL OBJECTIVES	ASSESSMENT
Define and describe game structure types (linear vs. non-linear games).	Students will demonstrate understanding through laboratory exercises and writing assignments.
Define and describe: single player vs. multi-player games; platform-specific design issues; realism vs. abstraction.	Students will demonstrate understanding through laboratory exercises and a graded written exam.
Define and describe: 2D and 3D games; first person vs. third person games; issues in replicating reality in games.	Students will demonstrate understanding through laboratory exercises and writing assignments.
Define and describe: storytelling in games; the role of cut scenes; motivation and objectives; players' roles; difficulty curves and game design catchwords.	Students will demonstrate understanding through laboratory exercises and writing assignments.
II. Game Design Process: Define and describe the game design process; sources; roles; inspirations.	Students will demonstrate understanding through laboratory exercises and writing assignments.
Research and develop a game concept.	Students will demonstrate ability to describe a game by answering specific questions and following guidelines.
Write a Pitch Document.	Students will include listed items on the Pitch Document Checklist.
Produce a Games Design Document (GDD).	Students will demonstrate ability to write a basic GDD following specifications.
Define and describe: level design; user interaction design; games editors; games physics.	Students will demonstrate understanding through laboratory exercises and writing assignments.
Define and describe: digital modeling; digital modeling applications, 3D modeling methods.	Students will demonstrate understanding through laboratory exercises and writing assignments.
Define and describe: props and set-dressing; texturing; character building, music and audio design.	Students will demonstrate understanding through laboratory exercises and writing assignments.

INSTRUCTIONAL OBJECTIVES	ASSESSMENT
III. Game Design Production: Define and describe the game production process; production realities; tools of the trade; prototyping.	Students will demonstrate understanding through laboratory exercises and writing assignments.
Describe the pitching process and develop a pitch for presentation.	Students will demonstrate understanding through laboratory exercises and writing assignments
Describe career paths and possibilities.	Students will demonstrate understanding through writing assignments

General Education Outcome covered:	How the outcome is assessed:
Thinking Critically The student will demonstrate the ability to evaluate evidence and apply reasoning to make valid inferences.	Evaluate through class critique to determine how well students were able to advance their project concepts by applying evidence and using logic to make decisions.
Oral Communication Speaking: The student will demonstrate the ability to articulate himself using relevant industry-specific language	Evaluate through class discussion and /or written tests if students use appropriate nomenclature to defend creative, critical and technical decisions in project concepts and development.
Writing The student will demonstrate the ability to write clearly articulated thoughts in a professional, informed manner.	Evaluate how well students absorbed and consequently applied the learning though graded written portions of projects.

Teaching/Learning Method

- Lecture/ Readings
- Demonstrations
- Project based lab
- Research Assignments
- Blackboard Descriptions

Attendance (College) and Lateness (Department) Policies:

Attendance is taken and is important to success in this class. Both absences and arrival more than 15 minutes after the start of class will be marked. If excessive, the instructor will alert the student that he or she may be in danger of not meeting the course objectives and participation expectations, which could lead to a lower grade.

Academic Integrity Standards

Students and all others who work with information, ideas, texts, images, music, inventions, and other intellectual property owe their audience and sources accuracy and honesty in using, crediting, and citing sources. As a community of intellectual and professional workers, the College recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity. Accordingly, academic dishonesty is prohibited in The City University of New York and at New York City College of Technology and is punishable by penalties, including failing grades, suspension, and expulsion.

Grading

- Participation 10%
- Exams 15%
- Reading/Writing/Homework 20%
- Creative Projects 20%
- Final Project 10%

Total 100%

Topics

WEEK	Lecture Topic	Laboratory Exercise	Homework/Reading Assignment
1	**I. Game Design Theory**: Course overview. Industry figures. Game history; non-digital games. Presentation of selected games for discussion and critique. Online game-related websites as a resource. Guidelines for playing and writing a game review.	Practice playing non-digital games. Practice searching online game-related websites such as: http://www.gamasutra.com http://www.igf.com http://www.popcap.com http://zone.msn.com Practice selecting an online game to play and review.	01: Design Theory: History, Non-Digital Games, Pp. 12-13, 14-17. Research and write game review.

WEEK	Lecture Topic	Laboratory Exercise	Homework/Reading Assignment
2	Presentation of preliminary game reviews for discussion and critique. Presentation of shoot-‘em-ups, first-person shooter, platform (hazardous gameworlds), strategy and puzzle games with case studies.	Practice playing and analyzing non-digital games. Practice selecting an online game to play and review.	01: Design Theory: Shoot-‘em-ups, First-person shooter, Platform games, Strategy games, Puzzle games, Pp. 24-25, 26-29, 30-31. Write final game review.
3	Presentation of final game reviews. Presentation of game structure types (linear vs. non-linear games) with case studies.	Practice playing and analyzing linear vs. non-linear games.	01: Design Theory: Game structure types, Case studies, Pp. 32-37.
4	Presentation of single player vs. multi-player games; platform-specific design issues; realism vs. abstraction. Case studies.	Practice playing and analyzing single player vs. multi-player games.	01: Design Theory: Single player vs. multiple player; Case studies; Platform-specific design; Realism and Abstraction, Pp. 38-47. Research and write game review
5	Presentation of 2D and 3D games; first person vs. third person games; issues in replicating reality in games with case studies.	Practice playing and analyzing 2D and 3D games; first person vs. third person games.	01: Design Theory: 2D and 3D games; Case studies; First person vs. third person; Realworld to gameworld. Pp. 48-57.
6	Presentation of storytelling in games; the role of cut scenes; motivation and objectives; players’ roles; difficulty curves and game design catchwords.	Practice analyzing storytelling in games; the role of cut scenes; motivation and objectives; players’ roles; difficulty curves and game design catchwords.	01: Design Theory: Storytelling in games; Cut scenes; Motivation and objectives; Players’ roles; Difficulty curves; Game design catchwords. Pp. 58-71.

WEEK	Lecture Topic	Laboratory Exercise	Homework/Reading Assignment
7	Mid-term exam. **II. Game Design Process**: Presentation of the game design process; sources; roles; inspirations. Case studies.	Practice in starting the design process; practice in organizing ideas and resources; practice in seeking design inspiration; practice in working with a sketchbook.	02: Design Process: Starting the design process; design inspirations; Pp. 74-83. Research and develop a game concept.
8	Presentation of the research and development process; gathering material; game concepts; character concepts; environment concepts. Case studies.	Practice in researching and developing a game: gathering material; exploring game concepts, character concepts and environment concepts.	02: Design Process: Research and development; Gathering material; Game concept; Character concepts; Environment concept. Pp. 84-101. Research and develop a game concept.
9	Presentation of the Pitch Document: guidelines. Case studies. Student presentation of preliminary game concepts for class critique and discussion.	Practice writing a pitch document based on a concept for a new game.	02: Design Process: Communication and writing; Detailed design specifications. Pp. 102-107. Write a pitch.
10	Presentation of the Games Design Document (GDD): Guidelines. Case Studies. Student presentation of pitch documents for class critique and discussion.	Practice writing a Games Design Document.	02: Design Process: Communication and writing; Detailed design specifications. *(continued)* Pp. 102-107. Write preliminary GDD.
11	Presentation of level design; user interaction design; games editors; games physics. Case studies.	Continued practice writing a Games Design Document.	02: Design Process: Level design; User interaction design; Games editors; Games physics. Pp. 108-125. Write final GDD.

WEEK	Lecture Topic	Laboratory Exercise	Homework/Reading Assignment
12	Presentation: Survey of digital modeling; digital modeling applications, 3D modeling methods. Case studies. Presentation of props and set-dressing; texturing; character building, music and audio design. Case studies. Student presentation of Games Design Documents for class critique and discussion.	Practice working with digital modeling applications and model methods.	02: Design Process: Digital modeling; Digital modeling applications, 3D modeling methods. Pp. 126-133. 02: Design Process: Props and set-dressing; Texturing; Building a character; Music and audio design. Pp. 134-163.
13	**III. Game Design Production**: Define and describe the game production process including production and management planning; production realities; tools of the trade (accessible software packages); prototyping. Case studies.	Practice analyzing the game production process; practice working with management planning; production realities; tools of the trade; practice with prototyping.	03: Design Production: The production process; Production realities; Tools of the trade; Prototyping; Pp. 134-175. Research and write final pitch for game concept.
14	Presentation on the pitching process and developing a pitch for presentation. Describe career paths and possibilities.	Practice developing final pitch based on final game concept.	03: Design Production: Pitching ideas; Where to from here? Pp. 176-177; Pp. 180-183. Research and write final pitch for game concept.
15	Final Exam. Presentation of final student game concepts and pitches.	Students will present their final game projects and for the final critique.	

Suggested Text:
Thompson, Jim, Berbank-Green Barnaby, Cusworth, Nic. *Game Design: Principles, Practices, Techniques.* John Wiley and Sons, 2007.

Bibliography

Church, Doug, Della Rocca, Jason, Hunicke, Robin, Spector, Warren, Zimmerman, Eric. *International Games Developers Association (IDGA) Curriculum Framework: The Study of Games and Game Development.* IDGA Education Committee, 2003.

www.idga.org/academia

http://www.gamasutra.com/

http://www.igf.com

http://www.popcap.com

http://zone.msn.com

http://www.aaai.org/AITopics/pmwiki/pmwiki.php/AITopics/VideoGamesAndToys

http://www.gamedev.net/reference

Heller, Steven and Womack, David. *Becoming A Digital Designer. A Guide to Careers in Web, Video, Broadcast, Game and Animation Design.* John Wiley and Sons, 2008.

Heller, Steven and Dooley, Michael. *Teaching Motion Design.* Allworth Press, 2008.