**Zarqa University**
**Faculty: Information Technology**
**Department: Internet Technology**
**Course title: Internet Game Design**
 **(1504382)**

**Instructor:**
**Lecture's time:**
**Semester:**
**Office Hours:**

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**Course description:**

 Aesthetic and technical aspects of computer game development, including game mechanics, story development, content creation and game programming. Topics include game design, interface design, 3D modeling & animation, graphics algorithms, shader programming and AI.

**Aims of the course:**

 Students will learn the aesthetic and technical aspects of game development including story development, game play & mechanics, interface design, game content development, game programming, prototype development, play testing and project management. And at the end of the course, students will have designed a new game, developed the story board and art assets for the game and implemented a playable prototype.

**Intended Learning Outcomes: (ILOs)**
   **A.** Give an introduction to computer game development starting from concept development to implementation of a playable game prototype.

   **B.** Aesthetic and technical aspects of game development will be covered.

   **C.** Focus on programming tools and concepts for games, including data structures & algorithms, computer graphics, human-computer interaction, shader programming and AI.

**Course structures:**

| Week | Credit Hours | ILOs | Topics | Teaching Procedure | Assessment methods |
|---|---|---|---|---|---|
| 1,2 | 6 | A | Introduction, Game design review, Game development pipeline | Presentation methods and techniques, Sources of information and Instructional Aids | Diagnostic tests to identify the students level and areas of weakness<br>Formal (stage) evaluation<br>a) Class Participation<br>b) Ist Exam<br>c) 2nd Exam<br>d) Activity file |
| 3 | 3 | A | Story development, Story boards for games | Presentation methods and techniques, | Diagnostic tests to identify the students level and areas of weakness |

| | | | | | Sources of information and Instructional Aids | Formal (stage) evaluation<br>a) Class Participation<br>b) Ist Exam<br>c) 2nd Exam<br>d) Activity file |
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| 4,5 | 6 | A | | Real-time graphics, shader programming | Presentation methods and techniques, Sources of information and Instructional Aids | Diagnostic tests to identify the students level and areas of weakness<br>Formal (stage) evaluation<br>a) Class Participation<br>b) Ist Exam<br>c) 2nd Exam<br>d) Activity file |
| 6 | 3 | B | | Game development tools and techniques, project management | Presentation methods and techniques, Sources of information and Instructional Aids | Diagnostic tests to identify the students level and areas of weakness<br>Formal (stage) evaluation<br>a) Class Participation<br>b) Ist Exam<br>c) 2nd Exam<br>d) Activity file |
| 7 | 3 | B | | Game content creation (graphics, animation & sound) | Presentation methods and techniques, Sources of information and Instructional Aids | Diagnostic tests to identify the students level and areas of weakness<br>Formal (stage) evaluation<br>a) Class Participation<br>b) Ist Exam<br>c) 2nd Exam<br>d) Activity file |
| 8 | 3 | C | | User interfaces & peripherals | Presentation methods and techniques, Sources of information and Instructional Aids | Diagnostic tests to identify the students level and areas of weakness<br>Formal (stage) evaluation<br>a) Class Participation<br>b) Ist Exam<br>c) 2nd Exam<br>d) Activity file |
| 9 | 3 | C | | Game play and interface design | Presentation methods and techniques, Sources of information and Instructional Aids | Diagnostic tests to identify the students level and areas of weakness<br>Formal (stage) evaluation<br>a) Class Participation<br>b) Ist Exam<br>c) 2nd Exam<br>d) Activity file |
| 10 | 3 | C | | Basic game prototype development | Presentation methods and techniques, Sources of information and Instructional Aids | Diagnostic tests to identify the students level and areas of weakness<br>Formal (stage) evaluation<br>a) Class Participation<br>b) Ist Exam<br>c) 2nd Exam<br>d) Activity file |
| 10,11 | 6 | C | | GPU Programming, multi-threading, particle systems | Presentation methods and techniques, | Diagnostic tests to identify the students level and areas of weakness |

| | | | | Sources of information and Instructional Aids | Formal (stage) evaluation<br>a) Class Participation<br>b) Ist Exam<br>c) 2nd Exam<br>d) Activity file |
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| 12,13 | 6 | B | Game rule development, levels of difficulty | Presentation methods and techniques, Sources of information and Instructional Aids | Diagnostic tests to identify the students level and areas of weakness<br>Formal (stage) evaluation<br>a) Class Participation<br>b) Ist Exam<br>c) 2nd Exam<br>d) Activity file |
| 14 | 3 | B | Computer-controlled agents in games | Presentation methods and techniques, Sources of information and Instructional Aids | Diagnostic tests to identify the students level and areas of weakness<br>Formal (stage) evaluation<br>a) Class Participation<br>b) Ist Exam<br>c) 2nd Exam<br>d) Activity file |

**References:**

**A. Main Textbook:**

The Art of Game Design: A book of lenses by Jesse Schell; Morgan Kaufmann, 2008.

**Assessment Methods:**

| Methods | Grade | Date |
|---|---|---|
| First Exam | 15% | |
| Second Exam | 15% | |
| Assignments (Reports /Quizzes/ Seminar / Tutorials ….) | 20% | |
| Final Examination | 50% | |
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