

SYLLABUS

GEORGE MASON UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT
Division of Learning Technologies
Instructional Design and Technology Program (IDT)

EDIT 772 – 6T1

Virtual Worlds, Augmented Reality, and Gaming Applications: Game Design Tools (2 Credits)
Spring 2014

Course meets online via <http://MyMasonPortal/Courses>

PROFESSOR:

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COURSE DESCRIPTION:

- **Pre-requisites/co-requisites:** There are neither pre-requisites nor co-requisites. However, students should possess basic computer skills (e.g., MS Office, Internet search skills), along with Adobe Acrobat Reader and Adobe Flash Player, both of which are downloadable free of charge at <http://www.adobe.com/downloads>. Experience in teaching, training, technical development, or equivalent is a plus.
- **Course description from the university catalog:** Provides basic knowledge of available applications and platforms for creating contextually-based learning environments such as immersive virtual worlds, simulated worlds, alternate reality games, and massive multiplayer online role playing games for e-learning.
- **Additional description details:** This course is designed to teach the fundamentals of educational video game and media design including the principles of learning theory, and instructional strategies that are relevant to instructional design. Students will learn how educational video games and media can be utilized to enhance and support teaching and learning.
- **Delivery method:** The course will be taught in an **asynchronous** (not “real time”) format using the Blackboard Learning Management system housed in the [MyMason portal](#). The course will utilize readings, threaded discussions, lectures, and projects.
- **Technical requirements:** To participate in this course, students will need the following resources:
 - High-speed internet connection with access
 - Windows media player: <http://windows.microsoft.com/en-us/windows/windows-media-player>
 - Apple QuickTime Player: <http://www.apple.com/quicktime/download/>

LEARNER OUTCOMES:

At the conclusion of this course, students will be able to:

- Apply a working knowledge of instructional systems design (ISD) to the design of educational video games and media
- Explore and provide an overview of educational video games and media
- Identify and compare various types of educational video games and media
- Produce a low-fidelity prototype of a game design concept using electronic media of choice

PROFESSIONAL STANDARDS:

This course adheres to the standards established by the Association for Educational Communications and Technology (AECT):

Standard 1 – Design

- 1.3.1 Create a plan for a topic of a content area
- 1.3.2 Create instructional plans
- 1.3.3 Incorporate contemporary instructional technology processes
- 1.4.1 Produce instructional materials which requires use of multiple media
- 1.4.2 Demonstrate personal skill development with at least one authoring tool

Standard 2 – Development

- 2.3.1 Design and produce audio/visual instructional materials
- 2.3.2 Design, produce, and use digital media and technologies
- 2.4.1 Use authoring tools to create effective instructional products
- 2.4.3 Combine electronic and non-electronic tools to develop instructional products
- 2.4.4 Use telecommunications tools to create instructional materials

REQUIRED TEXT:

Kapp, Karl M. (2014) *The Gamification of Learning and Instruction Fieldbook*. San Francisco: John Wiley & Sons.

COURSE RESOURCES

- Scratch (<http://scratch.mit.edu>)
- AppInventor (<http://appinventor.mit.edu>)
- Stencyl (<http://www.stencyl.com>)
- GameMaker (<http://www.yoyogames.com/studio>)
- Game Salad (<http://gamesalad.com>)
- Kodu (<http://www.kodugamelab.com>)
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COURSE ASSIGNMENTS AND REQUIRED DELIVERABLES

ASSIGNMENTS

There are four (4) assignments required for successful completion of this course.

1. Case Study (20 points)

In addition to the technology described in the Case Study, select three other game development

and/or gamification tools that could be utilized to accomplish the same goals. Your write should be no more than 3 pages (single spaced) and should describe how these tools would be implemented.

2. **Game Design Document – (40 points)**

Student teams will be formed based on the grouping in previous classes. Below are recommend team assignments:

- Team 1: Rosinski, Wilkerson (may need to add a member)
- Team 2: Bedrossain, Cody, Comendador, Karras (may need to remove a member)
- Team 3: Jackson, Thomson, Wilson

The teams will select a topic and develop a game design document, which will detail their approach to the design and development of an instructional game or gamification component. The document will include the design concept and related materials in a professional document to the instructor.

The design document will include the following components:

- a. Concept
- b. Outcome
- c. Instructional objectives
- d. Characters
- e. Environment
- f. Gameplay
- g. Reward structure
- h. Look and feel
- i. Technology used

3. **Game Design Prototype (20 points)**

Based on the Game Design Document, the student teams will select a game design tool (sample tools are listed in Course Resources) to create a small working prototype. The prototype will be evaluated based on:

- Content
- Technology
- Interactivity
- Ease of Use
- Look and Feel

4. **Participation (20 points)**

Teams will be expected to post components for peer review by Saturday. There will be a total of four (4) peer reviews, provided by each student to the team projects. Students can begin to provide reviews at the beginning of the week (Sunday), but it must be completed by the end of the week (Friday).

Total Possible Points for all Deliverables: 100

GRADING POLICIES

- **General information:** The evaluation of student performance is related to the student's demonstration of the course outcomes. All work is evaluated on its relevance to the specific assignment, comprehensiveness of information presented, specificity of application, clarity of communication, and the analytical skills utilized, as documented in the respective grading rubrics at the end of this syllabus and on the Bb course site.
- **Grading scale:** The grading scale used in this course is the official George Mason University scale for graduate-level courses. Decimal percentage values $\geq .5$ will be rounded up (e.g., 92.5% will be

rounded up to 93%); decimal percentage values <.5 will be rounded down (e.g., 92.4% will be rounded down to 92%).

A = 94-100; A - = 90-93; B+ = 86-89; B = 83-85; B- = 80-82; C = 70-79; F = 69 and below

Note: Late assignments will be penalized 10% for each class session past the due date.

Student performance is based on the requirements documented in the grading rubrics for each assignment. In the event that, following discussions with the instructor, a student feels that his/her grade is unfair, the grade may be appealed using the university's appeal process described at <http://www.gmu.edu/catalog/apolicies/index.html#Anchor56>.

GMU POLICIES AND RESOURCES FOR STUDENTS

- a. Students must adhere to the guidelines of the George Mason University Honor Code [see <http://oai.gmu.edu/the-mason-honor-code/>].
- b. Students must follow the university policy for Responsible Use of Computing [see <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>].
- c. Students are responsible for the content of university communications sent to their George Mason University e-mail account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason e-mail account.
- d. The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance [see <http://caps.gmu.edu/>].
- e. Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester [see <http://ods.gmu.edu/>].
- f. Students must follow the university policy stating that all sound-emitting devices shall be turned off during class unless otherwise authorized by the instructor.
- g. The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing [see <http://writingcenter.gmu.edu/>].

PROFESSIONAL DISPOSITIONS

Students are expected to exhibit professional behavior and dispositions at all times.

CORE VALUES COMMITMENT

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles. <http://cehd.gmu.edu/values>.

For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website [See <http://gse.gmu.edu>].

COURSE SCHEDULE:

DATE	TOPIC/LEARNING EXPERIENCES	READINGS AND ASSIGNMENTS
PART 1 – GETTING STARTED		
Week 1 Jan. 21-24	<ul style="list-style-type: none"> • Sign onto Blackboard (http://MyMasonPortal.gmu.edu) and make sure you’re listed as a student in the course • Review the Welcome Page and Syllabus • View the Welcome presentation • Post desired outcomes and questions in the Introduction Discussion Thread 	<ul style="list-style-type: none"> • View Week 1 video • Week 1 assignments: select case study, choose project topic • Read Chapters 1-4 • Review Blackboard Groups
Week 2 Jan. 27-31	<p style="text-align: center;"><u>Which is best, Why, When?</u></p> <ul style="list-style-type: none"> • View instructor presentation • Discuss potential project topics in your teams • Students select case study from text (& Pepboys) • Submit team project concept to instructor for approval • 	<ul style="list-style-type: none"> • View Week 2 video • Week 2 assignments • Teams post Concept & Outcome to Bb discussion board • Read Chapters 5-6
PART 2 – BASIC ELEMENTS		
Week 3 Feb. 3-7	<p style="text-align: center;"><u>Foundational Elements</u></p> <ul style="list-style-type: none"> • Respond to team Concepts & Outcomes in Bb discussion board (Peer Review #1) • View Instructor presentation • Work on team Game Design project 	<ul style="list-style-type: none"> • Read Chapters 7-9 • Week 3 assignments •
Week 4 Feb. 10-14	<p style="text-align: center;"><u>The Process</u></p> <ul style="list-style-type: none"> • View Instructor presentation • Work on team Game Design project 	<ul style="list-style-type: none"> • Read Chapter 10-12 • Teams post Objectives, Characters, and Environment to Bb discussion board
PART 3 – DESIGN CONSIDERATIONS		
Week 5 Feb. 17-21	<p style="text-align: center;"><u>Games, Gamification, and Simulations</u></p> <ul style="list-style-type: none"> • View instructor presentation • Respond to team Objectives, Characters, and Environments (Peer Review #2) • Read “Basic Games for Teaching Different Types of Content” • Work on team Game Design project • Teams start working on Game Design prototype 	<ul style="list-style-type: none"> • Read Chapter 13-14 • Submit Case Study Assignment
PART 4 - DEVELOPMENT		
Week 6 Feb. 24-28	<p style="text-align: center;"><u>Tools and Storyboarding</u></p> <ul style="list-style-type: none"> • View Instructor presentation • Work on team Game Design project 	<ul style="list-style-type: none"> • Read Chapter 15-16 • Teams post Gameplay, Rewards, and

		Look/Feel
	PART 5 – CASE STUDIES	•
Week 7 Mar. 3-7	<ul style="list-style-type: none"> • Work on team Game Design project • Respond to team Gameplay, Rewards, and Look/Feel (Peer Review #3) • 	<ul style="list-style-type: none"> • Read Chapter 17-18 • Teams post draft/storyboards of Prototype
	PART 4 - DEVELOPMENT	•
Week 8 Spring Break Mar. 10-14	<ul style="list-style-type: none"> • Work on team Game Design project • Respond to team Prototypes (Peer Review #4) 	<ul style="list-style-type: none"> • Read Chapter 19-20
Week 9 Mar. 17-21	<ul style="list-style-type: none"> • Work on team Game Design project • Work on Game Design Document 	<ul style="list-style-type: none"> • Read Chapter 21-22, Pepboys Case Study
Week 10 Mar. 24-28	<ul style="list-style-type: none"> • Work on team Game Design project • Work on Game Design Document 	•

ASSESSMENT RUBRICS:

A. Case Study Grading Rubric (20 points)

Criteria	Does Not Meet Standards (-20%)	Meets Standards (-10%)	Exceeds Standards (-0%)
Completeness (5 pts):	One or more of the three key elements of the assignment is missing, remainder covered superficially	All three key elements of the assignment are present, but only some covered in a substantive way	All three key elements of the assignment are present and covered in a substantive way
Clarity (5 pts):	Major points not clearly stated, little or no specific details, examples, or analysis	Major points are stated clearly, some supported with specific details, examples or analyses	Major points are stated clearly, supported by specific details, examples or analysis
Organization (5 pts):	Paper is unstructured and hard to follow	Structure of the paper is generally clear, little or no use of headings and sub-headings	Structure of the paper is clear and easy to follow, with use of accurate headings and sub-headings
Language (5 pts):	Rules of English grammar, usage, spelling and punctuation are not followed, multiple language errors	Rules of English grammar, usage, spelling and punctuation are generally followed throughout the paper, one or two minor language errors	Rules of grammar, usage, spelling and punctuation are followed consistently throughout the paper, no language errors

B. Game Design Document Grading Rubric: Total Possible Points: 40

Criteria	Does Not Meet Standards (-20%)	Meets Standards (-10%)	Exceeds Standards (-0%)
Concept (5 pts.)	Concept is not clearly stated	Concept is articulated clearly	Concept is articulated clearly and supported with a variety of data and sources
Outcome (5 pts.)	Method and content reflects neither SME input nor other data sources	Method and content reflects some SME input, little or no other data sources	Method and content clearly reflects use of substantive SME input as well as other data sources
Instructional Objectives (5 pts.)	Few or none of the instructional objectives are measurable nor supported by the instructional need & task analysis data	Most instructional objectives are measurable and most supported by the instructional need & task analysis data	All instructional objectives are measurable and all supported by the instructional need & task analysis data
Characters (5 pts.)	Characters do not support and are not consistent with the approach and outcomes	Characters somewhat support the approach and outcomes	Characters support the approach and outcomes
Game Play & Reward Structure (10 pts.)	Game play and reward structure do not flow logically	Game play and reward structure generally flow logically	Game play and reward structure all flow logically
Look and Feel (5 pts.)	Look and feel is not consistent with the approach or outcomes	Look and feel is somewhat consistent with the approach and outcomes	Look and feel is very consistent with approach and outcomes
Technology (10 pts.)	Technology is neither innovative nor appropriate for chosen outcome	Technology is not appropriate for chosen outcome	Technology is innovative and appropriate for chosen outcome
Presentation (5 pts.)	Presentation did not adhere to PowerPoint© best practices	Presentation generally adhered to PowerPoint© best	Presentation adhered consistently to PowerPoint© best

	documented in the Resources area of the Bb course site	practices documented in the Resources area of the Bb course site	practices documented in the Resources area of the Bb course site
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C. Peer Review Grading Rubric (20 points)

Criteria	Does Not Meet Standards (-20%)	Meets Standards (-10%)	Exceeds Standards (-0%)
Peer Review #1 (5 pts.)	Does not provide constructive comments (strengths, weaknesses, recommendations for improvement) on the rubric criteria	Provides constructive comments (strengths, weaknesses, recommendations for improvement) on some of the rubric criteria	Provides constructive comments (strengths, weaknesses, recommendations for improvement) on each of the rubric criteria
Peer Review #2 (5 pts.)	Does not provide constructive comments (strengths, weaknesses, recommendations for improvement) on the rubric criteria	Provides constructive comments (strengths, weaknesses, recommendations for improvement) on some of the rubric criteria	Provides constructive comments (strengths, weaknesses, recommendations for improvement) on each of the rubric criteria
Peer Review #3 (5 pts.)	Does not provide constructive comments (strengths, weaknesses, recommendations for improvement) on the rubric criteria	Provides constructive comments (strengths, weaknesses, recommendations for improvement) on some of the rubric criteria	Provides constructive comments (strengths, weaknesses, recommendations for improvement) on each of the rubric criteria
Peer Review #4 (5 pts.)	Does not provide constructive comments (strengths, weaknesses, recommendations for improvement) on the rubric criteria	Provides constructive comments (strengths, weaknesses, recommendations for improvement) on some of the rubric criteria	Provides constructive comments (strengths, weaknesses, recommendations for improvement) on each of the rubric criteria