

**GEORGE MASON UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT
GRADUATE SCHOOL OF EDUCATION
Instructional Design and Technology (IDT) Program**

EDIT 772 DL2: Serious Games and Gamification
2 credits, Fall 2016

PROFESSOR(S):

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Office hours: Day or evenings by appointment via phone, email, or web.

Class dates: October 17, 2016 through December 20, 2016.

COURSE DESCRIPTION:

Prerequisites/Corequisites

None

University Catalog Course Description

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.

Expanded Course Description

Welcome to Serious Games and Gamification. This course provides basic knowledge of the range of capabilities of gaming and gamification techniques. Students learn to cultivate and identify effective game design practices for creating instructional products.

For our purposes, a *Serious Game* is defined to be a game designed for the purpose of solving a learning need. Although serious games can be entertaining, their main purpose is to train or educate. *Gamification* is the application of typical elements of game playing (e.g., point scoring, competition with others, rules of play) to activity in a non-game environment.

Throughout history people have taught, learned, entertained and communicated with games, and this has held constant across platforms. From board games to customized digital body-gear of today, games can convey information and transfer experience in a very engaging way, offering perspective, motivation, and a powerful autonomous learning experience.

Our focus will be the intersection of technology, gameplay and pedagogy.

à We will not be focusing primarily on technical game development or production, although that is important.

à We will not be focusing primarily on gameplay or seemingly addictive aspects of games, although that is important.

à We Will be focusing specifically on the science of serious game constructs and techniques that help inform and how they apply to teaching and learning.

As educators, we know that it is not simply enough to take a traditional, face-to-face course and merely upload the course material to an online venue and call it a distance-learning

course. A well-designed online course requires specific design changes and interactions in order for the course to be effective for teaching and learning. Similarly, we know that effectively incorporating technology into education requires much more than putting a piece of software into a classroom. The same is true for a serious game, and that is where we will spend our time. We will be exploring that space for teaching and learning.

This is a fun, creative class! This course calls for a discovery-based approach for learning.

No prior experience with formal game development, coding or software editing is necessary. Yet since this is a course that incorporates technology, students are expected to have a working knowledge of the using the web, understanding basic technical aspects of digital games, and technology platforms (mobile, web, thick and thin client, standalone).

DELIVERY METHOD:

This course is completely asynchronous and structured on weekly readings, game reviews, and independent assignments. The discussion forums on Blackboard will be open as a place to post questions and answers about coursework. You will log in to the Blackboard course site using your Mason email name (everything before "@masonlive.gmu.edu) and email password.

Each week's list of assignments will be posted at the course web site by noon Monday EST along with the material for the week. Assignments will be due on the following Sunday evening by 11:59pm. Assignments posted after 11:59pm will be considered late, and possible point loss will reflect the late submission.

TECHNICAL REQUIREMENTS:

To participate in this course, students will need the following resources:

- High-speed Internet access with a standard up-to-date browser, either Internet Explorer, Chrome, or Mozilla Firefox. Opera and Safari are **not** compatible with Blackboard.
- Consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course.
- Hardware: Computer or laptop.

EXPECTATIONS:

- **Course Week:** Because asynchronous courses do not have a "fixed" meeting day, our week will **start** on Monday, and **finish** on Sunday.
- **Log-in Frequency:** Students must actively check the Blackboard course site and their GMU email for communications from the instructor. This should be **daily** given the short duration of this course.
- **Participation:** Students are expected to actively engage in all course activities throughout the course, which includes viewing all course materials, completing course activities and assignments, and participating in course discussions and group interactions.

- **Technical Competence:** Students are expected to demonstrate competence in the use of all course technology. Students are expected to seek assistance if they are struggling with technical components of the course.
- **Technical Issues:** Students should expect that they could experience some technical difficulties at some point in the course and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.
- **Workload:** Although much of this course is self-paced, there are **specific deadlines** and **due dates** listed in the **COURSE SCHEDULE** section of this syllabus to which you are expected to adhere. It is the student's responsibility to keep track of the daily course schedule of topics, readings, activities and assignments due.
- **Advising:** If you would like to schedule a one-on-one meeting to discuss course requirements, content or other course-related issues, and you are unable to come to the Mason campus, we can meet via telephone or web conference. Send me an email to schedule your one-on-one session and include your preferred meeting method and suggested dates/times.
- **Netiquette:** Our goal is to be **collaborative**, not combative. Experience shows that even an innocent remark in the online environment can be misconstrued. Always re-read responses carefully before posting them to encourage others from taking them as personal attacks. **Be positive in your approach to others and diplomatic with your words.** The instructor will do the same. Remember, you are not competing with each other but sharing information and learning from one another as well as from the instructor.
- **Accommodations:** Online learners who require effective accommodations to insure accessibility must be registered with George Mason University Disability Services.

LEARNER OUTCOMES:

This course is designed to enable students to:

- Apply a working knowledge of instructional systems design (ISD) to the design of serious games and gamification;
- Research and explain the elements and characteristics of serious games and gamification;
- Research different genres of serious games and gamification, and their specific applications;
- Explore and highlight serious game exemplars;
- Critically examine and critique serious games for purpose, design, and effect;
- Apply the aspects of gamification to a myriad of applications;
- Design a serious game using a variety of media, formats, and communications.

COURSE OBJECTIVES:

The objective of the class is to prepare students on how to incorporate serious games and gamification into an instructional environment as an effective pedagogical tool to support teaching and to effectively stimulate learning.

Students will learn about the components of serious games and how they differ from casual games. Students will learn how to compose serious games and will gain practice in evaluating serious games, particularly through a pedagogical lens. Additionally, students will find resources and leverage tools to utilize appropriate mediums, to enhance the educational game process.

Upon completion of this course, students will be able to:

- Develop critical skills to explore serious games, including understanding properties and characteristic differences among various game constructs, game design, and gamification;
- Choose game constructs and design appropriately as a delivery option for game-based instruction;
- Formulate an effective strategy for design and creation, from conceptualization and planning to development and execution;
- Create narrative projects with game constructs that reflect teaching practices;
- Offer critiques and their own perspective in analyzing different works.

REQUIRED TEXTS:

This course has no required textbook. Weekly online readings, videos, and audio files will be assigned via the course Blackboard web site.

PROFESSIONAL STANDARDS:

The course is designed to meet many of the essential Instructional Design Competencies as specified by The International Board of Standards for Training, Performance and Instruction (ibstpi®):

- Communicate effectively in visual, oral and written form.
- Select and use a variety of techniques for determining instructional content.
- Analyze the characteristics of existing and emerging technologies and their use in an instructional environment.
- Select or modify existing instructional materials or develop original instructional materials.
- Provide for the effective implementation of instructional products and programs.

COURSE ASSIGNMENTS AND DELIVERABLES:

Weekly Summaries (35%)

Students will summarize and synthesize the week's material in their own words. Students will post their summaries to their blog, cited with references if necessary. Students will be graded weekly on their position.

(35 points; 5 points each for 7 weeks)

Game Research & Highlight (20%)

Students will research and examine serious games on a variety of subjects. These research assignments familiarize the student with various game designs and formats, their strengths and weaknesses and how/when to leverage. Students will highlight a game, defending why they chose the game to highlight.

(20 points; 10 points each for 2 weeks)

Game Design (20%)

The final project will consist of designing a game. Presented as a concept paper, students will describe the audience, learning need, platform, goals, objectives, rules, interaction, feedback mechanism(s) and goals for the game. Specific focus will be on the added-value of learning because of a game design. Students will tie engagement, motivation, and pedagogy into their design.

(20 points)

Peer Review (10%)

Students will review and critically assess a peer's concept paper. Grade will reflect each student's ability to critically analyze, supported with evidence.

(10 points)

Participation (15%)

Students will participate in getting to know each other by introducing themselves. (5%)

Students will participate in supporting other students with comments and constructive feedback on blog entries. (5%)

Students will support each other by answering questions or problems as needed, posted to the Q&A Discussion board. Students will participate in supporting help to other students with tools and resources, posted to the Tools and Resources wiki. (5%)

Total Possible Points: 100

WEEKLY COMMITMENT TIME:

1. Reading assignments should take between 30 minutes to an hour to complete.
2. Weekly summaries should take approximately one hour as long as well, after students have planned and reflected.
3. Game research, highlighting, and reviewing should take approximately one hour to complete including experiencing and summarizing.
4. Participation should take approximately between 30 minutes and one hour.

In total, this class should take no more than 3-3½ hours weekly. That is appropriate for a two-credit class at the graduate level.

GRADING POLICIES:

Successful completion in this course is predicated on active participation. Grades are based on participation, assignments, and review. It is important to complete each assignment on time.

Grading Scale

The grading scale used in this course is the official George Mason University scale for graduate-level courses:

A+	97-100%
A	94-96%
A-	90-93%
B+	86-89%
B	83-85%
B-	80-82%
C	70-79%
F	69 or below

Blackboard Requirements

Every student registered for any Instructional Design and Technology (IDT) course with a required performance-based assessment is required to submit this assessment to Blackboard (regardless of whether a course is an elective, a onetime course or part of an undergraduate minor). For EDIT 772, the performance-based assessment is the Weekly Presentation. Evaluation of the performance-based assessment by the course instructor will also be completed in Blackboard. Failure to submit the assessment to Blackboard will result in the course instructor reporting the course grade as Incomplete (IN). Unless the IN grade is changed upon completion of the required Blackboard submission, the IN will convert to an F nine weeks into the following semester.

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 email 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 email 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/>).
5. The George Mason University Office of Student Support staff helps students negotiate life situations by connecting them with appropriate campus and off-campus resources. Students in need of these services may contact the office by phone (703-993-5376). Concerned students, faculty and staff may also make a referral to express concern for the safety or well-being of a Mason student or the community by going to <http://studentsupport.gmu.edu/>, and the OSS staff will follow up with the student.

PROFESSIONAL DISPOSITIONS:

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

CORE VALUES COMMITMENT:

The College of Education & 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 <http://gse.gmu.edu/>.

PROPOSED COURSE SCHEDULE:

This schedule is a basic outline and is subject to refinement and/or updates as the course may require.

Week 1: A Look at Games

What is at the core of games? Why? Is it play; flow; rules; goal; engagement; tension; conflict; autonomy; feedback; reinforcement; tension; obstacles; story?

Students will have required readings, research, and assignments to complete.

Deliverables: Introduction; Blog post; participation and support peer Q&As on the Discussion and Resources boards as necessary.

Week 2: A Look at Serious Games, Serious Game Elements and Design

What constitutes a serious game? How does it differ from a casual game? How is it the same? What makes a Serious Game? What about Chess? Rubric's Cube? Does every game teach something?

What are the basic elements in a serious game? What key design factors need to be considered? What are most important is a serious game, and why?

Students will have required readings, research, and assignments to complete.
Deliverables: Blog post; participation and support peer Q&As on the Discussion and Resources boards as necessary.

Week 3: A Look at Gamification

What exactly is gamification? Why would we use it? How is it similar to a serious game? Different?

Students will have required readings, research, and assignments to complete.
Deliverables: Blog post; Game highlight; participation and support peer Q&As on the Discussion and Resources boards as necessary.

Week 4: A Look at Different Game Genres

What are and why would we use the following types of serious games?

- *Massive Multiplayer games*
- *Mini games*
- *Games for social impact*
- *Adaptive games*
- *Gendered games*

Students will have required readings, research, and assignments to complete.
Deliverables: Blog post; participation and support peer Q&As on the Discussion and Resources boards as necessary.

Week 5: A Look at Serious Game Exemplars

What makes a serious game and excellent game for learning? How does design affect learning? Technical quality?

Students will have required readings, research, and assignments to complete.
Deliverables: Blog post; Game highlight; participation and support peer Q&As on the Discussion and Resources boards as necessary.

Week 6: Serious Game Design

Begin Final Project

Students will begin their final project; participation and support peer Q&As on the Discussion and Resources boards as necessary.

Week 7: A Look at Empirical Research on Serious Games

What does the literature say about serious games? Their effectiveness for learning? Effective design? Which is more effective - Cooperation or Competition?

Students will have required readings, research, and assignments to complete.
Deliverables: Blog post; final project; participation and support peer Q&As on the Discussion and Resources boards as necessary.

Week 8: Assessing Serious Games

What are the appropriate elements to measure? The most important? What should a rubric contain?

Students will have required readings, research, and assignments to complete.

Deliverables: Blog post; review / critique each other's final projects; participation and support peer Q&As on the Discussion and Resources boards as necessary.

QUESTIONS ABOUT MATERIAL OR ASSIGNMENTS:

If you have any questions, comments, concerns throughout the course, please either email me, or post them in the **Q&A** section of our Blackboard course. I do my best to answer questions within 24 hours. Students are also welcome and encouraged to respond to questions posted if applicable. This is a peer-centric class with a collaborative learning focus.

GAME HIGHLIGHT RUBRIC
10 Points total

Criteria	Exceeds Standards	Meets Standards	Does Not Meet Standards
Instructing/ Informing/ Educating (4 points)	Game is complete and clear in informing, explaining, or educating. Learning occurs easily and clearly. Pedagogical elements clearly present – goals, rules, feedback, meaning, smooth information flow. Overall purpose (instructional goal) of game is clear. There is a clear focus and purpose. 4 points	Game is somewhat complete and clear in informing, explaining, or educating. Some pedagogical elements present – goals, rules, feedback, meaning, smooth information flow. Overall purpose (instructional goal) of game is somewhat clear. There is some clear focus and purpose to the game. 1-3 points	Game is incomplete for informing, explaining, or educating. Learning does not occur easily and clearly. Pedagogical elements not present. Overall purpose (instructional goal) of game is unclear. There is no focus and purpose to the game. 0 points
Game Play (2 points)	Engaging, intuitive; clear narrative. Game elements present. Learning and game play are well integrated. Game has a good logical progression and end state (winning). Game is designed with exactly the right amount of detail. 2 points	Somewhat engaging, intuitive; clear narrative. Game elements somewhat present. Learning and game play are somewhat integrated. Game has somewhat of a logical progression and end state (winning). Game requires more detail in some parts of game play. 1 points	Not very engaging, intuitive; clear narrative. No game elements present. Learning and game play are not integrated. Game is missing logical progression. Game requires a lot more detail and is hard to follow. 0 points
Technical Quality (2 points)	Extremely Clear, with appropriate visual, audio, framing fidelity. Well-paced (speed); no sensory conflicts; free of any technical bugs. The images and media create an atmosphere or tone that matches the game. 2 points	Clear, with sufficient visual, audio, framing fidelity. Appropriate speed; appropriate sensory experience. Free of technical bugs. The images and media create an atmosphere or tone for some points of the game. 1 points	Unclear, with inappropriate fidelity. Speed and/or sensory conflicts. Technical bugs present. There is limited use of images and media to create an atmosphere or tone that makes sense. 0 points
Presentation, Grammar and Style (2 points)	Blog is grammatically correct, free of typos, and spelling errors. All links provided work; images clear. 2 points	Blog has some grammatical errors or typos. Some links provided work; some images clear. 1 points	Blog has grammatical errors, typos, and spelling errors. Links do not work; images unclear. 0 points

2 points off for each day submitted late.