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 2018
October 15, 2018 through December 19, 2018; Asynchronous

FACULTY

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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.

COURSE OVERVIEW

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.
- We will not be focusing primarily on technical game development or production, although that is important.
- We will not be focusing primarily on gameplay or seemingly addictive aspects of games, although that is important.
- 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, it is understood that it is simply not enough to take a traditional, face-to-face course and merely upload the course material to the web and call it a distance-learning course. A well-designed web course requires specific design changes and interactions in order for the course to be effective for teaching and learning online. Similarly, it is understood that effectively incorporating technology into education requires much more than employing hardware or software in 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 but serious work. 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).

COURSE 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. The course site will be available on the Monday, one week prior to the start of class.

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.

Under no circumstances, may candidates/students participate in online class sessions (either by phone or Internet) while operating motor vehicles. Further, as expected in a face-to-face class meeting, such online participation requires undivided attention to course content and communication.

TECHNICAL REQUIREMENTS

To participate in this course, students will need to satisfy the following technical requirements:

- High-speed Internet access with standard up-to-date browsers. To get a list of Blackboard's supported browsers see: https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#supported-browsers
  To get a list of supported operation systems on different devices see: https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#tested-devices-and-operating-systems
- Students must maintain consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course.
- Students will need a headset microphone for use with the Blackboard Collaborate web conferencing tool.
- Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of course requirements.
- The following software plug-ins for PCs and Macs, respectively, are available for free download:
  - Adobe Acrobat Reader: https://get.adobe.com/reader/
  - Windows Media Player: https://support.microsoft.com/en-us/help/14209/get-windows-media-player
  - Apple Quick Time Player: www.apple.com/quicktime/download/

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 semester, which includes viewing all course materials, completing course activities and assignments, and participating in course discussions and group interactions. Please see the description of each assignment for the late submission penalties.

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.

Instructor Support: 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: The course environment is a collaborative space. Experience shows that even an innocent remark typed in the online environment can be misconstrued. Students must always re-read their responses carefully before posting them, so as others do not consider them as personal offenses. *Be positive in your approach with others and diplomatic in selecting your words*. Remember that you are not competing with classmates, but sharing information and learning from others. All faculty are similarly expected to be respectful in all communications.

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.

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.
- Identify and resolve ethical and legal implications of design in the work place.

REQUIRED TEXTS

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

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.

COURSE ASSIGNMENTS AND DELIVERABLES

Assignments include performance-based assessments.

Introduction (10 Points)
Students will compose a 3-5 video introduction of themselves and "gamify" it in some manner.

This assignment is intended to serve as a virtual introduction of the class to each other, as well as stimulate first thoughts about game creation and design.

Weekly Game Analysis, Evidence and Process (50 Points)

1. Students will **analyze and synthesize** the week's material in their own words. Students will post their analysis to their blog, cited with references as necessary.
2. Students will research and find a serious game that they believe to be an excellent example of the week's material. They will **show evidence by highlighting** and explaining the serious game, defending why they chose the game to highlight.
3. Students will **reflect and document their process** for analyzing and giving evidence of the weekly game construct (topic for the week). Students will be informing on their process and rationale for selecting their game-based highlight

This assignment is intended to stimulate critical thinking around various games designs, formats, and intentions; stimulate thought of different game strengths and weaknesses; and discern situations on how and when to leverage.

Assignments will be submitted each week via their individual Blackboard Blog.
(10 points each week for 5 weeks)

Final Project - Game Design (25 Points)
Students will design a serious game for learning as their final project. Presented as a design document, it will describe the audience, the learning need, platform, goals, objectives, rules, interaction, feedback mechanism(s) and assessments for the game. Specific focus will be on why game design offers added value for student's topic. Students will tie game play, platform, and pedagogy into their design.
(20 points)

Active Participation (15 Points)
a. Students will participate in class discussion offering ideas, suggestions, and comments, as well as support of classmates' work.
b. Students will participate, as necessary in supporting help to other students with questions or problems, posted to the Q&A Discussion board.
c. Students will participate in supporting help to other students with tools and resources, posted to the Tools and Resources wiki.

Note: Class participation will be used in determining final grades if student points are borderline between two grades.

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

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

Examine: What is at the core of games? Why? Is it play; flow; rules; goal; engagement; tension; conflict; autonomy; feedback; reinforcement; tension; obstacles; story?
Learn: Required readings, research, videos, examples.
Deliver: Introduction; Blog entry; active participation.

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

Examine: What constitutes a serious game? How is it similar and different from a casual 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?
Learn: Required readings, research, videos, examples.
Deliver: Blog entry on game (1) analysis, (2) evidence and (3) process; details to follow. Active participation.

Week 3: A Look at Gamification

Examine: What exactly is gamification? Why would we use it? How is it similar and different from a serious game?
Learn: Required readings, research, videos, examples.
Deliver: Blog entry on game (1) analysis, (2) evidence and (3) process; details to follow. Active participation.

Week 4: A Look at Game Genres

Examine: In what teaching capacity might the following be employed?
- Massive Multiplayer games
- Mini games
- Games for social impact
- Adaptive games
- Gendered games

Learn: Required readings, research, videos, examples.
Deliver: Blog entry on game (1) analysis, (2) evidence and (3) process; details to follow.
            Active participation.

Week 5: A Look at Empirical Research on Serious Games

Examine: What does the literature say about serious games and their effectiveness for
           learning? Most effective designs - Cooperation or Competition?
Learn: Required readings, research, videos, examples.
Deliver: Blog entry on game (1) analysis, (2) evidence and (3) process; details to follow.
           Active participation.

Week 6: Final Project - 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 Serious Game Exemplars

Examine: What makes a serious game excellent for learning? How does design affect
           learning? Technical quality?
Learn: Required readings, research, videos, examples.
Begin: Final Project
Deliver: Blog entry on game (1) analysis, (2) evidence and (3) process; details to follow.
           Active participation.

Week 8: Assessing Serious Games

Examine: What are the most appropriate elements to measure? The most important?
           What should a rubric assess?
Learn: Required readings, research, videos, examples.
Deliver: Final Project. Active participation.

Week 9: Wrap-up and Conclusion

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.

PROFESSIONAL DISPOSITIONS

See https://cehd.gmu.edu/students/polices-procedures/.

GMU POLICIES AND RESOURCES FOR STUDENTS

1. Students must adhere to the guidelines of the Mason Honor Code
   (see https://catalog.gmu.edu/policies/honor-code-system/).
2. Students must follow the university policy for Responsible Use of Computing
   (see http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/).
3. Students are responsible for the content of university communications sent to their Mason 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.
4. Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see https://ds.gmu.edu/).
5. Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

Campus Resources

1. Support for submission of assignments to Tk20 should be directed to tk20help@gmu.edu or https://cehd.gmu.edu/aero/tk20. Questions or concerns regarding use of Blackboard should be directed to http://coursessupport.gmu.edu/.
2. For information on student support resources on campus, see https://ctfe.gmu.edu/teaching/student-support-resources-on-campus

For additional information on the College of Education and Human Development, please visit our website http://cehd.gmu.edu/.

GAME ANALYSIS, EVIDENCE, PROCESS RUBRIC
10 Points total

Criteria	Exceeds Standards	Meets Standards	Does Not Meet Standards
Analysis: Weekly Topic (2 points)	Demonstrates in words a clear and concise understanding of the material. Articulates the topic's implication for teaching and learning. 2 points	Demonstrates in words somewhat an understanding of the material. Articulates some application for teaching or learning. 1 point	Does not demonstrate in words an understanding of the material. Articulates little to no implications for teaching or learning. 0 points
Evidence: Teaching and Learning (2 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. 2 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 point	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
Evidence: 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 parts of game play. 1 point	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
Evidence: 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
Process: Reflection on Learning (2 points)	Student's process for discerning the week's material and game selection are clearly articulated and defended. 2 points	Student's process for discerning the week's material and game selection are somewhat articulated and defended. 1 points	Student's process for discerning the week's material and game selection are not clear and/or not articulated and defended. 0 points

 2 points off for each day submitted late.