

GEORGE MASON UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT
GRADUATE SCHOOL OF EDUCATION
Instructional Design and Technology

EDIT 772 6T1: Virtual Worlds, Augmented Reality, and Gaming Applications
2 credits, Fall 2018
Online

FACULTY:

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COURSE DESCRIPTION:

A. Prerequisites/Corequisites

None

B. 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.

C. Expanded Course Description

This course provides basic knowledge of the range of capabilities germane to virtual worlds, augmented/virtual/mixed/extended realities, serious games, and gaming and gamification techniques within an adult educational context. Students learn to cultivate and to identify effective strategies for creating engaging instructional products and learning assets.

Throughout history, people have taught, learned, entertained, and communicated with games, and this has held constant across modalities and platforms. From board games to customized digital wearable technologies of today, games can convey information and transfer experiences in engaging ways. They can also offer new perspectives on content, motivate learners, and form the foundation of powerful engaging and authentic learning experiences. To better understand how to leverage these technologies, our instructional

focus throughout this course will be firmly rooted at the intersection of instructional design, technology, gameplay, and andragogy:

- We **will not** be focusing on technical game development or production, although these are important aspects undergirding the larger concepts of this course.
- We **will not** be focusing primarily on characteristics of gameplay or addictive aspects of games, although these, too, are important ideas in relation to framing relevant learning assets and educational experiences.
- We **will be** focusing on the science of virtual worlds, augmented reality, related genres of technology-enhanced instructional modalities, as well as the user experience of working with game creation. We will apply our understanding of andragogy and instructional design principles and practices to bring all these concepts together in order to create design plans outlining world-class learning assets and educational experiences.

As educators, it is understood that it is simply not enough to take a traditional, face-to-face offering and merely upload the course material to the web and call it a distance-mediated course. A well-designed distance education course requires specific design changes and interactions in order for the course to be effective in relation to teaching and learning. Similarly, it is understood that effectively incorporating technology into education requires much more than employing hardware or software in a classroom (virtual or face-to-face). The same is true for virtual worlds, augmented reality, and serious games. That is where we will spend our time, and these are the types of discussions I look forward to having with you.

This is a fun and creative class, but it is also a two-hour, graduate level offering. As such, you should be prepared to engage in some rigorous and demanding work. This course calls for a discovery-based approach to learning, and you will explore resources and concepts individually and as a collaborative group. No prior experiences with formal game development, coding, or software editing are required to excel in this course. However, since this is a course that both incorporates and is focused on digital technologies, you are expected to have a working knowledge of using the Internet and germane technologies/tools, an understanding of basic technical aspects of digital games, and interest or insights related to various technology and delivery platforms.

COURSE DELIVERY METHOD:

This fully-online course will be delivered via Blackboard Learn learning management system (LMS) housed in the MyMason portal (<http://mymason.gmu.edu>). The course will use primarily an asynchronous format with minimal synchronous interactions taking place at the end of the course. Students will log in to the Blackboard Learn course site using their Mason email name (everything

before "@masonlive.gmu.edu) and email password. The course site will be available on Monday, September 10th, 2018 under the "Courses" tab (found in the upper right corner of the screen).

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 Learn's supported browsers see:
 - https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#supported-browsers
 - To get a list of supported operating 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 Learn 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; please note that this is a non-exhaustive list:
 - Adobe Acrobat Reader: <https://get.adobe.com/reader/>
 - Windows Media Player:
<https://windows.microsoft.com/en-us/windows/downloads/windows-media-player/>
 - Apple Quick Time Player: www.apple.com/quicktime/download/

EXPECTATIONS:

- Course Week: Each new module will be unlocked on **Monday** mornings (EDT). Final module assignments will be due on the following **Sunday** by 11:59 PM (EDT). Collaborative assignments (e.g., discussion postings, wikis, etc.) may have additional mid-week requirements in order to give your peers time to respond to your contributions. All assignments posted after their respective due dates will incur point deductions equivalent to 10% of that assignment's maximum possible points per day.

- Log-in Frequency: Students must actively check the Blackboard Learn course site and their GMU email for communications from the instructor. This must be completed no fewer than 2 times per week to foster active and meaningful course-related discussion.
- Participation: Students are expected to actively engage in all course activities. This includes viewing all course materials, completing all course activities and assignments, and participating meaningfully in all course discussions and group interactions.
- Technical Competence: Students are expected to demonstrate competence in the use of all course technology. Students who are struggling with technical components of the course are expected to seek assistance from the instructor and/or College or University technical services.
- Technical Issues: Enrolling in an online course can be intimidating for students with lower technical competence. As a result, the course contains several embedded video tutorials to assist students when they encounter technological issues. However, even with this level of support, students may encounter unforeseen technical issues. When students encounter a technological issue, they should try the following:
 1. Try to accomplish the task in a different way.
 2. Close and reopen the Internet browser and try the task again.
 3. Try performing the task in a different Internet browser.
 4. Seek instructor-based assistance if steps 1-3 did not resolve the issue.

Students should expect some technical difficulties at some point in the semester and should, therefore, budget their time accordingly. Late work will **not** be accepted based on individual technical issues. Contact ITU (<http://itservices.gmu.edu/help.cfm>) at (703) 993-8870 or support@gmu.edu.

- Workload: Please be aware that this course is **not** self-paced. Students are expected to meet *specific deadlines* and *due dates* listed in the **Class Schedule** section of this syllabus. It is the student's responsibility to keep track of the weekly course schedule of topics, readings, activities, and assignments due. Expect to log in to this course **at least 2 times per week** to read announcements, to participate in the discussions, and to work on course materials.
 1. Reading assignments and course content should take between 45-60 minutes to complete each week;
 2. Reviewing extension resources (e.g., videos, websites, etc.) should take between 45-60 minutes to complete each week; and
 3. Thoughtfully completing course activities should take approximately 90 minutes per week.

In total, this class should take no more than (on average) 3-3½ hours per week; this is an appropriate time commitment commensurate with a two-credit graduate course.

- Instructor Support: Students may schedule a virtual one-on-one meeting to discuss course requirements, content, or other course-related issues. Students should email the instructor

to schedule a one-on-one session and include a preferred meeting method (e.g., phone, Blackboard Collaborate, Skype) as well as suggested dates/times. Face-to-face meetings on the Fairfax campus can also be arranged in special circumstances.

- Netiquette: The course environment is a collaborative space. Experience shows that even an innocent remark typed in an 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 you are sharing information with and learning from others. All faculty are similarly expected to be respectful in all communications.
- Accommodations: Online learners who require effective accommodations to ensure accessibility must be registered with George Mason University Disability Services.

LEARNER OUTCOMES or OBJECTIVES:

This course is designed to enable students to:

1. Apply a working knowledge of instructional systems design (ISD) thinking and andragogy principles to the design of digital learning assets (including, but not limited to, serious games, content gamification, etc.);
2. Research critical factors related to digital learning assets (including, but not limited to, serious games, content gamification, etc.);
3. Discuss key characteristics of digital learning assets (including, but not limited to, serious games, content gamification, etc.);
4. Explore different genres/sub-genres of digital learning assets (including, but not limited to, serious games, content gamification, etc.) in terms of their specific applications, affordances, and constraints;
5. Justify selection of digital learning asset exemplars (including, but not limited to, serious games, content gamification, etc.);
6. Critique digital learning assets (including, but not limited to, serious games, content gamification, etc.) in relation to audience, purpose, design, etc.;
7. Apply best practices of gamification to a variety of applications digital learning assets (including, but not limited to, serious games, AR, VR, XR/MR, etc.); and
8. Design a hypothetical gamified learning asset through synthesis of course content.

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 instructional content will be assigned via the Blackboard Learn course site.

COURSE ASSIGNMENTS AND DELIVERABLES (100 points possible):

Successful completion on this course is predicated on active participation. Grades are earned, not given. Your performance will be evaluated based on rubrics hosted within our Blackboard Learn course site. It is important to complete each assignment on time and in accordance with assignment requirements and expectations. Students are expected to submit all assignments on time and in the manner outlined by the instructor (e.g., via Blackboard Learn, via Google Docs, etc.).

Assignment Descriptions:

- **Course video introduction and peer collaboration – 10 points total**
- **Andragogy synthesis posting and peer collaboration – 5 points total**
- **Google Docs collaborative graphic organizer – 5 points**
- **Virtual worlds for learning exemplar summaries – 6 points**
- **Initial submission of final assignment proposal – 4 points**
- **AR, VR, MR/XR exemplar summaries – 6 points**
- **Google Docs individual graphic organizer – 5 points**
- **Collaborative course gaming/gamification wiki – 4 points**
- **Serious games and ludic simulations exemplar summaries – 6 points**
- **Second submission of final assignment proposal – 4 points**
- **Game creation application video critique – 15 points**
- **Final presentation – 30 points**

Grading Scale

Letter Grade	Percentage Range
A+	97-100%
A	94-96%
A-	90-93%
B+	86-89%
B	83-85%
B-	80-82%
C	70-79%
F	≤ 69%

Late Work

Students are expected to complete and electronically submit all assignments prior to 11:59 PM on the last day of the module as indicated on the course calendar. All assignments—EXCEPT for collaborative activities (e.g., discussion board-related assignments)—can be submitted late but a minimum 10% late penalty will be assessed for work submitted after the assignment deadline. Work that is submitted over a week late will receive an additional 30% penalty for each additional week late. No late work is accepted after the final assignment's due date.

Professional Dispositions

Students are expected to exhibit professional behaviors and dispositions at all times. See <https://cehd.gmu.edu/students/policies-procedures/>

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/>.

GMU POLICIES AND RESOURCES FOR STUDENTS

Policies

- Students must adhere to the guidelines of the Mason Honor Code (see <https://catalog.gmu.edu/policies/honor-code-system/>).
- Students must follow the university policy for Responsible Use of Computing (see <https://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- 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.

- 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/>).
- Students must silence all sound emitting devices during class unless otherwise authorized by the instructor.

Campus Resources

- 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 Learn should be directed to <http://coursesupport.gmu.edu/>.
- 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 <https://cehd.gmu.edu/students/>.