EDIT 772
Virtual Worlds, Augmented Reality, and Gaming Applications: Game Design Tools
(2 credits)

Course Syllabus

Instructor: Kevin Clark, Ph.D.
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Office Hours: by appointment

Blackboard: http://mymason.gmu.edu

Required Reading:
Kapp, Karl M. (2012) *The Gamification of Learning and Instruction: Game-based Methods and Strategies for Training and Education*. San Francisco: John Wiley & Sons.

Other References:
- Schell, Jesse (2008). The Art of Game Design (http://artofgamedesign.com)
- Prensky, Marc (2007). *Digital Game-Based Learning* (online at http://www.netlibrary.com/)
- Game Changer: Investing in Digital Play to Advance Children's Learning and Health (2009) (http://www.joanganzcooneycenter.org/Reports-18.html)
- Teacher Attitudes about Digital Games in the Classroom (2012) (http://www.joanganzcooneycenter.org/Reports-34.html)
- Moving Learning Games Forward (2009) (http://education.mit.edu/papers/MovingLearningGamesForward_EdArcade.pdf)
- Research on Educational Impact of Games: A Literature Review (2009) (http://g4li.org/wp-content/uploads/2009/10/2-Literature-Review.pdf)
- The Ecology of Games: Connecting Youth Games and Learning (2007) (http://www.mitpressjournals.org/toc/dmal/-/3)
- Harnessing the Power of Video Games for Learning (2006) (http://www.fas.org/gamesummit/)

Game Tools:

- Scratch (http://scratch.mit.edu)
- AppInventor (http://appinventor.mit.edu)
- Stencyl (http://www.stencyl.com) (EDIT772, kevinclark)
- Gamestar Mechanic (http://gamestarmechanic.com) (EDIT772, kevinclark)
- GameMaker (http://www.yoyogames.com/gamemaker/windows)
- Game Salad (http://gamesalad.com) (EDIT772, kevinclark)
- Kodu (http://www.kodugamelab.com)
- Coaster Crafter (https://games.ciconline.org/CoasterCrafter/)

Course Description

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.

Course Learning Objectives

The objectives of this course are 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

Instructional Approach & Delivery

Each session will begin with a lecture/discussion of the topic scheduled for that day. Lectures and demonstrations on instructional strategies will be accompanied by demonstrations of courseware products that employ those strategies. Theories and subject areas addressed will be applied to specific student instructional design projects (due at the end of the semester) for reinforcement.

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

Course Resources

- http://gamification.org
- http://gamify.com
- www.futurelab.org.uk
- www.educationarcade.org/
- www.gamelab.com
- www.joanganzcooneycenter.org
- www.macfound.org/programs/learning/
- www.gamestudies.org
- www.gamelearning.net
- www.seriousgames.org
- www.childrenssoftware.com
- www.gamesforchange.org
- www.tiltfactor.org
- www.commonsensemedia.org
- www.parentschoice.org
- www.pewinternet.org/
- https://www.coursera.org/course/gamification

Performance-Based Assessment & Evaluation Criteria

Participation/Evaluation (20 points)
Students will be expected to participate in class by discussing course readings. Students are also required to provide constructive evaluative feedback to classmates regarding their prototypes. The evaluation must be at least one page and utilize a consistent evaluation measure.

Presentation/Discussion Leader (30 points)
Students are to prepare a presentation and summary document to the class that includes information from their course readings as well as additional sources. Presentation formats may include but are not limited to: PowerPoint, hands-on activities, or demonstrations. Students are required to find 10 additional resources for their presentation in addition to those provided on the syllabus.

Game Prototype (50 points)
Students will create a prototype of a game using the tools provided in the class or upon approval from the instructor. In addition to the prototype, students must also provide an "instruction manual" which explains the target audience, game goals, educational purpose/content, functions, and operation.

	Exceeds Expectations (-0%)	Meets Expectations (-10%)	Needs Improvement (-20)
Participation (20)	(a) exceptionally demonstrated critical thinking and understanding of concepts, processes, and research (b) is reflective, developmental, integrative, and contextual.	(a) clearly demonstrates critical thinking and understanding of concepts, processes, and research. (b) is reflective, developmental, integrative, and contextual.	(a) does not clearly demonstrate critical thinking and understanding of concepts, processes, and research. (b) lacks understanding in one or more of the following: reflective, contextual, developmental, integrative.
Discussion Leader (30)	clear, informative, and good structure. Excellent use of text, graphics, and demonstrations	clear, informative, and good structure. Good use of text, graphics, and demonstrations	Hard to follow and not well organized
Prototype (50)	(a) exceptionally demonstrates deep thought about the integration and syntheses of previous academic and professional experience. (b) Prototype exceptionally demonstrates and includes relevant evidence of insights and synthesis	(a) demonstrates deep thought about the integration and syntheses of previous academic and professional experience. (b) Prototype clearly demonstrates and include relevant evidence of insights and synthesis	(a) contains little or no evidence of reflective thinking about the integration and syntheses of previous academic and professional experience. (b) Prototype is lacking evidence of insights and connection to scholarly research.

Class Make-up Policy:

If George Mason University is closed due to inclement weather on the day of class, the class will not be held. Material missed due to the cancellation of the first 3-hour class will be incorporated into the remaining class sessions. Should a second 3-hour session be canceled, all remaining class sessions will be 15 minutes longer. All subsequent classes missed will be rescheduled.

Grading Policy:

Grades are assigned using a ten point scale, and no plus or minus grades are given:
A= 90 – 100 B = 80 – 89.9 C= 70 – 79.9 D= 60 – 69.9 F= 0 – 59.9

Late assignments will be penalized 10 percent for each class session past the due date.

Class Schedule

DATE	TOPIC	ASSIGNMENT
Aug. 28	• Introductions • Review syllabus • Select discussion topics • Intro/Tutorial Game Tools • Explore games (common sense, CTR, Parent's Choice)	▪ Read Kapp, Ch. 1 ▪ Review Game Tools (tutorials) ▪ http://www.ted.com/talks/tom_chatfield_7_ways_games_reward_the_brain.html ▪ Mason Gaming/Simulation Lab ▪ http://www.play.vg ▪ http://www.nakedplay.co/?p=466 ▪ http://fora.tv/2011/09/16/Learning_to_Love_Fun_Again_Gamified_Education__Training#Nt_Etuk_Makes_the_Case_for_a_Gamified_Classroom ▪ http://fora.tv/2010/07/27/Jesse_Schell_Visions_of_the_Gamepocalypse#10_Points_for_Eating_Cereal_Schell_on_the_Gamepocalypse ▪
Sept. 4	• Discuss Readings • Demo Day	▪ Read Kapp, Ch. 2
Sept. 11	• Discuss Readings • Present project Ideas	▪ http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf ▪ http://net.educause.edu/ir/library/pdf/ERM0620.pdf ▪ http://www.innovateonline.info/pdf/vol5_issue3/H._Sapiens_Digital-__From_Digital_Immigrants_and_Digital_Natives_to_Digital_Wisdom.pdf ▪ Read Kapp, Ch. 3
Sept. 18	• Discussion Leader (Rebecca)	▪ Read, Literature Review in Games and Learning (2008) ▪ Read, Harnessing the Power of Video Games for Learning (FAS) ▪ Read Kapp, Ch. 4
Sept. 25	• Discussion Leader (Nkiruka)	▪ Read Kapp, Ch. 5 ▪ http://janemcgonigal.com ▪ http://gamification.org ▪
Oct. 2	• Discussion Leader (Michael)	▪ Read, Kapp, Ch. 6 ▪ Patterns in Game Design http://books.google.com/books/about/Patterns_In_Game_Design.html?id=IFQfyODK4wAC ▪
Oct. 9	**NO CLASS – COLUMBUS DAY**	
Oct. 16	• Discussion Leader (Tim)	▪ Read Kapp, Ch. 7-14 ▪ http://gamification.co/2011/11/29/the-six-rules-of-gamification/
Oct. 23	• Discussion Leader (Chris)	▪ Work on Prototype
Oct. 30	• Prototype Presentations	▪ Peer Evaluations ▪ Submit Final Prototypes

George Mason Policies and Resources for students

a. Students must adhere to the guidelines of the George Mason University Honor Code [See http://academicintegrity.gmu.edu/honorcode/].

b. Students must follow the university policy for Responsible Use of Computing [See http://universitypolicy.gmu.edu/1301gen.html].

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/].

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/