



**ITEC-6200**  
**Interdisciplinary Research in Digital Media**  
**Fall 2017**

**Instructor:** Ali Arya

**Office:** CB-4202

**Office Hours:** Monday, 1:00-2:00pm

**Lecture:** Monday, 2:30-5:30pm

**Location:** SA 314 (will move to AP-238)

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**Course Description**

This course is an introduction to concepts and practices for research in the field of Digital Media (DM). It starts by reviewing the DM's characteristic properties and how DM is related to other fields such as Computer Science, Information Technology, Design, Arts and Humanities. Students will explore the concepts of technology, people, and content as the key parts of DM. The course will provide a comprehensive review of research design and practices suitable for DM projects. Students will work on projects that bring together the research skills, in order to solve problems and explore new possibilities in various target areas such as education, health, art, and entertainment.

**Course Objectives**

- Explain and utilize the characteristic properties of digital media
- Propose digital media-based solutions to real-world problems
- Design research using various methods
- Communicate effectively across multiple disciplines
- Critique digital media publications and products

**Reference Material**

- Research Design, John Creswell, SAGE, 2014
- Interdisciplinary Research: Process and Theory, Allen Repko, SAGE, 2012
- Innovations in Digital Research Methods, Peter Halfpenny and Rob Procter, SAGE, 2015
- Research Methods in Human-Computer Interaction, Jonathan Lazar, Wiley, 2010
- Digital Storytelling: A Creator's Guide to Interactive Entertainment, Elsevier, 2004
- First Person, Noah Wardrip-Fruin and Pat Harrigan (Editors), MIT Press, 2004
- Interactive Storytelling, Andrew S. Glassner, A.K. Peters, 2004
- Hamlet on Holodeck, Janet H. Murray, MIT Press, 1998

- Video Games and Interactive Media, Stephane Natkin, AK Peters, 2006
- Interactive Dramaturgies, Heide Hagebolling, Springer, 2004
- Digital Art, Christiane Paul, Thames & Hudson, 2015
- Design for New Media, Lon Barfield, Pearson, 2004
- Science of Digital Media, Jennifer Burg, Pearson, 2009
- Various papers and online resources

## **Grading**

<b>Grading Component</b>	<b>%</b>
Seminar (one presentation)	10
Project (three reports of equal value)	60
Assignments (four short papers)	20
Class Participation (reflection and discussion)	10

### **Notes:**

- Assignments are short papers (4-6 page) on given topics. Reflections are reviews on class experiences.
- Each student is required to present twice for seminars.
- Students have to form groups (preferably multidisciplinary ones) for projects. Topic is selected by students and approved by the instructor, related to the given areas.
- Students must achieve a minimum grade of 50% on the final project and overall to pass the course.
- A graduate course requires B- to count as required credit in the program.

## **Detailed Topics**

### **1. Introduction**

- 1.1. Course Review
- 1.2. Historical review
- 1.3. DM-based experience is interdisciplinary
  - 1.3.1. What is Digital Media?
  - 1.3.2. Tech/people/content
    - 1.3.2.1. Computer Science/Engineering vs DM
    - 1.3.2.2. Why not just technology?
  - 1.3.3. Interdisciplinary vs Multidisciplinary
- 1.4. References
- 1.5. Activities
  - 1.5.1. Computer Games
  - 1.5.2. Digital Classroom and Beyond

### **2. Digital Media**

- 2.1. Technology
  - 2.1.1. Properties of digital media
  - 2.1.2. Effective DM Design: Digital vs Digitized
    - 2.1.2.1. Web 2.0
    - 2.1.2.2. E-book

- 2.1.3. Traditional Digital Technologies
  - 2.1.3.1. Desktop computers
  - 2.1.3.2. Web and Internet
- 2.1.4. Emerging Technologies
  - 2.1.4.1. Mobility
  - 2.1.4.2. Multimodal HCI
  - 2.1.4.3. Gamification
  - 2.1.4.4. Data Science
- 2.1.5. Technology strikes back!
  - 2.1.5.1. AR/VR
  - 2.1.5.2. AI
- 2.2. People
  - 2.2.1. Levels: Individual, Organization, National, Global, etc.
  - 2.2.2. Roles: User, Author, Designer, Developer, Planner, etc.
  - 2.2.3. Practices: Acceptance, Usage, Deployment, Effects, etc.
  - 2.2.4. Academic and professional disciplines
- 2.3. Content
  - 2.3.1. Information, task, material, etc.
  - 2.3.2. Style and Design
  - 2.3.3. Interface
  - 2.3.4. Academic and professional disciplines
- 2.4. References
- 2.5. Activities
  - 2.5.1. Technology/Product/System Review
  - 2.5.2. Idea Game
  - 2.5.3. Crossing the discipline borders
- 3. Research Design**
  - 3.1. Literature Review
    - 3.1.1. Problem Identification
    - 3.1.2. Research Gaps
    - 3.1.3. Conceptual Framework
  - 3.2. Planning and Methodology
  - 3.3. Experimentation
    - 3.3.1. Ethics Approval
    - 3.3.2. Data Collection
    - 3.3.3. Qualitative & Quantitative Analysis
  - 3.4. Presentation (Thesis, Paper, Poster, etc.)
  - 3.5. Review and Critique
  - 3.6. References
  - 3.7. Activities
    - 3.7.1. Write a Research Proposal
    - 3.7.2. Do a Paper Review
- 4. Class Projects**
  - 4.1. Project Topics
    - 4.1.1. Digital Playground
    - 4.1.2. Museums
    - 4.1.3. Newcomers Integration
    - 4.1.4. Health and Lifestyle
    - 4.1.5. Education
  - 4.2. Activities
    - 4.2.1. Proposal
    - 4.2.2. Reports
- 5. Seminars on Target Areas and Technologies**
  - 5.1. Project Areas (different from selected project)
  - 5.2. Art and entertainment
  - 5.3. Home and Community

- 5.4. Interactivity
- 5.5. Mobility and Ubiquity
- 5.6. Data, Knowledge, and Intelligence

## **Schedule**

<b>Week</b>	<b>Starting Date</b>	<b>Topic (from the above list)</b>	<b>Assignment Due (All given the week before they are due)</b>
1	Sep. 11	1	
2	Sep. 18	2.1	
3	Sep. 25	2.2 and 2.3	Project Proposal
4	Oct. 2	3.1	2.5 (2 out of 3 choices)
5	Oct. 9	3.2 and 3.3	
6	Oct. 16	3.4 and 3.5	3.7.1
7	Oct. 23	<i>Fall Break</i>	
8	Oct. 30	3.7	3.7.2
9	Nov. 6	4	Project Report 1
10	Nov. 13	5	
11	Nov. 20	5	
12	Nov. 27	4	Project Report 2
13	Dec. 4	5	
	Dec. 22		Final Project

### **Note:**

- While every attempt will be made to keep to the schedule listed above, circumstances may necessitate modifications throughout the semester.
- Assignments are given during the class time and are due on the specified dates. Due dates for reflections will be set individually on cuLearn.

## **Inability to Complete an Assignment or Write the Midterm due to Illness**

Students who are not able to contribute to a group project, or submit an individual assignment, due to a certified illness will have extensions to perform the tasks. Other arrangements (such as extended deadline or alternative assignments/projects) may be possible upon the request from student and approval by the instructor.

## **Group work**

Due to the nature of the course, final projects have to be done in groups of 2-4. Assignments and seminars are individual to make sure each person will have the opportunity to learn those specific skills. Seminars can be done in groups in special cases, upon request by students and approval of the instructor.

## **Medical certificate**

Please note that in all occasions that call for a medical certificate you must use or furnish the information demanded in the standard university form. <http://www1.carleton.ca/registrar/forms/>

## **Persons with disabilities**

Students with disabilities requiring academic accommodations in this course must register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Documented disabilities could include but are not limited to mobility/physical impairments, specific Learning Disabilities (LD), psychiatric/psychological disabilities, sensory disabilities, Attention Deficit Hyperactivity Disorder (ADHD), and chronic medical conditions. Registered PMC students are required to contact the PMC, 613-520-6608, every term to ensure that I receive your Letter of Accommodation, no later than two weeks before the first assignment is due or the first in-class test/midterm requiring accommodations. If you only require accommodations for your formally scheduled exam(s) in this course, please submit your request for accommodations to PMC by the deadlines published on the **PMC website**. (<http://www.carleton.ca/pmc/>)

## **Religious observance**

Students requesting academic accommodation on the basis of religious observance should make a formal, written request to the instructor for alternate dates and/or means of satisfying academic requirements. Such requests should be made during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist, but no later than two weeks before the compulsory academic event. Accommodation is to be worked out directly and on an individual basis between the student and the instructor. Instructor will make accommodations in a way that avoids academic disadvantage to the student. Students or instructors who have questions or want to confirm accommodation eligibility of a religious event or practice may refer to the Equity Services website for a list of holy days and Carleton's Academic Accommodation policies, or may contact an Equity Services Advisor in the Equity Services Department for assistance

## **Pregnancy**

Pregnant students requiring academic accommodations are encouraged to contact an Equity Advisor in Equity Services to complete a letter of accommodation. The student must then make an appointment to discuss her needs with the instructor at least two weeks prior to the first academic event in which it is anticipated the accommodation will be required.

## **Plagiarism**

The University Senate defines plagiarism in the regulations on instructional offenses as: "to use and pass off as one's own idea or product work of another without expressly giving credit to another."

Borrowing someone else's answers, unauthorized possession of tests or answers to tests, or possession of material designed in answering exam questions, are also subject to university policy regarding instructional offences. For more information on Carleton University's Academic Integrity Policy, consult:

<http://www1.carleton.ca/studentaffairs/academic-integrity/>

### **Course Sharing Websites**

Student or professor materials created for this course (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

### **Important Dates to Remember – Academic Year**

<https://calendar.carleton.ca/academicyear/>

### **University Regulations**

<http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/> and <http://calendar.carleton.ca/undergrad/regulations/academicregulationsandrequirementsforthebachelorofinformationtechnologydegree/>