

DIG6840 Interdisciplinary Research Seminar in Digital Arts & Sciences

Instructor

Prof Angelos Barmpoutis

Phone

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Email

Canvas Mail

Office Location

CSE E428

Office Hours

Tuesdays 5th Period

Course Number

DIG6840

Semester/Year

Spring 2020

Course Credits

3 credits

Course Location

CSE E413 (Reality Lab)

Course Meeting Times

TUE Period 4

THURS Periods 4/5

Course Description

An interdisciplinary exploration of current topics and trajectories with a goal of enabling the rapid-prototyping of ideas, inventions, and interactions utilizing the digital arts sciences. Single or multiple areas will be chosen and investigated with the intention of a resultant prototype publication, media artifact or research presentation.

Pre-Requisites

Admission in MA DAS program or consent of instructor.

Objectives: By the end of this course, students will be able to:

- Form a research hypothesis in a topic of digital arts and sciences.
- Design a data collection study.
- Write and IRB protocol.
- Collect data and analyze them in the form of a research paper.

Required Materials

Recommended Materials

- Sherman, W.R., Craig, A.B. (2003) *Understanding Virtual Reality*. Morgan Kaufmann
- Bowman, D.A., Kruijff, E., Laviola, J.J., Poupyrev, I. (2005) *3D User Interfaces: Theory and Practice*. Addison-Wesley
- Earnshaw, R.A., Vince J. (1995) *Computer Graphics: Developments in Virtual Environments*. Academic Press
- Begault, D. R. (1994) *3D Sound for virtual reality and multimedia*. Academic Press, London
- Durlach, N.I., Mavor, A.S. (1995) *Virtual reality: scientific and technological challenges*. National Academy Press
- Stuart, R. (2001) *The Design of Virtual Environments*. Barricade Books

Course Schedule

This schedule is only a guide and is subject to change. Unless otherwise indicated, assignments and readings are due the day they are listed on the syllabus, not the following day.

Week	Subject	Assignment/Quizzes	Assignments Due
Week 1	Introduction to Research protocols and forming hypothesis	IRB training	
Week 2	Virtual Environments as research tools	Reading Assignment	
Week 3	Digital Imaging Technologies: From 2D to 3D	Reading Assignment	
Week 4	3D Scanning Techniques	Scanning Assignment	
Week 5	Visualizing multi-dimensional spaces		
Week 6	Interacting in 3 dimensions, Natural User Interfaces	Interaction Design Assignment	
Week 7	Simulating Real Dynamic Environments		
Week 8	Haptic-Devices for Simulation and Interaction	Interaction Design Assignment	
Week 9	Human-Computer Interaction for Computed Assisted Surgery	Reading Assignment	
Week 10	Research paper about existing research projects (Individual Assignment)	Research Paper	Research paper due
Week 11	Data Collection and Quantitative Analysis	Qualtrics Assignment	
Week 12	Application: Virtual Environments for Rehabilitation	Data Collection	
Week 13	Application: Digital Epigraphy and Archaeology	Data Collection	
Week 14	Application: Smart Sensors for Connected Vehicles	Data Analysis	
Week 15	Research Proposal Presentations (Group Assignment)	Research Paper	Final Research Proposal (Paper) due

Evaluation of Grades

Assignment	Total Points	% of Grade
Original Research Assignments – Each student will produce original written work and graphically-supported materials about topics discussed in the class, due in week 4 and week 12. The work must be created in Microsoft PowerPoint format, transferred to and submitted as an .mp4	200	20%

Assignment	Total Points	% of Grade
Homework projects: The students will receive homework assignments related to the material covered in class. The students will have 1 week to work on each homework assignment. The assignments will be submitted through the course's learning management system.	10	10%
Research paper (Individual assignment) –It is expected that in this assignment, students present in the form of a research paper an existing research study that has been undertaken in a research university. The students are expected to study the published research papers related to the particular chosen study and present in their own words the concept of this research and the results of the study.	40	40%
Participation – Students are expected to actively participate in class discussions, both in class as well as online by writing peer reviews.	10	10%
Final Paper (Group assignment) – Final Project is the final result of the semester long effort in learning. It is expected that in this final assignment, students manifest their knowledge on forming a hypothesis and designing a research study.	40	40%

Grading Scale

Letter Grade	% Equivalency	GPA Equivalency
A	94 – 100%	4.0
A-	90 – 93%	3.67
B+	87 – 89%	3.33
B	84 – 86%	3.00
B-	80 – 83%	2.67
C+	77 – 79%	2.33
C	74 – 76%	2.00
C-	70 – 73%	1.67
D+	67 – 69%	1.33
D	64 – 66%	1.00
D-	60 – 63%	.67
E, I, NG, S-U, WF	0 – 59%	0.00

More information on grades and grading policies is here:

<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

Materials and Supply Fees

Material and supply and equipment use fee information is available from the academic departments or from the schedule of courses (Florida Statutes 1009.24). The total course fee for this class is \$0.00.

The total course fee for each course is listed on the UF Schedule of Courses. (<https://registrar.ufl.edu/soc/>).

Course Polices

Attendance Policy, Class Expectations, and Make-Up Policy

We value participation more than mere attendance. The instructor is responsible for communicating the specific details of what percentage of your grade (if any) will be assigned to participation, and how class participation will be measured and graded. Interaction with your peers and the instructor will empower you to greater achievement.

Students are allowed **three unexcused absences**. If you miss more than **three classes** during the semester, each additional absence will lower your overall grade by **100 points**. If you miss more than **six classes**, you will fail the course. Exempt from this policy are only those absences involving university-sponsored events, such as athletics and band, and religious holidays, family emergencies, and health issues for which **you must provide appropriate documentation in advance of the absence**.

Additionally, tardiness will not be tolerated. If you are tardy for three class periods, you will receive an unexcused absence.

Make-up Policy

Unless discussed at least 72 hours in advance of the deadline, late assignments will not be accepted. Excluded from this policy are any assignments missed due to medical emergencies.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

Course Technology

The students will be required to have access to and use a personal computer with the access to the Internet. Word editing software will be required for written assignments.

The University of Florida and Digital Worlds requires that students have access to and on-going use of a laptop/mobile computer for DIG courses in order to be able to function in the current learning environment. Digital Worlds requires each student's laptop computer to meet certain minimum specs for heavy graphics use, the requirements documented below must be met.

DW Technology Requirements: <https://digitalworlds.ufl.edu/programs/ba-in-digital-arts-sciences/technology-requirements/>

Course Communications

Students can communicate directly with the instructor regarding the course material through the course management system (CANVAS) using "Canvas Mail".

Course Technology Support

The [Technology Support Center](http://digitalworlds.ufl.edu/support) provides computer support for Digital Worlds students who access Zoom, lecture recordings, student equipment, facilities and other technology-based resources.
<http://digitalworlds.ufl.edu/support>

For computer assistance related to Zoon, lecture recordings, student equipment, and facilities request please [Submit a Help Ticket](#) or email support@digitalworlds.ufl.edu.

For support related to account services, technical consulting, mobile device services, software services, administrative support, application support center, and learning support services, please contact the [UF Computing Help Desk](#) available 24 hours a day, 7 days a week at 352-392-4357 or helpdesk@ufl.edu.

UF Policies

University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Class Demeanor

Students are expected to arrive to class on time and behave in a manner that is respectful to the instructor and to fellow students. Please avoid the use of cell phones and restrict eating to outside of the classroom. Opinions held by other students should be respected in discussion, and conversations that do not contribute to the discussion should be held at minimum, if at all.

Students Requiring Accommodations

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Netiquette Communication Courtesy

All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats, more information can be found at: <http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see:

<http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Campus Resources

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

E-learning Technical Support

352-392-4357 (select option 2) or e-mail to Learning- learning-support@ufl.edu

Career Connections Center

Reitz Union, 392-1601. Career assistance and counseling. <https://career.ufl.edu>

Library Support

Various ways to receive assistance with respect to using the libraries or finding resources.

<http://cms.uflib.ufl.edu/ask>

Teaching Center

Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>

Writing Studio

2215 Turlington Hall, 846-1138. Help brainstorming, formatting, and writing papers.

<http://writing.ufl.edu/writing-studio/>

Student Complaints Campus

<http://regulations.ufl.edu/wp-content/uploads/2012/09/1.0063.pdf>

Online Students Complaints

<http://www.distance.ufl.edu/student-complaint-process>

Disclaimer: This syllabus represents the instructor's current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.