



Angelos Barmpoutis

Contact: 352-294-2042 |
angelos@digitalworlds.ufl.edu

Office: E428, CSE, Main Campus

Hours: 9:35am-10:30am Mondays and Wednesdays

DIG6840 Interdisciplinary Research Methods in Digital Arts and Sciences

Spring 2022

Course Meetings: Mondays 10:40am-11:30am and Wednesdays 10:40am-12:35pm

Course Modality: Face-to-Face (F2F) Live

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.

Course Prerequisites

Admission in MiDAS program or consent of instructor.

Learning Outcomes

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 an IRB protocol.
- Collect data and analyze them in the form of a research paper.

Materials & Books

Required

Supplemental

- 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
- Barmpoutis, A., Faris, R., Garcia, S., Li, J., Philoctete, J., Puthusseril, J., Wood, L. and Zhang, M., 2020. Virtual Kayaking: A study on the effect of low-cost passive haptics on the user experience while exercising. Proceedings of the 2020 HCI International Conference C. Stephanidis and M. Antona (Eds.),

Communications in Computer and Information Science series (CCIS), vol. 1225, pp. 147-155.

- Barmpoutis, A., Faris, R., Garcia, L., Gruber, L., Li, J., Peralta, F. and Zhang, M., 2020. Assessing the Role of Virtual Reality with Passive Haptics in Music Conductor Education: A Pilot Study. In Proceedings of the 2020 Human-Computer Interaction International Conference, J. Y. C. Chen and G. Fragomeni (Eds.), LNCS, vol. 12190, pp. 275-285.
- Other Readings provided in Canvas

Technology Requirements

- Unity 3D
- Qualtrics
- Microsoft Excel

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
1	Introduction to Research protocols and forming hypothesis	IRB training	End of Week
2	Virtual Environments as research tools	Reading Assignment	End of Week
3	Digital Imaging Technologies: From 2D to 3D	Reading Assignment	End of Week
4	3D Scanning Techniques	Scanning Assignment	End of Week
5	Visualizing multi-dimensional spaces		
6	Interacting in 3 dimensions, Natural User Interfaces	Interaction Design Assignment	End of Week
7	Simulating Real Dynamic Environments		
8	Haptic-Devices for Simulation and Interaction	Interaction Design Assignment	End of Week

9	Human-Computer Interaction for Computed Assisted Surgery	Reading Assignment	End of Week
10	Research paper about existing research projects (Individual Assignment)	Research Paper	End of Week
11	Data Collection and Quantitative Analysis	Qualtrics Assignment	End of Week
12	Application: Virtual Environments for Rehabilitation	Data Collection	End of Week
13	Application: Digital Epigraphy and Archaeology	Data Collection	End of Week
14	Application: Smart Sensors for Connected Vehicles	Data Analysis	End of Week
15	Research Proposal Presentations (Group Assignment)	Research Paper	End of Week

Grading Criteria

Assignment / Assessment	Total Points	% of Grade
Weekly projects: The students will receive assignments related to the material covered in class. The students will have 1 week to work on each assignment. The assignments will be submitted through the course's learning management system.	10	10%
Data Collection (Individual assignment) – It is expected that each student will conduct research in VR by implementing an approved research protocol and collecting data from 4 subjects. 10 points per subject = 40 points in total	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 in VR.	40	40%

Grading Scale

Letter Grade	% Equivalency
A	94 – 100%
A-	90 – 93%

B+	87 – 89%
B	84 – 86%
B-	80 – 83%
C+	77 – 79%
C	74 – 76%
C-	70 – 73%
D+	67 – 69%
D	64 – 66%
D-	60 – 63%
E, I, NG, S-U, WF	0 – 59%

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 are 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 Policies

Attendance Policy, Class Expectations, and Make-Up Policy

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. The UF Digital Worlds Institute is committed to the idea that regular student engagement is essential to successful scholastic achievement. No matter if the class is held in a traditional classroom, an online classroom, or a combination of the two, interaction with your peers and the instructor will empower you to greater achievement.

In our course, attendance is mandatory. You are required to attend the class on time to receive full credit for attendance as well as participate in the class by asking questions, answering questions, or engaging in the media in other forms during the live class. Attendance and participation will be jointly graded on Canvas using the Attendance tool. By arriving on time to class you will receive 50% of your grade. By participating/engaging throughout that class, you will receive the other 50% of your grade for that day. If you arrive late to class you will not receive your initial 50% of your grade for that day.

Students may only participate in classes if they are registered officially or approved to audit with evidence of having paid audit fees. The Office of the University Registrar provides official class rolls to instructors. Students are responsible for satisfying all academic objectives as defined by the instructor. Absences count from the first-class meeting.

Acceptable reasons for absence from or failure to engage in class include illness; Title IX-related situations; serious accidents or emergencies affecting the student, their roommates, or their family; special curricular requirements (e.g., judging trips, field trips, professional conferences); military obligation; severe weather conditions that prevent class participation; religious holidays; participation in official university activities (e.g., music performances, athletic competition, debate); and court-imposed legal obligations (e.g., jury duty or subpoena). Other reasons (e.g., a job interview or club activity) may be deemed acceptable if approved by the instructor.

For all planned absences, a student in a situation that allows an excused absence from a class, or any required class activity must inform the instructor as early as possible prior to the class. For all unplanned absences because of

accidents or emergency situations, students should contact their instructor as soon as conditions permit.




Students shall be permitted a reasonable amount of time to make up the material or activities covered during absence from class or inability to engage in class activities because of the reasons outlined above.

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 Modality

Course modality is the way in which a class is offered/delivered to students by the instructor. All students, regardless of the modality, will achieve the same learning objectives. Students can check their class schedules or reference the top of this syllabus to see the format(s) available for each of their individual classes. The modality of a course does not vary during a semester, and students are expected to adhere to the instructor-defined attendance guidelines for that format. Use the guide below to familiarize yourself with the various ways classes are offered at the Digital Worlds Institute.

Know Your Course Modality

		
Face-to-Face (F2F)	Online Asynchronous (OA)	Online Synchronous (OS)
Students attend class F2F in a classroom. Class sessions may be recorded for students to view later.	Students watch the posted recording of the class session or studio recording online at their convenience.	Students participate in a class in real-time through Zoom.
Hybrid refers to a course that is partially Face-to-Face (F2F) and Online Asynchronous (OA)		
In a HyFlex Model , students have the flexibility of moving across all three modalities as needed or desired.		

Course Technology

The students will be required to have access to and use a personal computer with 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 ongoing 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 DAS major's laptop computer to meet certain minimum specs for heavy graphics use, the requirements documented below must be met. <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 Recordings

Our class sessions may be audio-visually recorded for students in the class to refer back and for enrolled students who

are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Creation of Original Content Ethics

For original projects and all assignment deliverables, students should remember that representations of acts of violence, coarse and offensive language, sexual behavior, bodily function and ability, neurodiversity, and personal identity are likely to cause extreme audience response, regardless of the creator's intentions. In addition, the recreation of such actions and subjects for fictional purposes may unintentionally traumatize or negatively impact those who collaborate in the creation of the images. While the university encourages students to explore themes and tell stories that may include this difficult subject matter, they should be cautioned against modes or styles of representation that might be considered unnecessarily offensive or potentially triggering. Instructors, faculty, and university administrators reserve the right to not show or share any student work they feel is inappropriate for their classroom or for public exhibition, as there may be concerns about the impact of such work on the community. We encourage students to consult with their faculty when producing work that might be considered controversial, and to err on the side of being cautious when it comes to making decisions about a project's content - in other words, make the PG-13 version of your story, not the R version, and certainly not the "unrated" version. This is also to help students understand that most professional creative situations have strict guidelines and limitations on such content and how it is produced: your ability to tell stories effectively with "less" is a strong professional skill that will aid in the dissemination of your work to a broader audience.

Course Technology Support

DW Computer Workstations

Digital Worlds offers several high-end computer workstations for students enrolled in DIG coursework that can be reserved in advance to support student assignments and projects. Reservation times vary throughout the semester. To make a reservation: <https://digitalworlds.ufl.edu/workstations>

Usage Policy

The Digital Worlds Computer Work Stations will be used in conjunction with the curriculum and the educational mission of the Institute. Their use is considered a privilege rather than a right. Students will be responsible for adhering to all technology use conditions and rules presented by the Digital Worlds Institute. Any violation of the terms and conditions may result in losing access to technology.

These DW computer workstations have been established for limited educational purposes, including classroom and career development activities. It has not been established as public access or a public forum. The Digital Worlds Institute has the right to place reasonable restrictions on the material you access or post and the training you need before you are allowed to use the system.

UF Computing Help Desk

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.

University 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 who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, 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: <https://catalog.ufl.edu/UGRD/academic-regulations/ferpa-confidentiality-student-records/>

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 and Academic Resources

U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit [U Matter, We Care website](#) to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: [Visit the Counseling and Wellness Center website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or [visit the Student Health Care Center website](#).

University Police Department: [Visit UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; [Visit the UF Health Emergency Room and Trauma Center website](#).

E-learning technical support: Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

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

Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints On-Campus: [Visit the Student Honor Code and Student Conduct Code webpage for more information](#).

Online Students Complaints: [View the Distance Learning 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.