

VR for the Social Good
CAP 4930/6930 Spring 2018
CSE E121, Tuesdays 10th-11th period (5:10 PM - 7:05 PM)

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Course Description:

A course dedicated to learning about the basics of virtual reality application creation and a focus on applying VR to new projects to solve problems involving the social good.

The CAP4930/6930 Virtual Reality (VR) for the Social Good is a special topics course that will have (seekers) students learn the basics of VR, form teams, and develop VR projects proposed by (solvers) researchers, innovators, and entrepreneurs.

The course involves two core components:

Learning VR (Weeks 1-5)

- Self-directed Learning – core VR topics will be learned on outside of class
- VR Learning projects - individual projects will assess learning of core principles (unity, integration with Google Cardboard, etc.)
- Class meeting times will be used to demonstrate work

On the fourth week of class, we will have **Pitch Day**. Pitch Day is when researchers, innovators, and entrepreneurs will present their ideas to the students.

Applying VR to Social Good issues (Week 6-15)

- Work with researchers or entrepreneurs to build a VR experience to solve problems involving the social good
- Group meetings to demonstrate progress

- Platforms can vary from smartphones, Google Cardboard, immersive VR (HTC Vive and Oculus Rift), and augmented reality (Microsoft Hololens)

Upon completion of this course, students will be able to build their own VR applications and understand how VR might be used as a novel solution to problems involving the social good.

Who is this Course for:

This course is for students of any level (CAP4930 is for freshmen through seniors, CAP6930 is for graduate students) and for any major (including - but not exclusive to - computer science, art, english, journalism, and the subject matter of the project).

What is this course:

The VR for Social Good course provides course credit while students learn basic VR content through student generated lessons (first five weeks) and a final semester project (ten weeks). The final semester project should apply virtual reality to address an issue of significant social importance.

Any Prior Virtual Reality Experience Needed?

No prior experience in virtual reality, computer science, or programming is required.

Useful Information

As the course is meant to support projects created through the GatorVR student group, please join the GatorVR Facebook page and attend the remaining meetings of the group (the FB page notifies people about upcoming meetings).

Prerequisites:

- None

Texts:

- *None.*

Suggested Reading:

- [*Sutherland - The Ultimate Display*](#)
- *Brooks what's real about vr*

List of Topics:

1. Building VR apps
 - a. Unity
 - b. Rift basics
 - c. Cardboard basics
 - d. Vive + Controller basics
2. Messaging Science

Grading:

The course has two assignments.

Assignment #1 - Learning VR - 20% of final grade

In this assignment, students learn the technologies to build a VR experience. Students learn a 3D game engine and how to incorporate 3D models and deploy onto a head-mounted display. The students apply this project to a self-generated project to use virtual technologies to create an experience to message positive change for the social good. The grading is based on the incorporation of the learned skills from the learning VR curriculum.

Assignment #2 - Applying VR - 80% of final grade

Students form teams and work on projects pitched to the class by professors, and entrepreneurs, and innovators. Students will use the Agile software development method to deliver value to the project owners (people who pitched the project). Grading is as follows:

- 40% following Agile processes and Scrum ceremonies (evaluated through submission of documentation)
- 40% evaluation by product owners of overall value delivered
- 20% evaluation of each student's contribution to the team as evaluated by teammates.

There is NO FINAL EXAM

| Score (rounded to the nearest point) | Grade |
|--------------------------------------|-------|
| 100-92 | A |
| 91-90 | A- |

| | |
|-------|----|
| 89-88 | B+ |
| 87-82 | B |
| 81-80 | B- |
| 79-78 | C+ |
| 77-72 | C |
| 71-70 | C- |
| 69-68 | D+ |
| 67-62 | D |
| 61-60 | D- |
| 59-0 | E |

A C- will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: a C- average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>”

We will be using the Canvas e-learning course management system to post grades and to communicate with the class members.

Programming Languages

We will be using the Unity 3D game engine and development environment.

Programming Requirements

none.

Honor Code & Collaboration:

High level questions, syntax topics, and algorithms can be discussed. Not allowed in this course include the following: 1) plagiarism (misrepresenting others ideas as your own), 2) copying code, and 3) work deemed offensive to others.

Honesty Policy - As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit 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." It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams).

Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see:

<http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php>.

Accommodation for Students with Disabilities – Students requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

UF Counseling Services – Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- University Counseling Center, 301 Peabody Hall, 392-1575, Personal and Career Counseling.
- SHCC mental Health, Student Health Care Center, 392-1171, Personal and Counseling.
- Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling.
- Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

Software Use – All faculty, staff and student 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.

Late Assignments – There are no late assignments. You will be evaluated on the content submitted as of the due date. Requests for extreme circumstances must be requested in writing BEFORE the due date. Requirements for class attendance are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.”

Attendance: Attendance is not required and will not be graded. If you are sick or will be absent for a significant period, please contact me, and we will work out a way for you to catch up.

Incompletes: Incompletes will be not be granted except under previous agreement of the professor. To be considered for an incomplete, the student *must* 1) let the professor know at in advance that they are seeking an incomplete, and 2) provide documentation to support the request.

Course Webpage: <https://sites.google.com/view/vrforthesocialgood-spring2018>

Miscellany – To reduce distraction to your fellow classmates, please:

1. Turn off all cell phone ringers (if your cell phone rings, you'll have to stand up the next class period and either bring a snack, read a poem, or tell a G-rated joke. [Here's why](#))