

Virtual Reality Independent Study

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1 Overview

This course will explore user interaction with virtual reality (VR) technology, implementation of VR environments, and the impacts of VR on society.

Prerequisite: C or better in CSCI 262 Data Structures

Credit Hours: 3

Meeting Time: 1 Hour/Week TBD

1.1 Learning Objectives

At the completion of this course, students will be able to:

1. Learn the Rust programming Language
2. Explore a variety of UX implementations for VR
3. Become familiar with VR tools and libraries
4. Explore systems for interacting with a VR environment
5. Contribute to Flight VR UX library

2 Grading Policy

2.1 Grade Distribution

Project 1	12.5%
Project 2	12.5%
Project 3	15%
Final Project	35%
Project Proposal	5%
Milestone 1	5%
Milestone 2	5%
Final Code	20%
Final Presentation	10%
Final Report	15%

2.2 Letter Grade Distribution

90.00 - 100.0	A
80.00 - 89.99	B
70.00 - 79.99	C
60.00 - 69.99	D
00.00 - 59.99	F

2.3 Late Policy

A penalty of 10% will be assessed for every school day late a project is.

3 Tentative Course Outline

The weekly coverage might change as it depends on the progress of the class.

Week of	Content
08/28	<ul style="list-style-type: none">• Introduction to the Rust programming language• Project 1 (Rust Intro) due 09/01
09/04	<ul style="list-style-type: none">• Introduction to OpenVR
09/11	<ul style="list-style-type: none">• VR device input, output, and tracking• Project 2 (VR Intro) due 09/15
09/18	<ul style="list-style-type: none">• Drawing VR objects
09/25	<ul style="list-style-type: none">• Event handling and animation
10/02	<ul style="list-style-type: none">• Images and text rendering• Proposal due 10/06
10/09	<ul style="list-style-type: none">• Physics and advanced animations• Project 3 (VR Independent Projects) due 10/13
10/16	<ul style="list-style-type: none">• Impact of VR on jobs and society
10/23	<ul style="list-style-type: none">• Impact of VR on human physiology
10/30	<ul style="list-style-type: none">• Effective visual cues• Milestone 1 due 11/03
11/06	<ul style="list-style-type: none">• Volumetric elements
11/13	<ul style="list-style-type: none">• Motion controls• Milestone 2 due 11/17
11/20	<ul style="list-style-type: none">• User input types
11/27	<ul style="list-style-type: none">• Dead week (work on paper and final project)• Possible field trip to Newmont to see how they use VR
12/04	<ul style="list-style-type: none">• Final Project due 12/08• Final Report due 12/08