

# 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

<b>Project 1</b>	<b>10%</b>
<b>Project 2</b>	<b>10%</b>
<b>Project 3</b>	<b>10%</b>
<b>Project 4</b>	<b>10%</b>
<b>Final Project</b>	<b>20%</b>
Project Proposal	5%
Milestone 1	5%
Milestone 2	5%
Milestone 3	5%
<b>Final Code</b>	<b>15%</b>
<b>Final Presentation</b>	<b>10%</b>
<b>Final Report</b>	<b>15%</b>

### 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 Project 1 — Rust Intro

Each student will choose an approved project from Data Structures and will implement it using the Rust programming language.

- Mazes
- Evil Hangman
- Markov
- Tic-tac-toe game
- Animal

## 4 Project 2 — VR Intro

## 5 Project 3 — VR Independent Projects

## 6 Final Project

## 7 Final Report

## 8 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"><li>• Introduction to the Rust programming language</li><li>• <b>Project 1 due 09/01</b></li></ul>
09/04	<ul style="list-style-type: none"><li>• Introduction to OpenVR</li></ul>
09/11	<ul style="list-style-type: none"><li>• VR device input, output, and tracking</li><li>• <b>Project 2 due 09/15</b></li></ul>
09/18	<ul style="list-style-type: none"><li>• Drawing VR objects</li></ul>
09/25	<ul style="list-style-type: none"><li>• Event handling and animation</li></ul>
10/02	<ul style="list-style-type: none"><li>• Images and text rendering</li></ul>
10/09	<ul style="list-style-type: none"><li>• Physics and advanced animations</li><li>• <b>Project 3 due 10/13</b></li></ul>
10/16	<ul style="list-style-type: none"><li>• Impact of VR on jobs and society</li></ul>
10/23	<ul style="list-style-type: none"><li>•</li></ul>
10/30	<ul style="list-style-type: none"><li>•</li></ul>
11/06	<ul style="list-style-type: none"><li>•</li></ul>
11/13	<ul style="list-style-type: none"><li>•</li></ul>
11/20	<ul style="list-style-type: none"><li>•</li></ul>
11/27	<ul style="list-style-type: none"><li>•</li></ul>
12/04	<ul style="list-style-type: none"><li>• <b>Final Project due 12/08</b></li><li>• <b>Final Report due 12/08</b></li></ul>