

INSTRUCTOR: Robert Yang <ry14@nyu.edu>, office hours by appointment

M 2:00-4:45 / We 3:30-6:10 2 Metrotech (MAGNET) ROOM 825

This course is a critical exploration of “virtual reality” (VR) as a passing fad, dystopian nightmare, and new mode of technological consciousness. How do we reconcile the VR industry's promise of “presence” with existing discourse about immersion and realism in games? Classroom lectures and lab time will focus on prototyping experiences for VR, and critiquing VR as a media culture.

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

- 1) Describe contemporary issues in virtual reality and embodied interfaces.
- 2) Demonstrate competency in working with VR, through actual working prototypes.
- 3) Work with a game engine, and understand the basics of how to build a game for VR.

PREREQUISITES: a prior studio course that used Unity, and/or substantial Unity experience

MAIN COURSE TOOLS: *(all software is free / or has free student versions)*

(1) A laptop. (2) Unity, free version. (3) Autodesk Maya 2016. (4) Misc. free tools.

COURSE READINGS:

- Hamlet on the Holodeck, Janet Murray (narrative theory of immersion; main text)
- “Links Between McLuhan and Narratives of New Media”, Christopher Horrocks
- “The Veldt”, Ray Bradbury (VR as interactive television; literary precursors to VR)
- “Star Trek: The Next Generation”, episode 1x15 (VR as culture)
- Game Feel, Steve Swink (game interfaces and “feel”)
- “Being in the World” (film), Tao Ruspoli (introduction to phenomenology)

LEARNING GOALS: *(practice design, code, and asset creation, as a unified discipline)*

- Iterative prototyping processes and troubleshooting, isolating bugs and problems.
- 3D asset creation and contemporary real-time 3D game art workflows
- Understanding VR critically as a history / culture / technological medium

ATTENDANCE: 3+ unexcused absences lowers grade... **e-mail me BEFORE class to be excused**

2 tardies = 1 absence; 15+ minutes late = 1 tardy

CLASS WEBSITE: https://github.com/radiatoryang/spring2016_vrstudio

WEEKLY ASSIGNMENTS: Weekly prototyping exercises, weekly reading responses on GitHub.

MIDTERM PROJECT: A “room experience” VR prototype with a clear player experience goal, e.g. scare the player, replicate a real-world space, or make an aesthetic / political argument. You'll be graded on experience design / demonstrated understanding of VR usability guidelines.

FINAL PROJECT: An experimental VR prototype along one of the following dimensions:

- (a) conceptual / speculative / performative:** write and present a proposal for a VR experience that re-imagines fundamental notions of VR and VR culture... you'll be graded primarily on design, research, theory, and writing.
- (b) technical:** prototype a novel VR experience with an experimental interface or never-before-seen concept... you'll be graded heavily on prototyping, documentation, and process.

WEEKLY SCHEDULE (subject to change)

W1, 1/25: intro to VR; the revenge of 90s VR

LAB / HW: watch Star Trek: The Next Generation 1x15 “11001001”

W2, 2/1: intro to VR hardware; Unity workflow and scripting review; Allegory of the Cave

LAB / HW: read Hamlet on the Holodeck (ch. 1), build a simple “cave allegory” room in Unity

W3, 2/8: intro to Maya; modeling from reference; realism, fidelity, and immersion

LAB / HW: read The Veldt, build a “recreation” of a MAGNET classroom in Maya / Unity

W4, 2/15: [NO MONDAY CLASS] VR usability theory, simulator sickness, **begin midterm**

LAB / HW: read VR design guidelines; iterate on midterm project

W5, 2/22: Gaze as interface, world feel, leading lines and 3D world composition

LAB / HW: read “Game Feel” ch. 1, ch. 8; iterate on midterm project

W6, 2/29: Midterm playtests, how to record and document your projects

LAB / HW: finish midterm project, make video documentation

W7, 3/7: Midterm projects due, presentations, public arcade

LAB / HW: watch and discuss “Being in the World”

3/14: [NO CLASS, SPRING BREAK / GDC]

W8, 3/21: Phenomenology as critique of the Cave, working with hardware controllers

LAB / HW: prototype an experimental VR hardware interface, and document it

W9, 3/28: Test interfaces, scripted sequences in games, working with humanoid characters

LAB / HW: read Hamlet on the Holodeck (ch. 4 “Immersion”), recreate a scene from Hamlet

W10, 4/4: Test Hamlet scenes, **begin final projects**

LAB / HW: read Hamlet on the Holodeck (ch. 5 “Agency”), iterate on final project

W11, 4/11: intro to 3D photogrammetry, guest lecture (visiting VR artist, TBD?)

LAB / HW: read Hamlet on the Holodeck (ch. 6 “Transformation”), iterate on final project

W12, 4/18: [MAYBE NO WEDS CLASS, AWAY AT AMAZE] intro to 3D sculpting, playtests

LAB / HW: iterate on final project, analyze polycount thread

W13, 4/25: playtests, lighting theory and design

LAB / HW: read “Links Between McLuhan...”, iterate on final project

W14, 5/2: final project playtests

LAB / HW: finish final project, make video documentation

W15, 5/9: [NO WEDNESDAY CLASS] Final project presentations, public arcade

FINAL PROJECT DELIVERABLE DUE ON 5/16 NO FINAL EXAM

ASSESSMENT

Students will be graded primarily on demonstrated process and technique. Students will be given grades based on a 100-point scale. Each assignment will be graded on a point scale, and these points will be added up to determine the final grade, according to the following:

98-100 A+ 92-97 A 90-91 A- 88-89 B+ 82-87 B etc.

The following are the components of the grade:

Attendance & participation 25
Homework 25
Midterm 15
Final 35
TOTAL = 100

Attendance & Participation

The attendance and participation portion of your grade is based on the following:

- Attending and arriving on time to all class sessions is required and expected. This includes all labs, recitations, and critiques. If you will be missing a class due to illness, or unavoidable personal circumstances, **you must notify your professor in advance via email for the absence to be excused.** Unexcused absences and being late to class will lower your final grade. Three unexcused absences lower your final grade by a letter. Each subsequent unexcused absence will lower another letter grade. Two tardies will count as one unexcused absence. Arriving more than 15 minutes late to class will also count as an unexcused absence.
- Participation in group discussions and critiques
- Peer grades and participation in writing group evaluations

Group evaluations

Students will also write an evaluation of each team member at the end of the class. These evaluations will be sent to all group members and to the instructor. They must include:

- a) 2 positive observations. Particular skills, behaviors, decisions, or ways which member made positive contribution.
- b) 2 areas for improvement. At least two observations that point out how the team member can change their working style, collaborative approach, or other aspects of their behavior to improve project and the team dynamic.

STATEMENT OF ACADEMIC INTEGRITY

Plagiarism is presenting someone else's work as though it were your own. More specifically, plagiarism is to present as your own: A sequence of words quoted without quotation marks from another writer or a paraphrased passage from another writer's work or facts, ideas or images composed by someone else.

Statement of Principle

The core of the educational experience at the Tisch School of the Arts is the creation of original academic and artistic work by students for the critical review of faculty members. It is therefore of the utmost importance that students at all times provide their instructors with an accurate sense of their current abilities and knowledge in order to receive appropriate constructive criticism and advice. Any attempt to evade that essential, transparent transaction between instructor and student through plagiarism or cheating is educationally self-defeating and a grave violation of Tisch School of the Arts community standards. For all the details on plagiarism, please refer to page 10 of the Tisch School of the Arts, Policies and Procedures Handbook 2013-2014, which can be found online at: <http://students.tisch.nyu.edu/page/home.html>

ACCESSIBILITY

Academic accommodations are available for students with documented disabilities. Please contact the Moses Center for Students with Disabilities at 212-998-4980 for further information.

New York University
Tisch School of the Arts
Course Syllabus
Office of Special Programs