

**WRIGHT STATE UNIVERSITY LAKE CAMPUS**  
**Graphic Design & Multimedia Program**  
**IT 3410 Virtual Reality Instructional Design**

**Instructor**

**Graphic Design & Multimedia Instructor:** Jonathan Welch

**Faculty Office:** Dwyer 243, Wright State University-Lake Campus

**Email:** jonathan.welch@wright.edu

**Office:** (419) 586-0326

**Office hours:** Tuesday 12:30 pm-2:30 pm, Wednesday 2:30 pm-5 pm, Thursday 12:30 pm-2 pm, Email for appointment: Monday & Friday

**Pilot is at:** pilot.wright.edu

**Email is at:** email.wright.edu

**Wings is at:** wright.edu click on Wings icon

**Technical Support**

Students needing technical assistance with online courses may contact the Help Desk. The CaTS Help Desk can assist you with your CAMPUS account and any of the services it can access, including WINGS, the university portal at wings.wright.edu.

Phone: (937) 775-4827, or toll free (888) 775-4827

Email: helpdesk@wright.edu

For Help Desk hours and further contact information, see CaTS Contact Information

**General Course Information**

Prerequisites: IT3400, IT3450

Textbook: none

**Course Description (Credit Hours: 3)**

In this course, students will learn the fundamentals of instruction through 3D Virtual Reality Environments. Students will cover the basics of 3D graphics, including a number of 3D engines with focus on the Unity3D engine. Students will use team collaboration with an approach to a hypothetical training objective through ADDIE (Analysis, Design, Development, Implementation, and Evaluation).

**Deadlines**

The time for all deadline dates is 1:00 p.m. every Saturday! Except for the last week of the term, which the due date is: Thursday by Midnight

In summary: Read the weekly assignment/lecture email, Do the assignments listed on the assignment sheet. The deadlines are every Saturday by 1:00pm except for the very last final assignment due on Thursday instead. If any questions or concerns arise, don't hesitate to e-mail me. Please be sure to

include the chapter and the page and step you are having difficulties with on the assignment. Comments for your assignments will be left in the comment section of the grade portion of Pilot.

### **Late Work**

Late work is **only accepted 24 hours after the due date** with a **30% late deduction** taken from the grade. The only exception is under the extreme circumstance of provable emergencies (i.e. Sickness, with note from doctor, funeral, etc.). You must take all necessary steps to complete your work in time, each week. Use your time wisely; all late work past the 24 hours will be marked as a zero.

### **Course Text**

There is no textbook required. I will supply step by step instructions on the features that you will need to know.

### **Course Software**



Autodesk Maya, Mudbox, and Motionbuilder 2017 (Do not try to use 2018)



Unity (version will be specified at the beginning of the class)

In order to complete the coursework you will need to download and install Autodesk Maya, Mudbox, and Motionbuilder 2017 on your computer or be able to do your work on site in the computer lab. To install on your computer, go to Autodesk <https://www.autodesk.com/> and the Unity 3D websites <https://unity3d.com/>, or to these direct links:

<https://www.autodesk.com/education/free-software/maya>,  
<https://www.autodesk.com/education/free-software/mudbox>,  
<https://www.autodesk.com/education/free-software/motionbuilder>,  
<https://store.unity.com/download?ref=personal>

These link directly to the Autodesk and Unity Software Download pages. You will need to create an account and register for the **free student licenses**.

Please note that this software is necessary to have if you are planning on working at home or on your own computer.

For technical support for installing Autodesk software on your computer check here:

<https://knowledge.autodesk.com/customer-service/download-install>

For technical support for installing Unity software on your computer check here:

[https://support.unity3d.com/hc/en-us?\\_ga=2.21216701.729182155.1533851768-2083206459.1533227302](https://support.unity3d.com/hc/en-us?_ga=2.21216701.729182155.1533851768-2083206459.1533227302)

Also: If you wish to use the software on campus, please check the availability of lab times at the Lake Campus- Andrews 183 or 185.

### **Learning Outcomes**

- Students will develop the knowledge of how to design a virtual/interactive instructional environment for use in the Vive or Oculus Rift
- Students will demonstrate how to attach physics to objects and the environment
- Students will create a graphical user interface for a trainer to guide the trainee's experience
- Students will develop the approach of instructional design problems, prototype solutions, and outcome evaluation.

### **Lecture/Lab**

Course material is conducted with a unique combination of delivery. To reach a wide variety of students this course is offered on campus as a F2F course while also conducting to distance learners for live participation as well as recorded for students to review or study at a later time through Blackboard Collaborate, utilizing the technical modes for lecture delivery. Each of these modes of delivery then have extended cyber labs that approach the need of creative on hands practice, research, and study of the material covered.

### **Course Outline**

**Week 1 – Analysis:** Presented with instructional design problem

Mixed mode: Cyber Lab research on project study to analyze and evaluate possible changes that training will resolve for improvement using VR.

**Week 2 – Design:** Design and present solutions in VR

Mixed mode: Cyber Lab project design to concept a training design through storyboard prototypes for the development for the foundation of VR training.

**Week 3 – Development;** Developing a solution rough blocking out environment

Mixed mode: Cyber Lab to begin development of the VR training environment.

**Week 4 – Modeling**

Mixed mode: Cyber Lab to begin development of the Modeling for the VR training environment.

**Week 5 – Modeling continued**

Mixed mode: Cyber Lab to begin development of the Modeling for the VR training environment. Testing the mechanics of the development analyzing for improvement.

**Week 6 – Import to unity**

Mixed mode: Cyber Lab to begin importing the VR training environment to the Unity platform.

**Week 7 – Unity development**

Mixed mode: Cyber Lab to begin importing the VR training environment to the Unity platform. Testing the mechanics of the development analyzing for improvement.

**Week 8 – Unity development**

Mixed mode: Cyber Lab to begin importing the VR training environment to the Unity platform. Testing the mechanics of the development analyzing for improvement.

**Week 9 – Initial Prototype**

Mixed mode: Cyber Lab study of prototype

**Week 10- Testing and fixing prototype**

Mixed mode: Cyber Lab study of prototype with analysis for improvement

**Week 11 – Refine Unity prototype**

Mixed mode: Cyber Lab study of prototype with analysis for resolution for improvement

**Week 12 – **Implementation**; Testing VR design on the other group members**

Mixed mode: Continuation of testing for VR design

**Week 13- **Evaluation****

Mixed mode: Continuation of study for evaluation of VR project

**Week 14 – Refinement**

Mixed mode: Finalizing study and VR project

**Week 15- Final project presentation**

Mixed mode: Final prep for project development

**Grade Distribution**

|             |     |
|-------------|-----|
| Assignments | 30% |
| Exams       | 20% |

|               |             |
|---------------|-------------|
| Projects      | 30%         |
| Final Project | 20%         |
| <b>TOTAL</b>  | <b>100%</b> |

### **Grading Scale**

94 – 100% = A  
 84 – 93% = B  
 74 – 83% = C  
 64 – 73% = D  
 Below 64% = F

### **Tutoring**

The (SSC) Student Success Center offers FREE services to help students meet their full potential. Hours will be M-F 9-5. Tutoring in any subject, study groups, one-on-one technology workshops, feedback on writing assignments, and general academic skills coaching available. Tutoring hours will be M-Th from 10-5. Tutors will be available on Fridays by appointment only. Location: Andrews 182 Phone: 419-586-0333

Setup your tutoring session on the Web: <http://wright.mywconline.com>

### **Disability Services**

If a student has a disability that will require special accommodations, it is essential that he or she discuss it with the instructor and/or The Center for Independent Achievement (CIA) before or during the first week of the semester. The CIA will work with these students on an individual basis to determine what services, equipment, and accommodations would be appropriate regarding their documented needs. Students who may qualify for these types of service should initiate contact with the instructor and/ or the CIA as soon as possible to enable the university to meet their needs. Please call Deanna Springer at 419-586-0366 or 1-800-237-1477, [deanna.springer@wright.edu](mailto:deanna.springer@wright.edu) or visit the CIA for more information.

### **Academic Integrity**

Cheating of any kind will not be tolerated. From the Wright State University, Office of Judicial Affairs, Student Guide to Academic Integrity:

“It is the policy of Wright State University to uphold and support standards of personal honesty and integrity for all students consistent with the goals of a community of scholars and students seeking knowledge and truth. Furthermore, it is the policy of the university to enforce these standards through fair and

objective procedures governing instances of alleged dishonesty, cheating, and other academic misconduct.”

### **Library & Technology Center**

The Library & Technology Center provides free access to scholarly resources in all formats to all Wright State students. WSU students can also visit the LTC for assistance with creating or editing multimedia projects i.e. PowerPoint, Voiceovers, Website development, etc., free of charge. The LTC is temporarily located at 182 Andrews Hall. For additional information about the LTC and the services, they provide please call (419) 586-0333, or visit the LTC M-Fri from 9am-5pm.

### **Writing**

Because writing is such an important part of a college education, the Student Success Center provides free writing support to all Wright State students, at any stage of your writing process and for any class. I encourage you to visit the SSC for help with any aspect of your writing, from research to revision. Sessions are available M-Th by appointment or walk-in from 10-5 pm and Fridays by appointment only from 10-5. To make an appointment, stop by the SSC (182 Andrews Hall) or call 419-586-0333. For more information about the SSC, their hours, and scheduling, please visit:

<https://lake.wright.edu/campus-life/student-success-center>.

### **Math**

The Student Success Center offers free assistance to students enrolled in developmental mathematics courses within the Wright State Catalog. I encourage you to visit the SSC for help with any aspect of math above DEV. Sessions are available M-Th by appointment or walk-in from 10-5 pm and Fridays by appointment only from 10-5 pm. To make an appointment, stop by the SSC (182 Andrew Hall) or call 419-586-0333. For more information about the SSC, their hours, and scheduling, please visit:

<https://lake.wright.edu/campus-life/student-success-center>.