**COMM 1200: Understanding Virtual Reality Technology (Class #12559, Section 100)**

**Spring 2020**

**M/W/F, 9:40 am-10:35 am, Scripps Hall 111**

**Dr. Charles P. (“Chip”) Linscott**

**GTAs: Akbar Sultanov, Jordan Herron, Tabitha Kennedy (grader only)**

**Contact Information**

Email is the best way to contact me, and I will try to respond within 48 hours: [linscoc2@ohio.edu](mailto:linscoc2@ohio.edu). Additionally, you should check your OU email and Blackboard regularly for important announcements.

You may also contact Akbar [as636919@ohio.edu](mailto:as636919@ohio.edu) and Jordan [jh076814@ohio.edu](mailto:jh076814@ohio.edu) with questions. However, you must **not** contact GTAs regarding permission for excused absences, late work, grade disputes, and so on. All administrative issues (absences, grades, etc.) should be addressed to Chip. (You are welcome to CC Akbar, and Jordan on such emails if you like.)

**Office Hours**

My office is located in the McClure School of Emerging Communication Technologies, room 368, on the 3rd floor of Schoonover Center. However, I will generally hold *office hours* at the **GRID Lab** this semester, Scripps 220-230C. Come find me there on Wednesday and Friday from 11 am-12:30 pm. I am also available briefly after class and by appointment. My door is open; please don’t be afraid to ask for anything.

**Course Description**

COMM 1200 familiarizes all interested undergraduate students with the history, theory, science, and technology behind virtual, mixed, and augmented reality (these are collectively understood as “cross reality,” or XR). This course serves as a general introduction to the burgeoning possibilities of VR, MR, and AR in a variety of contexts, and the students will leave the course with a solid understanding of the complexities at work in interactive and immersive media technologies and their sweeping implications. We will stress the importance of human and machine interaction and will work to understand how human perception functions in conjunction with these new technologies. Continued emphasis will be placed on the critical analysis of virtual reality technologies, especially as they relate to the societal effects of human-centered interaction. As this course fulfills Tier II Applied Math and Science requirements, students are expected to engage scientific, mathematical, and technical aspects across the spectrum of XR.

COMM 1200 is the first course in a series of Virtual/Mixed/Augmented Reality classes. This course is the prerequisite for further coursework in any track in the VR curriculum. While this is not a production-based course (those are offered, but this course must be taken first), students will have opportunities to experience some of the powerful tools that make VR, MR, and AR possible. In particular, students are required to experience XR in our XR Lab (Scripps 230C). Once a week, students will attend their assigned COMM 1200L lab section taught by Anthony Zoccola. \*\***If you do not take the Lab, you will fail COMM 1200 automatically.\*\***

**Upon completion of this course:**

* Students will be able to define pivotal moments in the history of virtual reality.
* Students will be able to recognize perceptual modalities in virtual reality and discuss how these modalities affect our discernments of time, space, and the immersive experience.
* Students will report on their personal experiences with virtual reality and formulate opinions on the societal, health and educational implications of these technologies.
* Students will research scientific applications of virtual reality technologies and formulate hypotheses about the future of these technologies.
* Students will assess the societal effects of human-centered interactions within virtual reality and suggest solutions for reducing adverse effects, practices, and procedures within this applied science.

Students will engage these issues through readings, lectures, discussions, group work, media exposure, experiential activities, lab visits, and so on. Creative application of course materials is encouraged, and this class includes options for written, performative, industrial, and production projects. No prior knowledge is required, but the course will insist upon active student engagement with each week’s readings.

*Occasionally, topics addressed in this course may be of a sensitive or contentious nature. Contemporary immersive/interactive media and their contexts sometimes involve aspects of human existence that make people uncomfortable and even angry (e.g., militarism/war, altered states of consciousness, consumerism/class, gender, race, sexuality).* ***Respectful discourse is a condition of participation in this class, but respectability politics must not stifle our discussion/exploration.*** *You are encouraged to express your opinions, but in the classroom you must do so civilly. Part of a college education is acquiring the ability to argue without becoming belligerent or hateful. Please see me privately if you have any concerns in this regard.*

**Required Reading**

Jerald, Jason. *The VR Book: Human-Centered Design for Virtual Reality*. Williston, VT: Morgan & Claypool, 2015.

In addition to physical copies, this text is available for purchase in digital form on Amazon or directly from the publisher. The cheapest way to acquire this text is digitally via ACM Books: <http://books.acm.org/about> To keep costs down, you can sign up for an ACM membership ($19) and buy a subscription to **all** ACM Books ($10 for students): <http://dl.acm.org/citation.cfm?id=2792790> <https://dl.acm.org/purchase.cfm?id=2792790> You will get electronic versions only, but you will also receive access to our textbook and a number of other texts on related topics.

Additional readings and multimedia *may* be posted in each week’s folder in the “content” section on Blackboard. If you don’t see the appropriate folder, I haven’t posted anything for that week. Students are required to **complete assigned readings before coming to class.** Thus, Week 2 readings are to be done by Week 2. If necessary, listening and screening materials from class may be placed on BB, on reserve in the library, or borrowed from the instructor. Students are encouraged to visit the XR Lab as much as possible outside of their assigned lab course.

**Requirements**

Tests/quizzes/In-class participation 35 pts.

Midterm research paper 20 pts.

Reflection papers/projects 20 pts. (4 x 5 pts. each)

Final exam 25 pts.

Total: 100 pts.

Grading Scale: 1-100, where a total of 95-100 earns an A, 90-94 an A-; 89-87 a B+, 86-83 a B, 82-80 a B-; 79-77 a C+, 76-73 a C, 72-70 a C-; 69-67 a D+, 66-63 a D, 62-60 a D-, and 0-59 an F

\*\*\*No late work will be accepted, and no grades of “incomplete” will be given, except in the case of serious issues. **Failure to submit any major assignment (midterm research paper, final exam, etc.) may result in failure of the course.** Documentation may be required in some cases. Please contact the instructor if you are experiencing difficulties of any kind. (I assure you, I will do whatever I can to assist you.)\*\*\*

**Discussion, attendance, and participation**

Attendance may be taken daily in some way, including unannounced quizzes and in-class reviews. Attendance at XR Lab courses is required to pass this course. In order to do well in the course, it is essential to come to class daily and be prepared to discuss the readings/course material. Also, while I will do whatever I can to help you catch up if you are absent, you should get notes from a reliable classmate before coming to see me. I am unable to recapitulate entire classes for each student. Finally, be aware that you are expected to be prompt; excessive tardiness or early exits may affect your grade as well.

**Tests/Quizzes/In-class Participation:** 35 points

These are largely objective tests based on readings and material from class. These may be in-class or out-of-class, announced or unannounced. These will be variously administered on paper or via Blackboard. Out-of-class quizzes may be completed with notes and textbooks. For in-class quizzes, students may not use notes or texts. A certain percentage of these points might be earned through in-class exercises/attendance; you need not study for in-class exercises.

**Reflection Papers/Projects:** 20 pts. (4 papers @ 5 points each)

**Due 1/29, 2/19, 3/30, and 4/20**

Reflection Papers ask, very simply, that you reflect on any experience, idea, or feeling you have regarding course topics. These papers must be explicitly related to theoretical/historical/critical/technological issues surrounding *any* aspect of XR. **Sample topics include**: exploration of issues from class lecture/discussion/reading/lab, your response to an XR-related topic from outside of class, preliminary research on an XR-related technology, ideas about social or cultural implications of XR, reports on your own XR usage, and many more. These papers are *your reflections* on XR-related issues and experiences, so the possibilities are truly open. Reflections may be papers or other creative work. Projects other than papers must be approved by the instructor in advance and will necessarily include a written explanation of the project’s connections to course themes and the process/methods applied. Be creative!

~Reflection Papers: minimum of **one-two** double-spaced, typed pages per assignment; Times New Roman 12-pt. font; 1” margins; do not skip extra lines between paragraphs. These will be assessed for thoughtfulness, completeness, substance, clarity, mechanics, and connection to course themes. Formal writing practices should be followed, and adherence to writing standards is necessary. These are due in .docx or .pdf format on **Blackboard** unless other arrangements have been made. **I DO NOT ACCEPT PAPERS VIA EMAIL, EVER. PLAGIARISM WILL BE DEALT WITH VERY HARSHLY.**

~Reflection Projects:Same as above but supporting written portion only 1/3 page. Reflection projects may require physical submission depending on form. Project topic and form must be approved by Chip **in advance**.

**Midterm Research Paper:** 20 pts. **\*\*DUE on WEDNESDAY, 3/4 via BB\*\***

This is a 4-5 page academic **research paper** with citations (parenthetical citations, footnotes, or endnotes) and bibliography/works cited. Style form is up to you (MLA, APA, Chicago, etc.), but you must be consistent. Topic must be explicitly related to theoretical/historical/critical/technological issues surrounding XR. Same formal standards as experience review papers. More details TBA. **I DO NOT ACCEPT PAPERS VIA EMAIL, EVER.** **PLAGIARISM WILL BE DEALT WITH VERY HARSHLY.**

**Final Exam:** 25 pts. \*\***FRIDAY, May 1 AT 1:00 pm.\*\***

Cumulative, in-class. A combination of objective (multiple-choice, fill-in-the-blank, matching) and subjective (short answer/essay). A study guide will be distributed near the end of the course.

**Extra Credit:** Yes, in some form TBA.

**Attendance and Absence Policy**

You are expected to attend all classes and be available to participate. No extracurricular cell phone or Internet use allowed. Attendance may be taken daily. XR Lab course attendance is required to pass this class. There is no guarantee that you can make up points missed due to unexcused absences. More than three unexcused absences may jeopardize your credit and/or your grade in this course. Excused absences (medical emergency, illness, death in family, jury duty, University activities, etc.) should be cleared with the instructor. Please be on time for class, field trips, performances, etc. Failure to complete the final exam may result in failure of this course.

**Academic Honesty**

The Ohio University Student Code of Conduct (see Student Handbook) prohibits all forms of academic dishonesty. If a student is caught cheating on a test or plagiarizing work, he/she will receive an F for the assignment and a formal referral will be filed with The Office of Community Standards and Student Responsibility.

**GRID Lab and XR Lab (Scripps 230C) Policies**

We will visit the Lab once a week during 1200L class time, but you are encouraged to use the Lab on your own as much as possible. The Lab is open 24/7 but may be reserved for other classes. Use your OU ID Card to swipe in. Computer login is your Ohio ID and associated password. Saved work should be placed on the “S” drive and backed up to your own external hard drive.If you have issues with the GRID Lab computers or technology, please e-mail the Lab Manager, Anthony Zoccola: [zoccolaa@ohio.edu](mailto:zoccolaa@ohio.edu)  
  
**GRID Lab Rules**:  
Violation of the Rules will result in suspension or loss of access to facility.  
1. The facility is monitored. Card swipe entry is logged when entered.  
2. Do not share your ID cards with anyone.  
3. Damaged or malfunctioning technology must be reported immediately.  
4. Always keep the Lab door closed.  
5. Do not remove anything from the Lab.  
6. Absolutely no food or drinks. All food and drinks must be kept out in the front lobby area.  
7. Any negligent damage, misplacement, or rule violation will result in a fee to replace the equipment or items.

8. Please be respectful of others who are working/playing in the Lab.

**Americans with Disabilities Act (ADA)**

The Americans with Disabilities Act of 1990 requires Ohio University to provide reasonable accommodations to any individual who advises us of a disability. If you feel you may need assistance or will not be able to participate in certain aspects of the class, inform the instructor so that special arrangements can be made. Documentation from Student Accessibility Services is required for some accommodations. Please let me know if you have any special needs associated with this course. (If you need to take a quiz or exam at Accessibility Services, you must make the arrangements.)

**Schedule**

**Week 1 (1/13, 1/15, 1/17): Introductions**

Introduction to the course

Introduction to Blackboard, etc.

What is virtual reality? What is augmented reality? What is mixed reality? What do we mean by “immersion” and “interactivity?”

*Reading: Syllabus*

**Week 2 (1/22, 1/24): History of VR; Questions of Reality**

*Reading: VR Book Chs. 1-3*

**\*\*NO CLASS ON MONDAY, 1/20, FOR MLK HOLIDAY.\*\***

**Week 3 (1/27, 1/29, 1/31): History of VR; Questions of Reality continued…**

*Reading: VR Book Chs. 4 and 35*

**\*\*REFLECTION PAPER #1 DUE ON WEDNESDAY, 1/29.\*\***

**Week 4 (2/3, 2/5, 2/7): Immersion, Presence, Mind/Body Realities**

*Reading: VR Book Chs. 6 and 7*

**Week 5 (2/10, 2/12, 2/14): Subject/Object; Perceptual Models and Processes**

*Reading: VR Book Chs. 8 and 9*

**Week 6 (2/17, 2/19, 2/21): Perceptual Modalities, Space, and Time**

*Reading: VR Book Ch. 10*

**\*\*REFLECTION PAPER #2 DUE ON WEDNESDAY, 2/19\*\***

**Week 7 (2/24, 2/28): Bodies, Health, and the Virtual**

*Reading: VR Book Chs.12 and 13*

**\*\*NO CLASS ON WEDNESDAY, 2/26, FOR Writing Day.\*\***

**Week 8 (3/2, 3/4, 3/6): Hardware, Software, Specs, and Metrics**

*Reading: VR Book Chs. 14 and 15*

**\*\*MIDTERM RESEARCH PAPER DUE ON WEDNESDAY, 3/4 via BB\*\***

**Week 9 (3/9-3/13): SPRING BREAK!! NO CLASS! Be Careful. Have fun.**

**Week 10 (3/16, 3/18, 3/20): Stories and Concepts**

*Reading: VR Book Chs.16 and 17*

**Week 11 (3/23, 3/25, 3/27): Environments, Images/Sounds, The Sensorium**

*Reading: VR Book Ch. 20*

**Week 12 (3/30, 4/1, 4/3): Affects; AR; Anthropocentrism**

*Reading: VR Book Ch. 21*

**\*\*REFLECTION PAPER #3 DUE ON MONDAY, 3/30.\*\***

**Week 13 (4/6, 4/8, 4/10): Applications and the Future; Ethics**

*Reading: VR Book Chs. 22 & 25*

**Week 14 (4/13, 4/15, 4/17): Applications and the Future; Ethics**

*Reading: VR Book Ch. 30*

**Week 15 (4/20, 4/22, 4/24): Applications and the Future; Ethics; Review**

**\*\*REFLECTION PAPER #4 DUE ON MONDAY, 4/20.\*\***

**Week 16 (4/27-5/1): Finals Week**

\*\*FINAL EXAM: **FRIDAY, May 1 AT 1:00 pm in our classroom.\*\***

\*\*(I know this stinks. You still have to take it at the designated date and time. I also have **to** give it at this time. I’m sorry.)

**FAILURE TO COMPLETE THE FINAL MAY RESULT IN FAILURE OF THE ENTIRE COURSE REGARDLESS OF POINT VALUES EARNED ON OTHER ASSIGNMENTS. FULL STOP.**

\*\*\*Syllabus subject to change.\*\*\*