Instructor
Dr. Johnson Cecil
Office: 316 MSCS
Lab: 316 MSCS
Email: j.cecil@okstate.edu
Office hours: Face-to-face and by Zoom
Times below maybe changed after a few weeks. Instructor has Mobility problems due to a fractured foot so some of these meetings may occur by phone or through Zoom.
Tue 11:45 – 12:45 PM, and other appointments can be arranged by sending email to Dr. Cecil and cc TA.

Teaching Assistant
Abhishek Kumar
Office: 316 MSCS
Email: abkumar@okstate.edu
Office hours: Face-to-face and by Zoom
Tue 11:45 – 12:45 PM, and other appointments can be arranged by sending email to TA and cc Dr. Cecil.

Ali Sadeghi Milani
Email: ali.sadeghi_milani@okstate.edu
Office hours: Face-to-face and by Zoom
Thus 11:45 – 12:45 PM, and other appointments can be arranged by sending email to TA and cc Dr. Cecil.

Meeting Logistics
Class dates/times: Tuesday, Thursday 10:30 – 11:45 AM Central Time
Classroom: 222 MSCS
We plan to record and post sessions on the course Canvas site for those times you cannot participate live. We will do our best to assure that recorded sessions are available, but technical difficulties beyond our control could prevent any given session from being recorded. So, if you can attend class, you are urged do so.

Optional Textbooks and Papers
• Other papers, books, or book chapters as specified during the semester.

Canvas
You can access the course Canvas site by signing in to https://canvas.okstate.edu and looking for the course CS 4743-5743 Extended Reality – Combined – Fall 2022. (All CS4743 and CS5743 sections for the semester have been combined on Canvas.) All materials for the course will be available through Canvas.

Prerequisites
Object-oriented programming experience.
Course Objectives
Survey the history, state-of-the-art, and future of extended reality (XR), a.k.a VAMR (virtual, augmented, and mixed realities), a.k.a. immersive computing. Learn to use appropriate tools and techniques to develop for a variety of target platforms. Examine the human physiological factors that affect the design and development of XR systems. Investigate the relationship between XR and IoT (Internet-of-Things). Learn about the construction of virtual environments and tracking between real and virtual objects. Study the applications of XR to solve real-world problems.

Assignments
Individual assignments, Teamwork ................................................................. .....30%
Topical discussion assignments .............................................................................. 10%
Team assignments .................................................................................................... 20%
Mid Term Exam 1 ..................................................................................................... 10%
Mid Term Exam 2 ..................................................................................................... 10%
Final Exam ............................................................................................................. 20%
* Graduate students will be expected to do additional work which will be indicated on assignments Project work and the take home programming segment of the exam.
*Those enrolled for Honor credits will be expected to email the instructor in the first week to set up meeting times which may be by Zoom or face to face.

Honors Section
Students enrolled in the Honors section will meet with the instructor as a group for one extra hour per week (weekday and time to be determined) and must complete an extra project that will be graded as pass/fail with respect to the Honors requirements.

Due Dates & Assignment Logistics
The due date and time for each assignment is specified on its assignment handout posted on the course Canvas site. Solutions must be submitted via drop boxes on the same site. Solutions that consist of multiple files must be zipped into a single file for submission. (NOTE: zip is the only form of aggregation/compression accepted.)

Topical discussion assignments – At various times during the semester, the instructor will post questions or topics for discussion to the Discussions page of the course Canvas site, along with a due date/time for participation. Each student who makes at least one meaningful post in response to the instructor or to another student, no later than the due date/time, will receive 5 points for the assignment. Late Work Policy
Individual assignments may be turned in late, but they lose a percentage of their graded point values for each class day that they are late, according to the following schedule:
On time: 0%
Up to 1 class day late: 10%
Up to 2 class days late: 30%
Up to 3 class days late: 60%
More than 3 class days late: 100%

All other types of assignments are worth zero points if turned in late.
Grading policy

Semester grades will be assigned based on point totals as follows:

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% to 90%</td>
<td>A</td>
</tr>
<tr>
<td>90% to 80%</td>
<td>B</td>
</tr>
<tr>
<td>80% to 70%</td>
<td>C</td>
</tr>
<tr>
<td>70% to 60%</td>
<td>D</td>
</tr>
<tr>
<td>60% to 0%</td>
<td>F</td>
</tr>
</tbody>
</table>

*Instructor reserves the right to curve the grades.

Exam Logistics

In class exam may include take home programming deliverable as well. Following are the tentative dates. Should changes be necessary to this schedule, the changes will be announced in a class and on the Canvas announcements page.

- Midterm exam 1: Thursday, Sep 29, 10:30 AM.
- Midterm exam 2: Thursday, Nov 03, 10:30 AM.
- Final Exam: Tuesday, Dec 13, 10:00 AM.

Software/Hardware requirements

- A computer running Windows 10 or 11 (production version), or macOS Catalina. You are encouraged to have a laptop computer with you during our sessions.
- Internet access and an HTML5-compatible Web browser.
- A headset, or speakers and a microphone. (Optional but encouraged.)
- Unity Hub, which manages the versions of Unity you have installed and serves as the Unity launching page.
  - Unity 2021.1.x, where $x \geq 16$. I suggest you install this from within Unity Hub.
- SourceTree GIT GUI client (freeware) or a similar GIT client.
- GIMP 2D image editor (freeware).
- Inkscape 2D vector image editor (freeware).
- SketchUp Free 3D Modeling system (web-based freeware).
- Blender 3D modeling system (freeware).
- Audacity audio capture and edit utility (freeware)
- 7-Zip (freeware) or some other zip utility. (Optional, since our operating systems have built-in zip capabilities.)
- Other hardware and software as specified during the semester.

Collaboration policy

Read and understand the OSU Violations of Academic Integrity webpage. Further, we will adhere to the following:

- Individual assignments: Discussion of concepts, ideas, and techniques is acceptable. After discussion, each student must write up his/her own solution. Copying another person's work, in part or in whole, is not allowed. Giving another student your work, in part or in whole, is considered cheating as well. If you are unsure whether your collaboration is acceptable, speak with the instructor in advance. Take care that your solutions are not exposed to or by other
students.

- **Team assignments:** Sharing of work among students on a project team is acceptable. Inter-team discussion of concepts, ideas, and techniques is acceptable, but inter-team sharing of work is not permitted. If you are unsure whether your collaboration is acceptable, speak with the instructor in advance.

- **Examinations:** During an examination period, no communication of any kind about the exam is allowed, except with the instructor or proctor.

Students who do not comply with the collaboration policies described here will be assigned sanctions in accordance with OSU policy 2-0822 (*Academic Integrity*). Depending on the circumstances of the violation, the sanctions may result in a score of zero on an assignment, a final grade of *F* for the course, or dismissal from OSU. In all instances, the violation will be reported to the appropriate institutional officials.

**Syllabus attachment**

Other useful information, such as important dates throughout the semester, can be found on the OSU-Stillwater syllabus attachment.

**Office of Student Accessibility Services**

If you think you have a qualifying disability and need accommodations, contact the Office of Student Accessibility Services as soon as possible to start the registration process and to ensure timely implementation of appropriate accommodations. More information can be found in the syllabus attachment.

**Other Important Resources**

The OSU community is here for you and wants to provide all the tools and resources to best support your mental health. If you or someone close to you is having a difficult time, our mental health resources are available to help. Whether it’s mental or physical health, we have student wellness resources to ease the stress of college life.

Reach out to your advisor or instructor if you need support or help in your courses and utilize the many academic resources available on campus. Our faculty's goal is to assist you, whatever the circumstances might be.

We are working to ensure that your time at Oklahoma State is both safe and formative, and many times that begins with your mental wellbeing.