



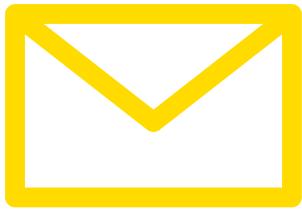
# OPEN XR LAB

COLLEGE OF INNOVATION + DESIGN

## Lab Handbook

2025/2026 Academic Year

# CONTACT INFORMATION



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# WEB & SOCIAL MEDIA



**WSU Website**  
[wichita.edu/cosmoshox](http://wichita.edu/cosmoshox)

**Instagram**  
[instagram.com/cosmoshox](https://instagram.com/cosmoshox)

**LinkedIn**  
[linkedin.com/company/openxrlab/](https://linkedin.com/company/openxrlab/)

**Youtube**  
[youtube.com/@WSU\\_InnovationDesign](https://youtube.com/@WSU_InnovationDesign)

**Hashtags**  
#NASASUITS #NASACODES  
#COSMOSHOX #WSUNOW



## MISSION

The Open XR Lab at Wichita State University is dedicated to fostering experiential learning across disciplines with immersive technologies (AR/VR/XR) using professional practices for design, development, and testing of digital products.

Rooted in a commitment to interdisciplinary collaboration and Lean UX practices, the lab serves as a dynamic space where students with different subject matter expertise can come together to create cutting-edge digital products.

The mission of the Open XR Lab is to support and provide access to high-demand digital upskilling to any student across campus that may not have similar opportunities available through their home department or degree path.

Our goal is to create a well-known, high-quality open access lab where students can participate in NASA-themed research and product development experiences using emerging technology, including immersive technologies (AR/VR/XR) and artificial intelligence (AI).

# LAB ACCESS & USE

DEVLIN HALL, RM 103/104  
RM 106

The Open XR Lab is open access to any student affiliated with a CosmoShox NASA student challenge team or sponsored research project. It is a working lab space and should not be used for group hangouts, after-hours events, or as a study hall.

All lights should be turned off and the equipment cage closed and locked when no one is in the lab. Desktop computers should be shut down over weekends and long breaks.

## INCIDENT REPORTING



**In an emergency, first call 911.**

Then contact your faculty advisor.

Contact your faculty advisor about:

- Injuries
- Damaged or stolen equipment
- Spills
- Lab door is locked
- Unsanctioned events being held in the lab
- Intent to post or publish images from the lab
- Intent to publish research from the lab
- Planned outreach events
- Accessing equipment

## EQUIPMENT

In general, equipment is **not** available for loan.

Students may use lab desktops on a first-come, first-served basis.

SUITS participants may loan designated development laptops and XR headsets during spring semester. Available tech is marked with a SUITS sticker.



When loaning equipment, an *Equipment Check-Out Form* must be completed and signed by both the student and the faculty advisor. **Students are financially liable if equipment is lost, damaged, or stolen while on loan.**



## LAB SAFETY & SANITATION

When working on projects or running HITL tests in the lab, be sure to:

- Ask participants if they want assistance putting on a headset or taking it off.
- Sanitize hands before handling equipment.
- Sanitize fabric components of the headset before and after use.
- Wipe lenses with a DRY microfiber cloth.
- Ensure all equipment is plugged in and charging between uses.
- Ensure the equipment cage is closed and locked after use.
- Only work with other approved research assistants during HITL testing.
- Report incidents or injuries to your faculty advisor immediately.

### **DO NOT:**

- Touch or assist a participant without explicit permission.
- Use any liquid on headset lenses.
- Leave equipment out of the cage between uses.
- Allow participants to leave the room with equipment.
- Ask participants for personally identifiable information (e.g. name, email, WSU ID).
- Deviate from approved testing procedures in any way.

# CITI TRAINING

All lab students must complete human subjects research training through the CITI program ([citiprogram.org](http://citiprogram.org)). CITI training must be renewed every three (3) years.

- Students must complete the course: **Students-Class Projects**.
- Faculty/staff must complete the courses: **Social & Behavior Research - Basic/Refresher Course AND Responsible Conduct of Research - Externally Funded Researcher**



## WATCH FIRST:



Additional CITI instructions are in Appendix A.

## HITL TESTING

Most research projects in the Open XR Lab will involve some form of user or human-in-the-loop (HITL) testing. HITL testing requires a person to subjectively evaluate some aspect of your user interface, design, or system. Typically, HITL test participants or design evaluators are assessing the usability of your design, rather than the product or hardware itself.

HITL testing is characterized by the following:

- Active human involvement: Testers actively interact with the design or system, performing tasks, making decisions, and providing feedback.
- Subjective evaluation: Testers assess not only functionality but also factors like usability, user experience, and overall satisfaction.
- Iterative process: Feedback from human testers is used to refine the design, leading to continuous improvement.
- Real-world simulation: Ideally, testing involves simulating real-world scenarios to observe how someone interacts with the system in realistic conditions.

! **Research projects MUST have Institutional Review Board (IRB) approval prior to conducting HITL testing. Your faculty advisor will help with this process.**

# RESEARCH PUBLICATIONS

Your faculty advisor must be informed of and review any abstracts prior to submission for publication, including posters, papers, and presentations.

Ensure you include appropriate acknowledgements, especially for grant-supported research projects.

## Example for a NASA-funded research project:

### **Acknowledgements:**

*The material contained in this document is based upon work supported by a National Aeronautics and Space Administration (NASA) grant. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of NASA. This work was supported through a NASA grant awarded to the Kansas NASA EPSCoR Program.*

*Human Health and Performance Directorate and the Habitability and Human Factors Branch (SF3) at NASA's Johnson Space Center in Houston, TX who arranged tours with the following labs:*

- *Center for Design and Space Architecture (SF3)*
- *EVA Operations Branch (CX3)*
- *H3PO Laboratory (SK3)*
- *Human Integrated Vehicles & Environments Lab (HIVE)*

*Also many thanks to the Human Health and Performance Contract - Fellows Program for sponsoring Dr. Amick's time with us.*





## AFFILIATED PROGRAMS

The Open XR Lab is home to CosmoShox, a student organization competing in NASA-based student design challenges.

Each year, student teams from across the country submit proposals for NASA Artemis Design challenges in October. NASA announces selected proposals in December. Those teams whose proposals were selected build their designs during spring semester. Traditionally, teams participating in the challenge are also invited to attend Test Week onsite at Johnson Space Center (JSC) in Houston, Texas in May. There, NASA design evaluators test each team's prototype in a lunar environment set up at JSC.



NASA Spacesuit User Interface Technologies for Students (SUITs) challenges graduate and undergraduate students from across the country to design user interface solutions for future spaceflight needs. These designs equip crewmembers conducting EVAs with emerging technology tools to help meet the elevated demands of surface exploration on the Moon and Mars. Design evaluations are conducted in the Rock Yard at NASA Johnson Space Center.



Micro-g Neutral Buoyancy Experiment Design Teams (Micro-g NExT) challenges undergraduate students to design, build, and test a tool or device that addresses an authentic, current space exploration challenge. The overall experience includes hands-on engineering design, test operations, and public outreach. Test operations are conducted in the simulated microgravity environment of the NASA Johnson Space Center Neutral Buoyancy Laboratory (NBL).

# COSMOSHOX STUDENT EXPECTATIONS

The CosmoShox student research experience through either NASA SUITS or Micro-g NExT design challenges is a commitment **equivalent to 4 credit hours**.

Team members should anticipate performing some or all the following work during this program:

- Product design, development, and testing
- UX/UI design and human-in-the-loop (HITL) testing
- Iterative planning, product review, and retrospective events
- Visualizing your workflow and progress using some kind of project management tool that is accessible to the entire team (e.g. Trello, MS Teams, GitHub)
- Regular check-ins with faculty advisor(s) and NASA mentors, usually during weekly meetings (days/times TBD, dependent on team schedules and mentor availability)
- Collaboration and communication with your team members outside of designated mentor check-ins
- Planned outreach events

Additionally, students participating in CosmoShox are expected to:

1. Enroll in ID 400 or ID 840 for at least 0 credit hours.
2. Complete CITI training.
3. Attend the majority of weekly team meetings.
4. Attend scheduled outreach events (2-3 per semester).
5. Contribute to social media engagement and outreach (e.g. Instagram, LinkedIn)
6. Contribute to product development, UI/UX design, and/or human-in-the-loop testing.
7. Conduct themselves professionally.
8. Contribute to a positive and safe team environment.
9. Work with faculty advisors to resolve conflicts and concerns.

*Failure to fulfill these expectations may result in lost CosmoShox travel opportunities and/or removal from the team. This is a formal research experience in addition to hands-on project work. Federal compliance standards for research involving human subjects apply. If in doubt, talk to your faculty advisor.*



# COSMOSHOX

## PROGRAM TIMELINE

September	Form team(s)
October	Write proposals
November	Submit proposals
December	Selected teams announced by NASA
January	Meet your NASA mentor
February	Work on building your proposed solution
March	Software/Design Review with NASA panel
April	Make adjustments to solution based on feedback
May	TEST WEEK at Johnson Space Center in Houston, TX

# JOIN THE COSMOSHOX STUDENT ORG

The CosmoShox student organization is open to all students and student alumni of Open XR Lab programs. Join to stay updated on upcoming outreach events, travel opportunities, and team building.

Student org members also qualify to apply for funds from the student government association (SGA) to support conference travel, events, and other needs.

All students participating in a student research experience in the Open XR Lab are encouraged to join the student organization.

WICHITA STATE UNIVERSITY



Join through ShockerSync



# APPENDIX A - CITI TRAINING INSTRUCTIONS

Wichita State University utilizes the [CITI Program](#) to administer and track various training requirements related to research and compliance. Login for WSU employees/staff/students is through Single Sign On (SSO) which utilizes DUO.

## To create a new account

1. Go to [www.citiprogram.org](http://www.citiprogram.org) and select “REGISTER”. *IF YOU ARE NOT A WSU EMPLOYEE (FACULTY/STAFF/STUDENT) WITH ACTIVE MYWSU CREDENTIALS, STOP AND CONTACT [PROPOSALS@WICHITA.EDU](mailto:PROPOSALS@WICHITA.EDU) FOR ADDITIONAL INSTRUCTIONS ON REGISTERING.*
2. Under “Select your Organization Affiliation” type Wichita State University until “Wichita State University (SSO)” appears and select this option.
3. Respond to the two questions by clicking each box if in agreement.
4. Select “Continue to SSO Login/Instructions”
5. Login to CITI by typing your MyWSU credentials - [MYWSUID@wichita.edu](mailto:MYWSUID@wichita.edu) and password – and clicking “Login”
6. Select an information release consent duration and click “Accept”.

## To log into an existing account

1. Go to [www.citiprogram.org](http://www.citiprogram.org)
2. Select – “LOG IN THROUGH MY ORGANIZATION”
3. Scroll down to select Wichita State University from the list
4. Log in using your MyWSU credentials - [MYWSUID@wichita.edu](mailto:MYWSUID@wichita.edu) and password
5. Select an information release consent duration and click “Accept”

## To Enroll in Course or Complete a course

Once logged in to CITI select “Courses”.

Under Institutional Courses, find Wichita State University click “View Courses”

## To Add a new course

Scroll to the bottom under “Learner Tools for Wichita State University” and select “Add a Course” and go through the questions.

You **must** respond to any required questions (noted in green below each question). All other questions are optional.

## **At a minimum, the following courses are required by the IRB:**

### **\*\* Question 3 – Human Subjects Research \*\***

Students must check the box that says

**“Students conducting no more than minimal risk research”**

This will enroll you in a course called **“Students-Class Projects”**.

Faculty & Staff must check the boxes for the following courses:

- **Social & Behavioral Research – Basic/Refresher course**
- **Responsible Conduct of Research - Externally Funded Researcher**

*Note: Your coursework may require different training, but the above course(s) are required by the IRB.*

Any courses you are currently enrolled in will appear under Active Courses.

**To Complete a course or continue working on one**, find the course under Active Courses and click “Continue Course”. If you are affiliated with multiple institutions, you can click the drop down for “Show Courses for:” to see courses for other affiliations.

Please note, some modules may be required for multiple courses. Anytime you complete a module, it will automatically show as completed for any courses that require it, if it has not expired.

## **Refreshing your courses**

CITI training must be refreshed **every 3 years**.

The Refresher training is less time intensive than the initial training.

You will receive a reminder email from CITI 60 days before your training expires.

CITI Training Video Tutorial  
with Open XR specific requirements:

