CS/DES 427/450 **Creative Coding** Syllabus

Spring
Creative Coding
842 W taylor street
2068 and 2036 EVL

https://www.evl.uic.edu/datsoupi/2025_CC/
CS Office Hours:
By Appointment
Design Office Hours:
By Appointment

Meetings:
Wednesdays
1:00-3.40pm
zoom and in-person

Daria Tsoupikova
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Description and Objectives

This course will cover advanced topics in interactive media, virtual reality (VR) and introduce creative coding techniques. It provides an introduction to the theory and practice of design and development of virtual reality (VR) projects using the Unity game engine. This course will take a deep dive into the techniques and challenges of the designs for virtual reality.

We are experiencing an outburst of the VR technologies across fields and industries, influencing our everyday life and work. The increasing accessibility of headsets is attracting designers and scientists into VR to examine its potential beyond gaming. What is the future of design and research in the context of rapid advancement of technology? What happens when VR technologies instead of being a choice for designer became a required medium?

We will cover a breadth of topics not only limited to the "how-to" of VR, but also explore the history of the VR art and design, creative coding, real-time typography, user experience, immersion and visualization critique. Participants will share reflections of the impact of advanced technologies on contemporary design theory and discuss how contemporary technologies can inspire novel forms of creative practice. We will study the cognitive factors regarding users' perception and usage of VR and advanced technologies necessary to realize their creative potential. We will read about, discuss and examine the importance of considering cognitive problems in design, development or use of VR solutions. Can we define theoretical, practical and empirical methods that can provide a better understanding of design communication possibilities in modern virtual-, augmented-, or mixed reality environments?

This course offers a rare and exciting opportunity for design students to work in the CAVE2, the most advanced virtual reality collaborative environment and high-resolution display technology available today. We will use advanced visualization technologies available in EVL such as SAGE3, Scalable Amplified Group Environment. SAGE3 is designed for data-intensive visualization and team collaboration. We will use large display powered by SAGE3 for our critiques, presentations and demonstrations of team projects.

Participants will develop new skills and produce interactive projects using 3D design, typography, VR and audiovisual media. This course will introduce the basics of coding and scripting and it designed for students with no prior programming experience. We will use Maya, Adobe CS, Unity3D game engine, C#, Audacity and other software tools and languages to develop interactive VR applications and collaborative class exhibition. The coursework will be organized around the development of collaborative project which will be exhibited at the end fo the semester.

To contextualize these projects participants will read from seminal and contemporary writings on virtual reality, media design, interactive narrative, creative AI, immersive experiences, and information visualization from journals such as Leonardo, SIGGRAPH and the International Symposium on Electronic Art (ISEA).

Readings

ACM Transactions on Graphics (Proceedings of SIGGRAPH), 2022 and earlier. (Available from ACM through UIC digital library)
Leonardo, 2022 and earlier (Available from MIT Press through UIC digital library)
Proceedings of the International Symposium on Electronic Art, 2022 and earlier (online)
Immersed in Technology: Art and Virtual Environments.Edited by Mary Anne Moser and Douglas MacLeod (1996)
The VR Book - Human-Centered Design for Virtual Reality by Jason Jerald (2015)
Selected readings from The New Media Reader, edited by Noah Wardrip-Fruin and Nick Montfort, MIT Press 2003.
Peripheral Vision: Bell Labs, the S-C 4020, and the Origins of Computer Art, Zabet Patterson, MIT press, 2015.

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Evaluation and Requirements

Your final grade will be based on your performance on the class projects, assignments, attendance, discussions, and participation. In order to successfully pass the course, students will be expected to complete the activities listed below. Weights listed between parentheses indicate the contribution of the specific component to the final course grade. The course evaluation components listed below are mandatory. Students do not have the option of opting out of any of the activities required for the assessment of these components.

Attendance, Participation, Colleaboration (20%):
this component of the final grade is based on your contribution to the class in the form of attendance and active participation and collaboration in the collaborative team project. Students are expected to attend every class meeting, arrive on time and stay until the end. Regular and punctual attendance may be used, at the professor's discretion, to make adjustments to the final grade in borderline cases. Active participation will help students achieve the best learning experience. Completing the readings indicated in the class schedule before class, and being fully present during each class will help students actively engage during each class meeting. Active participation includes active engagement during in-class activities and contributions through asking questions or providing answers when material is unclear. The professor will assume that you are well

prepared for each class meeting and will feel free to call upon you to provide an answer or comment. Each absence will be penalized by 1% in the case where permission was not granted by the professor ahead of time. More than two unexcused absences will result in a reduction of the final grade by one letter grade; with every additional unexcused absence, the final grade will drop by an additional grade. Be prepared for a lot of hard work: be prepared to design, research and code, often, and much outside of the class. This course will be difficult but also very much in-depth and useful to prepare your graduation portfolio.

Assignments, Weekly project deliverables (30%): Assignments will be due by next class unless otherwise specified. Project deliverables will have a different deadlines' structure. Any number of unannounced quizzes may be given during the semester at the beginning or end of class. There are no make-ups for assignments or quizzes.

Projects, Final deliverables (50%): Students will propose their own individual concepts as well as the collaborative project concepts and go through an ideation phase. Ideas will have to be approved by the instructor. Each student will have to submit various deliverables including a project proposal, skethces, and final design. Stuents are expected to submit all the deliverables in order to receive a final grade on the group project. Team members are expected to contribute to every deliverable and be

A (90-100%)	B (80-89%)	C (70-79%)	D (60-69%)	F (0-59.9%)	I
work of exceptional quality and craft	work of overall good quality and craft	work of overall average quality and craft	work of overall poor quality and craft	work is incomplete or missing	an incomplete is given only in the event of extreme or dire circumstances
level of interest and quality of research exceeds expectations	level of interest and quality of research meets expectations	level of interest and quality of research is minimal	level of interest and quality of research is poor	no demonstrated interest or evidence of research	
deep understanding of material and concepts presented	clear understanding of material and concepts presented	vague understanding of material and concepts presented	lacks understanding of material and concepts presented	no understanding of material and concepts presented	
class participation is active and enthusiastic, perfect attendance	class participation is open and attentive, good attendance	class participation is minimal, inconsistent attendance	class participation is nonexistent, weak attendance	class participation is nonexistent, poor attendance	

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Course Policies

Attendance and Preparation for Class: You are expected to attend all scheduled class sessions with your reading and supplementary materials. Readings are to be completed prior to class.

Laptops, Tablets and Cell Phones:
Turn your cell phones to airplane mode while in class. Never answer a phone call in class. Employers will leave you a message or call you back; they also want professionals who know when and when not to take calls.

Absences: Each absence will be penalized by 1% in the case where permission was not granted by the professor ahead of time. More than two unexcused absences will result in a reduction of the final grade by one letter grade; with every additional unexcused absence, the final grade will drop by an additional grade. In the event you have an excused absence, it is your responsibility to notify the instructor and catch up on missed class material.

Assignments: In both the professional and academic world, you must meet deadlines. In this class, assignments will be due on Wednesdays by 12:00 pm unless otherwise specified. Make sure to double check the submission deadline for every assignment. Assignments submitted after the deadline will be considered late.

Late Assignments: Late assignments will receive a 15% penalty for the first day they are late, and 10% for each day afterwards . So, if you submit a perfect assignment a day late, you earn 100% - 15% = 85%; two days late, you earn 100% - 25% = 75%; and so on. Hardware failure is not an acceptable reason for turning in an assignment late. You should always make a backup of your files.

Software / Hardware

laptop (2018 or newer!)
broadband Internet connection
Unity 2019.2.11
Adobe Creative Suite (Illustrator, Photoshop, InDesign)
UIC web account / Google account /Zoom account
Lynda.com Training Tutorials UIC, http://www.uic.edu/depts/accc/training.html/index.html
Blackboard UIC
Box UIC
github.com

Electronic Communication Mantra

If it's a grade, it's on Blackboard;
if it's any material, link, assignment, date or video, it's on the class website;
if it's a file upload/download it's on Box.

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Campus Resources

Academic Integrity
UIC is committed to providing an environment in which research, learning, and scholarship can flourish and in which all endeavors are guided by academic and professional integrity. All members of the campus community—students, staff, faculty, and administrators—share the responsibility of ensuring that these standards are upheld so that such an environment exists. Instances of academic misconduct will be handled pursuant to the Student Disciplinary Policy.

Counseling Center
UIC is committed to helping students deal with stress, handle a crisis or trauma, cope with the transition to college, gain strength from gender and cultural identity, or manage mental illness and other issues. Our counselors can help students increase resilience and positive well-being by developing effective coping and problem-solving skills. Click the link to make an appointment.

Disability Resource Center
UIC is committed to full inclusion and participation of people with disabilities in all aspects of university life. Students who face or anticipate disability-related barriers should use the link to connect with the Disability Resource Center (DRC). Instructors in receipt of a Letter of Accommodation will work with the student and the DRC to implement the approved accommodations.

Office for Access and Equity
UIC is committed to providing access to employment, programs, and services in an environment free of unlawful discrimination and harassment. Dispute Resolution Services (DRS) provides confidential consultation, facilitation, and mediation services to students, faculty, academic and support staff.

Nondiscrimination Policy Statement
UIC is committed to the most fundamental principles of academic freedom, equality of opportunity, and human dignity involving students and employees. Freedom from discrimination is a foundation for all decision-making at UIC. Students are encouraged to click the link to review the statement.

Grievance Procedures
UIC is committed to the most fundamental principles of academic freedom, equality of opportunity, and human dignity involving students and employees. Freedom from discrimination is a foundation for all decision making at UIC. Students are encouraged to study the University's "Nondiscrimination Statement." Information on grievance policies and procedures is available on the University web pages of the Office of Access and Equity: www.uic.edu/depts/oae.

Special Needs
Any individuals with learning disabilities or special needs must make the instructor aware of them prior to the due date of the first major assignment. Those who require accommodations for access and participation in this course must be registered with the Disability Resource Center. Please contact DRC at 312/413-2183 (voice) or 773-649-4535 (VP/Relay) and consult the following: http://drc.uic.edu/.

Disclaimer
Projects created in this course may be used by the Department for purposes of promotion for students, the School or the University in general. The School may also use these materials for instructional purposes in future courses.

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Campus Safety

UIC is committed to public safety, and provides UIC Alerts for real-time news and a free smartphone app that allows students to take advantage of the many campus safety services offered. Please download the appropriate app to your smartphone—Apple (UIC SAFE) or Android (UIC Mobile)—and familiarize yourself with its features so you're prepared in case of an emergency. In addition to the features listed below, the app also contains a full Safety Toolbox, Support Resources, and Emergency Response Guidelines.

Panic Button
one-touch button to silently send your location to UIC Police

Friend Virtual Walk
real-time tracking with a contact of your choice

UIC Police Virtual Escort
real-time tracking with UIC Police, available 24 hours/every day

Walking Safety Escort
in-person Student Patrol or UIC Police campus escort, available 24 hours/every day
use app or dial direct 312-996-2830

Work Alone
alert sent to a contact of your choice if you fail to respond to a designated check-in

Safe Commute
Night Ride—a campus shuttle van will give you a ride, available 11 pm–7 am/every day
use app or dial direct 312-996-6800

Report a Tip
Call UIC Police—use app, dial direct 312-355-5555 or from a campus phone 5-5555
Report Crime/Submit Tip—use app to report criminal incident, misconduct, or harassment
Chat with UIC Police—use app to share information, request assistance, or ask a question
Call the National Suicide Prevention Hotline—available 24 hours/every day use app or dial direct 800-273-8255

Onine Course Communication Guidelines (Netiquette)

Be mindful of different cultural and linguistic backgrounds, as well as different political ideologies and religious beliefs.

Use good judgment when composing your written responses. Swearing and profanity should be avoided. Also consider that slang terms can be misunderstood or misinterpreted.

Be careful using all capital letters when composing your written responses. This can be considered "shouting" on the Internet and is regarded as impolite or aggressive. It can also be stressful on the eye when trying to read your message.

Be respectful of others' views and opinions.

Be careful when using acronyms. If you use an acronym it is best to spell out its meaning first, then put the acronym in parentheses afterward, for example: Frequently Asked Questions (FAQs). After that you can use the acronym freely throughout your message.

Use good grammar and spelling in written communications.

In emails, always identify yourself and what class and section you are in. It is a good practice to put your course and section in the subject line. This helps your instructor identify course-related emails.