DD364

DIGITAL DESIGN STUDIO IV

***“The alternative to good design is bad design. There is no such thing as no design”* - Adam Judge**

Studio meets on: Mon/Thurs 1:00 PM – 5:20 PM Weston Hall 7th Floor Studios Credits 5 Discord	**Gaberiel Shaferman** he/him gs656@njit.edu Office Hours: by appointment

DESCRIPTION:

Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), and the umbrella term for all of these, Extended Reality (XR) are all immersive experiences brought into reality created through digital interfaces. What is the digital? How has our digital landscape developed from the physical world? How is the way we interact with digital spaces informed by our physical interactions? When it comes to immersive technologies, how is the way we interact with digital, re-integrated with the physical? Through the study of User Experience Design, User Interface design, and Human Computer Interactions, students will develop an understanding of how the physical and digital world interact to create engaging visual solutions from 2D, 3D, to 4D applications in Extended Reality.

WHAT IS THIS COURSE ABOUT?:

This course applies digital design to real-world scenarios for users and interactive experiences. Topics to be discussed include:

Human-Computer Interaction (HCI): History and future of human-computer interaction; relevant issues and discourse in the field; human psychology; applications of human-computer interaction to communication and design

UX/UI DESIGN: Design thinking; double diamond design process; user testing; prototyping and iteration

DIGITAL DESIGN: Designing with Figma, Maya, and Unity; 3D modeling and Animation; Data Visualization

XR DESIGN: Designing usable interfaces for XR experiences; integrating Unity for XR; issues and discourse in XR

OBJECTIVES:

1. Gain knowledge of the trajectory of HCI for computer-based media from the first computer programs through the development of new media (AI, XR, etc.).
2. Understand and implement design thinking principles including the double diamond, prototyping/iteration, and user testing, for the User Experience of media for communication.
3. Develop a user experience-oriented design process for digital design including but not limited to, animations, virtual experiences, physical experiences, apps, websites, and XR.

4. Apply UX/UI to XR through the design of an XR experience, differentiating between best practices for digital interfaces and the ambiguity of UX for XR.
5. Learn, identify, and critique the landscape, issues, and discussions of the XR field and emerging technologies.
6. Further expand the student's appreciation, creativity, and control of storytelling throughout the design process from ideation to execution.
7. Gain experience with prototyping, XR, and Digital design tools: Figma, Maya, and Unity.

MATERIALS + SOFTWARE:

Required Software:

Once imaging has been completed during our first meeting, and only If necessary, make a new account or access your account, provide proof of student status, and download the **free** academic versions (*not* the "trial" versions) of:

- **Autodesk Maya** (2024 or 2025): https://www.autodesk.com/education/students
- **Adobe Substance 3D Painter** https://substance3d.adobe.com/education/
- **Unity 2022.3.16f1** https://unity.com/releases/editor/whats-new/2022.3.16#installs
- **Figma** https://www.figma.com/
- **Class Discord** https://discord.gg/jPxw4RXX

Recommended Software:

- **Adobe CC**: (Photoshop, Premiere, Media Encoder, After Effects)

Substance Resources 2024: 13000+ Substance Materials
https://drive.google.com/drive/folders/13ssgXmt4P4Y1UIw8SN6iPLaWBuzSQM7r?usp=sharing

Required Reading:

The Design of Everyday Things
Don Norman

Suggested Reading:

Simulacra and Simulation

Jean Baudrillard

New Media in Art History: Tensions, Exchanges, Situations
Régine Bonnefoit , Melissa Rérat and Samuel Schellenberg

User Friendly- How the Hidden Rules of Design Are Changing the Way We Live, Work, and Play
Cliff Kuang, Robert Fabricant

Other:

- Students are *required* to back up their work at all times. "Losing" files is avoidable. Having a "corrupt" file, while unfortunate, is a very real occurrence when working in this field. So be forewarned: it is not an excuse for tardy assignments. Save often, save *incremental* versions, and back up your work!
- (Digital) Sketchpad, pen, and pencils – sketches and mood boards are a vital part of any brainstorming and iterative design.

XR LAB: Booking request form

GRADING:

You will be graded holistically for your performance and improvement throughout the course. As long as you are putting your best work forward and challenging yourself, you will be successful in this course.

Professionalism/participation will account for 10% of your grade. Participation includes but is not limited to being on time for class, staying the whole class period, using your time efficiently, asking and answering questions, staying on task, and helping others.

Attendance is an explicitly mandatory component of ALL on-campus/location-based classes for ALL students in the School of Art + Design and will be considered into your participation grade. For this studio, the penalty is: after three unexcused absences students may be docked one-half grade for each subsequent unexcused absence (see Attendance), to excuse an absence follow this link.

Students are expected to make productive use of the extensive “in-studio” lab time that will be provided. It is also expected that students put in a base number of hours of work every week outside of class time. To this end, students will show and report their progress each week. However, please note that simply "doing some work" does not entitle a student to pass the class (let alone achieve a particular grade). Technical skill, aesthetic quality, and demonstrating that they have met all the learning goals are integral.

Assignments will be graded on rubrics specified for each assignment.
Criteria for evaluation:

- Planning & Research
- Creativity & initiative
- Technical complexity
- Technical quality
- Artistic merit
- Adherence to project guidelines

Grade weight	**Grading scheme**
Assignment 1: 10%	A = 93-100%
Assignment 2: 10%	B+ = 87-93%
Assignment 3: 20%	B = 80-87%
Assignment 4: 15%	C+ = 75-80%
Assignment 5: 15%	C = 70-75%
Assignment 6: 20%	D = 60-70%
Professionalism/Participation: 10%	F = below 60%
Total: 100%	

* Professionalism / Participation refers to the degree of seriousness, immersion, and commitment you bring to your work. It includes timely attendance, meeting assignment deadlines, participating in class critiques, remaining engaged at all times, and contributing constructively to a safe learning atmosphere. It also includes any in-class assignments.

Professionalism includes:

- Consistently meeting deadlines.
- Submitting completed work.
- General time management (including constructive use of in-studio lab hours).
- Commencing work on a project as soon as it is assigned.

- Demonstrating progress at each class (and chronicling it in weekly reports).
- Seeking feedback on your work to incorporate needed adjustments and improvements.
- Following instructions promptly.
- Attendance at all classes – on time and until the scheduled end time.
- Timely, if not redoubled, effort to catch up on any missed instruction.
- Demonstrating both leadership and good cooperation when working within a team.

To receive full credit, all assignments/projects are due on time. Most often, submissions will be accepted up to one class meeting after the due date for a reduced letter grade. Work handed in after that will not be accepted and will be worthy of a zero for that assignment. However, do not hand in an incomplete project at the original deadline. Always take the late grade and complete the requirements – or fulfill as much as you are able.

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CODE OF CONDUCT:

Every individual perspective, experience, and voice is valued in this course and should be treated with respect by both the instructors and your peers. Your suggestions are always encouraged and appreciated.

In this studio, there are many opportunities for lively discussion and debate. However, there is no place for rude or derogatory remarks. When you speak you must speak respectfully of all people – including your peers and your instructor.

Your peer's work/efforts are neither "good" nor "bad". Also, whether you "like" or "dislike" their work is – frankly – irrelevant. We must focus solely on whether a particular design "works" or "does not work". The only valid exclamations are yes, no, and WOW! And no matter which one of these we choose, we must then try to define *why*.

ACCOMMODATIONS:

Students with Disabilities

Instructors will be notified via email with regard to students with approved accommodations enrolled in their classes. Student Accommodations will have to be signed and dated by each instructor and returned to the Dean of Students. NJIT and instructors will endeavor to make any accommodations required and necessary for the success of students with disabilities. No accommodations can be granted "after the fact" unless due to a situation (injury/illness/etc.) that occurs or is documented during the semester. In those instances accommodations will commence upon notification or observation of the disability.

Additional Resources

Campus Health and Wellness Resources
https://www.njit.edu/healthservices/

Mental Health Resources
https://researchguides.njit.edu/mentalhealth

ACADEMIC INTEGRITY:

Upholding academic integrity is a commitment to the pillars of honesty, trust, fairness, respect, responsibility, and courage.

Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found in NJIT Academic Integrity Code.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing, or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have

any questions about the Code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu

Generative AI
The university acknowledges the rapid development of generative artificial intelligence (AI) and its potential impact on education. As a whole, NJIT's perspective on AI is to foster intellectual development, critical thinking, and to uphold academic integrity standards while taking ethics, data, and privacy concerns seriously. Our perspective is focused on enhancing the learning experience to prepare students to excel in a workforce where AI plays an increasingly significant role. The use of Generative The use of Generative AI in this course is strictly prohibited.

Digital Design Submission Requirements & Portfolio Considerations:

Kepler is an electronic storage and retrieval system used to archive Hillier College of Architecture and Design (HCAD) students' assignments. You are required to submit assignments to Canvas as well as Kepler in order to receive your grades. Each assignment will specify submission requirements for both Kepler and Canvas.

SIGGRAPH's annual conference includes the Faculty Submitted Student Work Exhibit. This is a double-curated exhibit seen by many professionals at the biggest computer graphics conference. Submitted work must be conceived, designed, and created by the student. While using the latest tools to enhance a design or speed a process is encouraged, the focus of any visual narrative must be original. Should their work be accepted, students can add this accomplishment to their résumé and include the selection laurels in their portfolio. To have their work considered, students must complete and return a signed version of the provided FERPA form (download link here). Final work must also be at HD resolution (16:9): 1280 x 720 or 1920 x 1080.

SCHEDULE:

Subject to change*

Date	Class Schedule	Due
Thu, Jan 23	Intro and Lecture – Assignment 1	
Mon, Jan 27	Assignment 1	
Thu, Jan 30	Assignment 1	
Mon, Feb 3	Intro and Lecture – Assignment 2	**Assignment 1 Due - Presentations**
Thu, Feb 6	Assignment 2	
Mon, Feb 10	Assignment 2	
Thu, Feb 13	Intro and Lecture – Assignment 3	**Assignment 2 Due**
Mon, Feb 17	Assignment 3	
Thu, Feb 20	Assignment 3	
Mon, Feb 24	Assignment 3	

Thu, Feb 27	Intro and Lecture – Assignment 4	**Assignment 3 Due**
Mon, Mar 3	Assignment 4	
Thu, Mar 6	Assignment 4	
Mon, Mar 10	Assignment 4	
Thu, Mar 13	Intro and Lecture – Assignment 5	**Assignment 4 Due**
Mar 16–22	**Spring Break – No Class**	
Mon, Mar 24	Assignment 5	
Thu, Mar 27	Assignment 5	
Mon, Mar 31	Assignment 5	
Thu, Apr 3	Wellness Day - No Classes Scheduled - University Open	
Mon, Apr 7	Intro and Lecture – Assignment 6	**Assignment 5 Due**
Thu, Apr 10	Assignment 6	

Mon, Apr 14	Assignment 6	
Thu, Apr 17	Assignment 6	
Mon, Apr 21	Assignment 6	
Thu, Apr 24	Assignment 6	
Mon, Apr 28	Assignment 6	
Thu, May 1	Assignment 6	
Mon, May 5	Final Presentations	
Tue, May 6	Thursday Schedule	**Last Class**
Thu, May 8		**Assignment 6 Due**