# DD 334 Simulated Environments

College of Art+Design NJIT

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T: 600PM - 850PM

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Office Hours By Appointment

DESCRIPTION	The course will introduce students to the language and conventions of manipulating tools and techniques to develop and create simulated envirnoments.
OBJECTIVES	Provide an exposure to environment development & simulated aesthetics. Develop a creative direction methodology for digital world creation. To develop a sense of quality of craft with simulated environment making and design.
INSTRUCTOR EXPECTATIONS	At all classes you are expected to bring new computer models, renderings, and hand drawings (sketches) relevant to the project in progress. You are expected to work each and every day on the projects assigned. If for any reason you doubt your ability to do so you should seriously consider whether you belong in this studio. While this course introduces and uses several software packages, you should not rely on this course to teach them to you. Make use of all available resources to learn the software, books, online help, instructors and fellow students. You are accountable for technical and creative process for this class.
CLASS POLICIES	Assignments. Assignments are due at the beginning of class. Assignments that are not clearly labeled will not be accepted or graded. Late work will be graded down one letter grade for every class late. All preliminary and final work must be uploaded to KEPLER for presentations and grading.
	Academic Warning. Students who do not complete and submit assignments on time and to a satisfactory standard will fail the class. It is the student responsibility to obtain missed assignments from other classmates and make up work in time for the next class.
	Class Policies. Cell phones, and non-course related internet usage will not be used during class.
RECOMMENDED BIBLIOGRAPHY	Online tutorials, research articles and library visits The Essential Beginners Guide to Unreal Engine 5: 2023 Edition UE5 documents: https://docs.unrealengine.com/5.0/en-US/ Autodesk Maya documents: https://help.autodesk.com/view/MAYAUL/2022/ENU/

# GRADING

The following factors will be considered when assigning your grade.

## A. Ability to intellectually engage the material investigated in the course.

Students are to thoughtfully engage the material presented in readings, presentations and discussions. Responses to questions should be directly and thoughtful related to topics investigated in the assignment.

## **B.** Communication.

The ability to communicate ideas and concepts to others. This includes written, verbal, and visual communication skills. Outside critics will be brought in at the end of some projects to review your work in an open forum environment. These presentations should be considered "client presentations" and should be presented with a level of professionalism consistent with your work.

## C. Independent thinking.

Independent thinking will be evaluated and will be based on the ideas and thoughts developed on an independent basis by the student. Depth of creative thought is primary to the independent thinking evaluation. Independent thinking must be clearly demonstrated in all aspects of the course including verbal participation in the classroom.

## D. Professional Attitude.

Students are to express and articulate clearly their view toward the topics in this course in a method reflects the quality of a professional in the field of design. It is the ethical responsibility of the student to support the learning community in this course in a positive and constructive manner.

Professional attitude includes the ability to receive and give critical feedback, respond to challenging situations with a positive attitude, and support an excellent working studio environment are all essential to receiving high marks in professional attitude evaluations.

## Grade breakdown.

10% Class Participation 90% Projects 1, 2, 3, 4, 5 (18% each)

A/4.0 (superior) B+/3.5 (excellent) B/3.0 (very good) C+/2.5 (good) C/2.0 (acceptable) D/1.0 (minimum) F/0.0 (inadequate).

## PDF+CRITIQUE

All projects are accompanied by prepared, well designed PDF and presentation to the class. Each grade will be based on final images (50%) and PDF and presentation (50%)

## ATTENDANCE, ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

IF YOU ARE SICK, PLEASE STAY HOME. Student is responsible for letting instructor know of their absence and making up the work. Absences for illness in order to be excused MUST be accompanied by documentation from professional medical personnel who are NOT members of your family. Since religious holidays are known in advance, students who expect to be absent due to religious holidays must notify their instructor by the second week of class.

Students with either freshman or sophomore standing also have an attendance requirement overlaid on the grading criteria. No more than three unexcused absences are permitted without a grade reduction. Each unexcused absence above the three (starting with the fourth) will result in a grade reduction of .5 for the semester. In other words, four absences would result in a maximum grade of B+ (assuming everything done is of "A" quality), five absences would result in a maximum grade of "B", six in a maximum grade of "C+", etc. Students do NOT receive extensions for submission of work due to any unexcused absences. Acceptance of late work is at the discretion of the individual instructor.

NJIT and instructors will endeavor to make any accommodations required and necessary for the success of students with disabilities. However, in order to receive accommodations disabilities MUST be documented with the NJIT Disability Office AND notification of request for accommodation must be made to the instructor by the second week of class. 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.

## Goal:

Conceptualize a new environment. This is a visual conceptualizing exercise through digital media.

# Task:

Create 3-5 digital idea sketches of a simulated environment. Show me what moves you and what types of environments you feel passionate about. Leave some room for exploration and happy accidents with the intent of refining later. Environment ideas are up to students to come up with. You have freedom. Don't get too ambitious. Keep it simple but make sure you deliver quality over quantity. Once environment idea sketches are approved we are finished with pre-production. Final images have to be stills.

Research artist <u>Oliver Dubard</u>, <u>https://www.thegnomonworkshop.com/tu</u>torials/ environment-creation-for-film-and-cinematics

**Delivery:** PDF+Presentation

**Tools:** Any tools you want.

Dates: Final Presentations: 09/10/24

## PROJECT 1 BRAINSTORM AN ENVIRONMENT

# PROJECT 2 BLOCK OUT PHASE

## Goals:

Create a scene and a camera in either Maya or UE5 and block in your layout and composition with different shapes into your scene. Animate the camera and add low polygon, base meshes of your geometry as temporary place holders for your environment. Add lighting and render out pre-viz.

## Task:

Use your concepts from project 1 and block out your animated scene of your simulated environment. Only add elements to your seen through what you can see, through the camera view. Use planes, cubes cylinders etc. The camera animation should be 8-12 seconds long. Has to be 1920 x 1080 with an aspect ration of 16:9 and 24 fps.

## **Delivery:**

1 pre-viz of scene, 8-12 secs long, mp4 + Presentation

#### **Tools:** Unreal Engine, Maya, etc.

#### Dates:

Assigned: 09/10/24 Mid Review: 09/24/24 Final Presentations: 10/01/24

## PROJECT 3 ENVIRONMENT DEVELOPMENT

#### Goals:

Work on the assets for you environment. Go into the blocked out scene from project 2 that you created and swap out the low poly parts for the finished 3d models and assets that you created.

## Task:

Create finalized 3d models for your simulated environment. Make sure to add textures and materials. Swap out all of the low polygon geometry for the finished assets that you created for your scene.

#### **Delivery:**

4-8 Screenshots of Environment + mp4 of camera animation. All Files Pertaining to Project PDF+Presentation

## **Tools:**

Unreal Engine, Maya, Substance 3D Painter, etc.

**Examples:** https://youtu.be/UNjMSFLkMZA?si=dvT0Aj\_qR4HTRvo6

#### Dates:

Assigned: 10/01/24 Mid Review: 10/08/24 Final Presentations: 10/15/24

# PROJECT 4 ADDING THE LIGHTING, EFFECTS AND SIMULATIONS

#### Goals:

Create lighting, effects and simulations for your scene. Bring elements of cinema and/or virtual production into your scene.

#### Task:

Experiment with your scene and look at different moods with lighting, effects and simulations. Bring your seen to life with final touch ups.

#### **Delivery:**

.mp4 PDF+Presentation

Tools: Maya, Unreal Engine, EmberGen, etc.

#### Dates:

Assigned: 10/15/24 Mid Review: 10/22/24 Presentations: 11/05/24

## PROJECT 5 FINALIZE YOUR ENVIRONMENT

#### Goals:

Create the final touch ups for your scene. Render it and create post production composting on your render. Bring elements of cinema and/or virtual production into your final scene.

#### Task:

Finalize your scene. Render it at 1920 x 1080, 24fps Compile your frames in an editing or compositing program and work on color correction for final version. Create a .mp4 of your simulated environment. The scene should be 8-12 seconds long. Also capture screen shots of work in progress for your presentation.

#### **Delivery:**

.mp4 PDF+Presentation

#### Tools:

Maya, Unreal Engine, After Effects, etc.

#### Dates:

Assigned: 11/05/24 Mid Review: 11/19/24 Presentations: 12/03/24