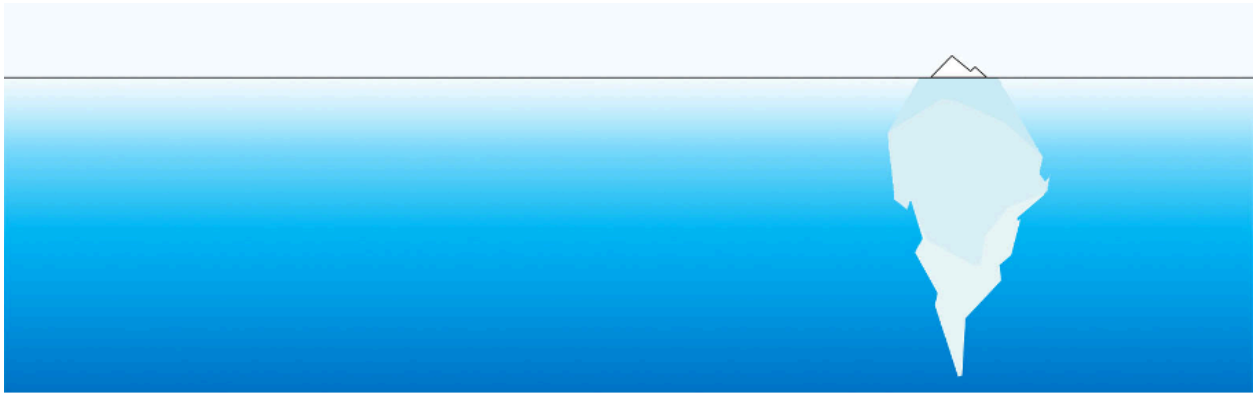
DIGITAL DESIGN STUDIO III **DD 363-001**



“Environmental Narrative – The story told via the world and its exploration by the player.”
Heussner | Finley | Hepler | Lemay

“Omit any parts (of your design) that don’t help tell the story.”
Scott Rogers

“The devil is in the details.”
An idiom

Studio meets on: Mon/Thurs 1:00 PM – 5:20 PM Weston Hall 7th Floor Studios Prerequisites: DD 263, DD 264, AD 161, AD 162, AD 150. Pre or Corequisites: DD 275, ARCH 382.	Instructor: Richard Thompson Pronoun: He/Him/His richard.thompson@njit.edu Office Hours: Rm 101, The Idea Factory (the lower level of Cypress Hall) Mondays & Thursdays 11:30 AM – 12:30 PM (and by appointment)

What is this course about?

Topics to be covered include:

- Advanced modeling for games: low and high poly retopology of meshes
- Advanced texturing for games
- Pre-production and design for an original virtual world
- Immersive and expansive world-building using modular kit-level design
- Environmental narrative
- Game hero asset design
- In-game animation & interactivity

What can I expect to learn?

This course will:

1. Expand the student's understanding of game architecture and the relationship between components, systems, and levels.
2. Develop the ability to design engaging and well-balanced cinematic environmental narratives using modular components.
3. Learn to design assets with consistent scale, style, and functionality for easy interchangeability.
4. Understand efficient asset management practices and organization.
5. Gain experience in rapid prototyping using modular kits to test and iterate on game ideas quickly.
6. Further expand the student's appreciation, creativity, and control of storytelling through 3d modeling, animation, and interactive game design.
7. Acquire knowledge about optimizing modular game levels for performance.

What book and other materials do I need?

Required Software:
Download and install the free academic versions (*not* the "trial" versions) of:

- **Autodesk Maya** (2024): https://www.autodesk.com/education/students
- **Adobe Substance 3D Painte**r: https://substance3d.adobe.com/education/
- **Unity 2022 LTS**:
  - Create an account with Unity: https://unity.com/
  - Navigate to https://unity.com/products and choose the ***free*** Personal Plan
  - Download and install the latest version of Unity Hub: https://unity.com/download
  - Open the Unity Hub on your computer and navigate to install the version of the Unity Editor we will be working in – Unity 2022 LTS

Recommended Software:

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

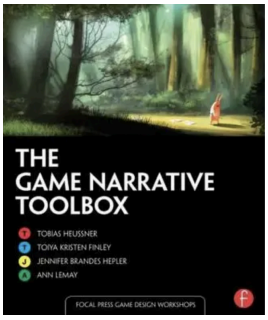
Substance Resources 2024: (13000+ materials)
https://drive.google.com/drive/folders/13ssgXmt4P4Y1UIw8SN6iPLaWBuzSQM7r?usp=sharing

Discord Link: https://discord.gg/6Na25ttMt5

Other:

- Students are *required* to back up their work at all times.
- Sketches and mood boards are a vital part of any brainstorming and iterative design.
- Peer instruction from fellow students.

Recommended (but not required):



The Game Narrative Toolbox
Heussner | Finley | Hepler | Lemay

How will my work be graded?

Diligent, *timely* work is essential. You must put thought, effort, and care into your assignments to be successful. It will be apparent if you have rushed your work.

When contacting the professor for help, *always* include/attach the most recent scene file and explain your issue. If a Vimeo tutorial is unclear, please note the video number and the moment on the timeline at which things became confusing. However, do not expect the professor to respond to requests made the night before a project is due. At that point, if you cannot solve the issue on your own, you must take the late grade deduction to submit completed work.

Students are expected to make productive use of the extensive “in-studio” lab time 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.

Attendance is an explicitly mandatory component of ALL on-campus/location-based classes for ALL students in the School of Art + Design. For this studio, the penalty is: after three unexcused absences students may be docked one-half grade for each subsequent unexcused absence (see Attendance). Missed classes will negatively impact a student’s work, progress, and final grade. So will lateness or partial attendance at any class. Early departure(s) from, or late arrival(s) to class will automatically count as ⅓ of an unexcused absence. Above one hour will be considered equal to ½ of an unexcused absence. Absences that cover more than half of the class meeting will be calculated as full and unexcused.

If you are absent, it is *your* responsibility to catch up *promptly* with the class by reviewing pertinent Vimeo demos and/or requesting classmates to review the material with you. Do *not* expect the instructor to repeat the demonstrations and lectures you missed or spend hours tutoring you privately. Be sure, however, to ask for any handouts or assignments you may have missed.

If you find that you are stuck and not progressing, please speak to me *right away*.

Evaluation and grades are determined based on the following considerations:

Grade weight	**Grading scheme**
Assignment 1: 10%	A = 93-100%
Assignment 2: 15%	B+ = 87-93%
Assignment 3: 20%	B = 80-87%
Assignment 4: 10%	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.

By its very nature, professionalism includes:

1. Consistently meeting deadlines.
2. Submitting completed work.
3. General time management (including constructive use of in-studio lab hours).
4. Commencing work on a project as soon as it is assigned.
5. Demonstrating progress in each class (and chronicling it in weekly reports).
6. Seeking feedback on your work to incorporate needed adjustments and improvements.
7. Following instructions *promptly*.
8. Attendance at all classes – on time and until the scheduled end time.
9. Timely, if not redoubled, effort to catch up on any missed instruction.
10. Demonstrating both leadership and good cooperation when working with others.

Each assignment/project will be evaluated using the following criteria:

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

A full rubric will be provided when the assignment/project is handed out.

Values of quality, aesthetics, taste, etc., are based upon the instructor's judgment of the work produced, the effort employed, and the total result achieved – as well as progress throughout the semester.

To receive full credit, all assignments/projects are due on time. Most often, submissions will be accepted at the studio meeting after the due date for a letter grade reduction. 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 to.

Digital Design Submission Requirements & Portfolio Considerations:
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.

I intend for students from all backgrounds and perspectives to be well-served by this course. The diversity students bring to this class will be viewed as an asset. Your suggestions are 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*.

I want you to succeed!

Yes! I want each of you to be successful in this studio. I want you to make work that inspires you and your peers. I want you to push me and the other students to find new ways of approaching the materials and the tools we are using. I want you to emerge as an innovative and creative digital design artist. I am here to support you in these goals. If you have any questions, small or large, technical or conceptual, please talk to me. Communication is key.

I can also make an appointment to meet with you at a time – outside of class and office hours – that is more convenient for you. Please do not hesitate to contact me if you are having trouble or need help.

Students with documented disabilities should inform the instructor during the first week of the semester to receive appropriate accommodations. Any chronic/permanent disability for which accommodations may be required – whether taken or not by the student – must be documented with, and confirmed by, the NJIT Office of Student Disability Services. (Students are not required to avail themselves of any accommodations to which they are entitled.) Temporary disabilities that are obvious (e.g., broken arm) may be assessed by the instructor but should still be documented with the Dean of Students. Accommodations sought after the start of the semester will only be offered to students in those instances where the disabilities are diagnosed or have the first instance of occurrence during the semester. No retroactive accommodations are available.

All students are expected to engage in academically honest work

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 to which you are working. 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 the 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

Do you need to withdraw?

Students sometimes need to withdraw from a class due to personal or academic reasons. Click here for deadline dates.

If you do encounter difficulties, please contact me before withdrawing.

(Subject to change)

Date	Proposed Class Schedule	Due
Thursday, September 5	Syllabus Discuss semester objectives Assignment 1: Game Asset Creation Workflow – Treasure Chest	
Monday, September 9	Assignment 1	
Thursday, September 12	Assignment 1	
Monday, September 16	Modular Kit Design Assignment 2: Immersive World Design - Pre-production	Assignment 1
Thursday, September 19	Assignment 2	
Monday, September 23	Assignment 2	
Thursday, September 26	Assignment 3: Immersive World Design - Modular Kit Assembly	Assignment 2
Monday, September 30	Assignment 3	
Thursday, October 3	Assignment 3	
Monday, October 7	Assignment 3	
Thursday, October 10	Assignment 3	
Monday, October 14	Assignment 3	
Thursday, October 17	Assignment 4: Immersive World Design – Modular Kit Texturing	Assignment 3
Monday, October 21	Assignment 4	
Thursday, October 24	Assignment 4	
Monday, October 28	Assignment 4	
Thursday, October 31	Assignment 4	
Monday, November 4	Assignment 4	
Thursday, November 7	Assignment 4	
Monday, November 11	Assignment 4	

Thursday, November 14	Assignment 5: Immersive World Design – Lighting and Post	Assignment 4
Monday, November 18	Assignment 5	
Thursday, November 21	Assignment 5	
Monday, November 25	Assignment 6: Immersive World Design – Interactivity	Assignment 5
Tuesday, November 26	Assignment 6	
Monday, December 2	Assignment 6	
Thursday, December 5	**Final Review**	
Monday, December 9	Final meeting	Assignment 6