

Introduction to Digital Game Design

DMD 2500 - Syllabus | University of Connecticut

Pre-requisites | DMD 1002 & 1102 or Instructor consent (Not open for credit to students who have passed DMD 3500 or 3560)

Term | Fall and Spring

Type | Studio

Time | Asynchronous Online

Course Description (3 Credits)

This course provides an introduction to the principles of video game design and development. Students will explore the history of the industry, investigate the theory of story, game mechanics and level progression, develop creativity skills that can be applied through an ideation process, and design and develop a 2D video game. Participation in this course will be conducted in a game-based environment.

Course Objectives: The student will be able to...

- Produce a video game prototype
- Create a video game design document that details an idea for a video game
- Analyze a video game and recite terminology applied in the gaming world
- Prepare and deliver pitches for a video game
- Perform regular evaluations of game ideas and game prototypes, giving productive feedback, which improves an idea and moves a project forward
- Explain a list of general functions and elements which make up a video game
- Define the elements which constitute a video game as opposed to an open sandbox
- Apply ideation skills and problem-solving techniques in the development of an original idea for a video game.
- Achieve familiarity with the principles, terminology, procedures, and practices of 2D game design and production
- Provide peer assessments and constructive feedback to fellow students
- Design the game mechanics for a video game
- Design and map level progression for a video game

Required Course Readings

- Paid (these games are also available on the DMD lab computer, ask Ken for more details)
 - [The Longing](#)
 - [Undertale](#)

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- [The Stanley Parable](#)
- [World of Goo](#)
- [Dream Daddy](#)
- [Weird Worlds: Return to Infinite Space](#)
- [Her Story](#)
- Free
 - [Skye](#)
 - [SuperHot](#) (Prototype)
 - [Dwarf Fortress](#)
 - [Tower of Goo](#)
 - [Zork](#)
 - [Papers Please](#) (Demo)
 - [Skye](#)

Suggested Course Reading

Rogers, S. (2010) Level Up!: The Guide to Great Video Game Design. Hoboken, NJ: Wiley, John & Sons.

Required Course Technology

- **Hardware**
 - Three button mouse with mouse wheel
 - Headphones
 - Webcam
 - Dedicated access to high-speed internet with a minimum speed of 1.5 Mbps (4 Mbps or higher is recommended)
- **Software - Must Have**
 - [Corgi Engine - 2D + 2.5D Platformer](#) <- This will be provided by the department
 - [FPS All In One Plugin](#)
 - Github Desktop or another Git client
 - [Git](#) - [Kens Gitignore](#)
 - [GitLFS](#) - [Ken's Gitattributes](#)
 - Microsoft Teams
 - Unity3D - Version: 20120.3.16f1 LTS
 - Windows / [bootcamp](#) (Mac support not recommended)
- **Software - You might need the following**
 - [Glitch Creative Commons 2D Artwork](#)
 - Audacity, Logic Pro, or Adobe Audition
 - Discord
 - [Unity Discord](#)
 - [Reddit Gamedev Discord](#)
 - [IGDA Unity Discord](#)
 - [More Mountains Discord](#)
 - Adobe Photoshop or Gimp

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- Adobe Illustrator or Inkscape
- Maya, Cinema 4D, 3DS Studio Max, MODO, or Blender
- Youtube
- You may find tools in the [Github Student Developer Pack](#) and [Unity Learn Student edition](#) useful ***THIS PROCESS MAY TAKE A FEW DAYS TO VERIFY YOUR STUDENT STATUS***
- HuskyCT/Blackboard ([HuskyCT/ Blackboard Accessibility Statement](#), [HuskyCT/ Blackboard Privacy Policy](#))
- [Adobe Acrobat Reader](#) ([Adobe Reader Accessibility Statement](#), [Adobe Reader Privacy Policy](#))
- Google Apps ([Google Apps Accessibility](#), [Google for Education Privacy Policy](#))
- Microsoft Office (free to UConn students through [uconn.onthehub.com](#)) ([Microsoft Accessibility Statement](#), [Microsoft Privacy Statement](#))

UConn Software Catalog: <https://software.uconn.edu/>

Suggested Unity Assets

- [Rewired](#) - If you want game pads to work easily
- [Dialogue System for Unity](#) - If you want to do story games this semester

Course Challenge

Students in this course will be challenged to design and develop a video game in response to a '[Request for Proposal](#)'. As part of this project students will deliver a presentation, create a Game Design Document and produce a prototype.

Course Outline

1. An Introduction to Video Games
2. Interactive Unity Tutorials
3. Design and Development
4. Level Design and Game Testing

Week**Multimedia****Assignments**

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<p>Week 1</p> <p>The Game Industry</p>	<ul style="list-style-type: none"> • Course Objectives and Overview • How to Critique & Questions in Criticism/Game Analysis • Classroom Expectations • Request for Proposal (Video) - ASSIGNMENT • Setting Up Your Dev Environment • Slides- Jobs in the Game Industry • Video - Jobs in the Game Industry • Using Git and Source Control • Working from home • Game Industry Facts • So you want to be a game designer • Play: The Longing After playing read interview 	<p>Dev Environment Setup</p> <p>By End of year Attend 1 Game Dev CT meetup (or another approved game development meetup) and 1 UConn Gaming Club meetup. Write a 2 paragraph review and take a selfie/screenshot</p>
<p>Week 2</p> <p>Creativity and Game Production</p>	<ul style="list-style-type: none"> • Mind Maps and Brainstorming • Unity Hello FPS • Programming 101 - On Collision Enter • The Art of Game Design, Ch. 4-6, J. Schell • Play: Weird Worlds: Return to Infinite Space and read Interview 	<p>Autobiography</p> <p>Git Project submitted</p>
<p>Week 3</p> <p>Expressing Your Ideas</p>	<ul style="list-style-type: none"> • Sequelitis: Mega Man Classic vs. Mega Man X • What is a One Sheet • Play Skye Read Interview • Bioshock Pitch Document • Rogers, Level Up! Chapter 12: The Nuts and Bolts of Game Mechanics • MDA 	<p>Brainstorming sheet</p> <p>My First FPS :Engine Tutorial</p>
<p>Week 4</p> <p>What's "The Hook", and How To Present Your Idea</p>	<ul style="list-style-type: none"> • Student Presentations • Documentation; Communicating with others • GDDs, what are they good for? • Play: SuperHot (Prototype) Read Interview • The Bioshock Game Design Pitch 	<p>Digital One Sheet & Presentation</p>

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<p>Week 5</p> <p>Examining a Full Game Level</p>	<ul style="list-style-type: none">• Play: Undertale After Read Interview• Will Wright: Spore the Birth of a Game <p>Corgi</p> <ul style="list-style-type: none">• Tutorial: Corgi2D Overview - Getting into sidescrollers• 2D Game Art 101• Tutorial: Corgi2D - Minimum scene requirements• Tutorial: Corgi2D - Characters• Tutorial: Corgi2D - Abilities <p>FPS Microgame</p> <ul style="list-style-type: none">• Add a Room• Change Colors• Add an Enemy Bot• Import Assets• Importing Additional Microgame Assets• FPS Mod: Adding a new enemy robot with a hat• FPS Mod: Create and Bake the NavMesh• Probuilder in Unity	<p>Revised OneSheet with "issues" filled in submitted to your new team Github project (don't forget to invite me)</p>
<p>Week 6</p> <p>Prototyping and Hope</p>	<ul style="list-style-type: none">• Play: Her Story After Read Interview• Jane McGonigal: Gaming can make a better world <p>Corgi</p> <ul style="list-style-type: none">• Corgi AI and Weapons 101• Tutorial: Corgi2D - AI• Tutorial: Corgi2D - Weapons• Tutorial: Corgi2D - Platforms• Tutorial: Corgi2D - Checkpoints <p>FPS Microgame</p> <p>Art</p> <ul style="list-style-type: none">• FPS Mod: Adding post-process effects• FPS Mod: Power Up Health Pack	

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	<ul style="list-style-type: none">• FPS Mod: Customize weapon projectiles• FPS Mod: Name your game• FPS Mod: Customize the Sky• FPS Mod: A Splash of Color <p>Design</p> <ul style="list-style-type: none">• FPS Mod: Changing and adding Game Objectives• FPS Mod: Build a level with ProGrids• FPS Mod: Expand a level• FPS Mod: Player Properties <p>Code</p> <ul style="list-style-type: none">• FPS Mod: Unlock a new Sniper Rifle weapon• FPS Mod: Tweak damage dealt by enemies and attack range• FPS Mod: Set up a new burst rifle weapon• FPS Mod: Ken's Super Simple Spawner	
<p>Week 7</p> <p>Specialist vs Generalist? Communicator.</p>	<ul style="list-style-type: none">• Playlist: Dialogue System (Optional)• Valve's Handbook• The Game Design Reader, p. 212 "The Cabal" Valves Design Process• Play: Papers Please (Demo) After Read Interview <p>Corgi</p> <ul style="list-style-type: none">• Corgi Platforms, Hazards, and Checkpoints• Tutorial: Corgi2D - Cameras• Tutorial: Corgi2D - Inventory• Tutorial: Corgi2D - Gating, doors and keys <p>FPS Microgame</p> <p>Design</p>	<p>Unity Tutorial: Mario 1-1</p> <p>Remake</p>

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	<ul style="list-style-type: none">• FPS Mod: Create an instant new game level with Snaps *• FPS Mod: Turn your snaps level into a playable scene• FPS Mod: Changing and adding Game Objectives• FPS Mod: Add a new level to your game flow• FPS Mod: Build a level with ProGrids• FPS Mod: Expand a level• FPS Mod: Player Properties <p>Code</p> <ul style="list-style-type: none">• FPS Mod: New Loot Item from Destroying Enemies• FPS Mod: Weapon Parameters• FPS Mod: Hit points• FPS Mod: Changing and adding game objectives	
<p>Week 8</p> <p>How Usability and Design Impacts Gameplay</p>	<ul style="list-style-type: none">• Design of Everyday Things, Chapter 1-2, D. Norman• Crafting Destruction: The Evolution of the Dead Space User Interface• Watch Copyrights, Patents, Trademarks• Read Dwarf Fortress Tutorial, Play: Dwarf Fortress after Read Interview <p>Corgi</p> <ul style="list-style-type: none">• Tutorial: Corgi2D - Scenes• Tutorial: Corgi2D - Achievements• Tutorial: Corgi2D - Rooms System• Tutorial: Corgi2D - Hooking up Rewired in Corgi (optional) <p>FPS Microgame</p> <p>Code</p> <ul style="list-style-type: none">• FPS Mod: Dual weapon wielding• FPS Mod: Healing ally robots• FPS Mod: Add the Fireballer *	

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	<ul style="list-style-type: none">• FPS Mod: Build your Customizable Boss* Sound <ul style="list-style-type: none">• FPS Mod: Swap your sounds• FPS Mod: Mix your own Sci Fi Soundtrack*	
Week 9 Accessibility	<ul style="list-style-type: none">• Accessible Player Experiences• Play: Tower of Goo & World of Goo READ: Interview	Digital Prototype
Week 10 The Bad and the Ugly in the Industry	<ul style="list-style-type: none">• Watch: Damsel in Distress Part 1 Part 2 Part 3• #1ReasonToBe• Zoe Quinn• Activision Blizzard A "frat-boy" office and sex harassment, explained - Polygon• Inside The Cosby Suite From The Activision Blizzard Lawsuit	
Week 11 Getting Back to Our Roots	<ul style="list-style-type: none">• Play: Zork READ: Interview• Watch: Who Am I• Watch Crash of 1983• Listen: History of Games, History of Digital Games, and the Auteur	Digital Alpha
Week 12 Introductory Narrative in Games	<ul style="list-style-type: none">• Play: Dream Daddy After read Interview - Watch Making of• The Stanley Parable After playing and Commenting on Stanley Parable play session watch Stanley Parable	
Week 13	Break	
Week 14	<ul style="list-style-type: none">• Play: Tag: The Power of Paint Read Article examine the Digipen Landing Page	Digital Beta Team and Self Evaluations
Week 15	<ul style="list-style-type: none">• How to polish and package your game	Final Due

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Polishing and Packaging		
Week 16	NO FINAL	

***See HuskyCT for accurate due dates on assignments**

Policies

[Class Google Drive Link](#)

Grading

Creativity is the key to doing well in this course and in getting the most out of it. By being creative in what you do, by finding answers in yourself, you will continue to find the energy to persevere without trouble, and you will easily work your way towards a good grade. The purpose of grading is to clearly and accurately pinpoint the strengths and weaknesses of your progress. Your overall grade will be based on your understanding of the information and ideas discussed, and your formal, technical, and conceptual progress as demonstrated in projects and exercises, and professionalism during the course.

Students will be evaluated through exercises, course participation, research, presentations, and technical proficiency with various project and media applications. Aesthetic applications, and problem solving are also points of evaluation. Students will be evaluated on their creativity and diligence in applying the course tools to produce cogent and polished work. Our goals are to go beyond simply achieving technical proficiency, as we will also focus on learning theory and principles in preparation for both artistic and commercial endeavors.

Late Work Policy: There are no make-ups for in-course writing, quizzes, the midterm, or the final exam. Assignments turned in late will be assessed a penalty: a half-letter grade if it is one day late, or a full-letter grade for 2-7 days late and will not be accepted if overdue by more than seven days.

Evaluation:

Final course grades will be computed as follows:

	Percentage	Possible Points
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Course participation:	20%	20
Assignments:	40%	40
Final Project:	40%	40

Total: 100% 100 points

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Grading is based on a 100 point scale and is as follows:

[A]		94-100
[A-]		90-93
[B+]		87-89
[B]		84-86
[B-]		80-83
[C+]		77-79
[C]		74-76
[C-]		70-73
[D+]		67-69
[D]		64-66
[D-]		60-63
[F]		< less than 60 points

Student Work

The Digital Media and Design Department reserves the right to retain student work for exhibition purposes, online program promotion, and classroom demonstration.

Participation

Participation takes up a significant portion of grading in this course so to be clear. A student who is participating in class;

- gives valuable criticism and feedback to their colleagues in a trackable way (I.E. in class where I can observe the feedback being given, or via email/ video recording/ text conversations outside of class).
- Participates in discussions, this means posting at least twice and responding twice to your classmates' posts on the discussion.
- Comes prepared to class with knowledge of the multimedia assigned that day
- Has made tangible progress in their personal work and has consistently brought their work in for critique
- "Like" all videos involved in the class, (including feedback videos posted by other students)
- Respond to questions in videos in the comments of each video

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- Refer to my [How to Critique](#) video for guidance on what to say, but a good guideline is the Three A's: Answer Questions, Ask Questions, Add Detail.

Public Facing Work: Many games that are submitted to this class are publicly available on the Github.uconn.edu website. The reason we put our work out publicly is that part of being a developer is exposing your creations to the world and see how people react to the game so that you can tweak and tune the experience. If you have any issues with this, whether they be privacy or otherwise, please speak to me within the first two weeks of class. I am happy to make accommodations for students who need this, but by default your work and your name is displayed on Github and accessible to all.

Weekly Time Commitment

You should expect to dedicate 10 hours a week to this course. This expectation is based on the various course activities, assignments, and assessments and the University of Connecticut's policy regarding credit hours. More information related to hours per week per credit can be accessed at the [Online Student website](#).

Student Authentication and Verification

The University of Connecticut is required to verify the identity of students who participate in online courses and to establish that students who register in an online course are the same students who participate in and complete the course activities and assessments and receive academic credit.

Verification and authentication of student identity in this course will include:

1. Secure access to the learning management system using your unique UConn NetID and password.
2. Asynchronous video activities using an approved photo ID (requires webcam)

Student Responsibilities and Resources

As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. Review these important [standards, policies and resources](#), which include:

- The Student Code
 - Academic Integrity
 - Resources on Avoiding Cheating and Plagiarism
- Copyrighted Materials
- Credit Hours and Workload
- Netiquette and Communication
- Adding or Dropping a Course
- Academic Calendar
- Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships
- Sexual Assault Reporting Policy

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Students with Disabilities

The University of Connecticut is committed to protecting the rights of individuals with disabilities and assuring that the learning environment is accessible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know immediately so that we can discuss options. Students who require accommodations should contact the Center for Students with Disabilities, Wilbur Cross Building Room 204, (860) 486-2020 or <http://csd.uconn.edu/>.

Blackboard measures and evaluates accessibility using two sets of standards: the WCAG 2.0 standards issued by the World Wide Web Consortium (W3C) and Section 508 of the Rehabilitation Act issued in the United States federal government." (Retrieved March 24, 2013 from [Blackboard's website](#))

NOTE: This course has NOT been designed for use with mobile devices.

Help

[Technical and Academic Help](#) provides a guide to technical and academic assistance.

This course is completely facilitated online using the learning management platform, [HuskyCT](#). If you have difficulty accessing HuskyCT, you have access to the in person/live person support options available during regular business hours through the [Help Center](#). You also have [24x7 Course Support](#) including access to live chat, phone, and support documents.

Evaluation of the Course

Students will be provided an opportunity to evaluate instruction in this course using the University's standard procedures, which are administered by the [Office of Institutional Research and Effectiveness](#) (OIRE).

Additional informal formative surveys may also be administered within the course as an optional evaluation tool.

Office Hours (Bishop 120)

All office hours are expected to be in person, however my office hours are still available via Microsoft Teams if you make arrangements via nexus in the notes. If you need some synchronous one on one time, schedule some time via <http://nexus.uconn.edu> or email me if the available times don't work for you.

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COVID In-person Policy

Until further notice, to ensure a safe learning environment for everyone, masks/face coverings must be worn at all times when inside buildings, including in the classroom, regardless of vaccination status. If a student is not wearing a mask/face covering, they will be asked by the instructor to put one on immediately or leave the classroom. Repeatedly failing to follow this expectation will result in a referral to Community Standards. Activities that involve temporarily removing the mask, such as eating or drinking are not allowed. Please leave the classroom for such activities. If an instructor is not wearing a mask/face covering, students should feel comfortable asking the instructor to put one on immediately. More information about proper usage of masks is available from [UConn Environmental Health and Safety](#).

Although social distancing will not be required inside classrooms for vaccinated individuals, please be respectful of the wishes of others who prefer to maintain social distancing. For their own protection, unvaccinated individuals are requested to maintain 6 feet social distancing from others.

FERPA Reminder

Please remember that faculty are not permitted to speak with outside parties about your coursework without your express written permission. As students engage online, this becomes specifically difficult as parents or family sometimes hover. So if you have any concerns about your own privacy please communicate that to me, I am happy to be the bad guy on your behalf if you feel uncomfortable talking directly to your parents or family members.

Plagiarism/Borrowing

In academia, plagiarism is a bad thing. In the real world, reutilizing code and assets is commonplace. Now NEVER infringe on someone's copyrights. But my goal here is to make you game DESIGNERS. So if there are assets or code you want to use (and it has the appropriate licensing coming from a reputable source) you may use that in your work. For instance, [freesound.org](#) provides a database of sound effects that you can use. Please make sure to credit other people's work and make it apparent if you are using many outside assets. Additionally, it is YOUR responsibility to ensure that the files and music you use are truly available to you. Youtube and other tools we use utilize web crawlers to detect infringing material (much like the paper SafeAssign tool). plagiarism will be punished according to UConn policy.

Webcam Usage

I am aware that some people find webcams uncomfortable, invasive, or just generally weird. I also find it weird that my boss, colleagues, and students can peer into my own home. However, circumstances have forced us all to learn, grow, and adapt. As Body Language, voice, and tone are extremely important communication tools¹ it's critical that we use webcams and voice chat to connect and my expectation is for you to have your webcam on when you are not sharing your screen during live feedback/office

¹ Mehrabian, A., 2007. *Nonverbal Communication*. New Brunswick, NJ: Aldine Transaction.

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hours type chats. For those who are embarrassed, paranoid, or squicked out by this idea, please know three things 1) A blank wall is completely acceptable background (Microsoft teams has a digital background), 2) there are rules and laws in place at UConn that require faculty to protect students², 3) I've had times in my life where I've been homeless, or lived in Section 8, and I've seen plenty of terrible things, but **nothing** in your home is going to make me think **one iota** differently about you. Whatever it is, I've probably seen it or dealt with it. My only goal is to make you the best game developer I can.

² <https://policy.uconn.edu/faculty/>