Game Design 1A: Introduction

COURSE DESCRIPTION

Game Design 1A

Are you a gamer? Do you enjoy playing video games or coding? Does the idea of creating and designing your own virtual world excite you? If so, this is the course for you! Tap into your creative and technical skills as you learn about the many aspects involved with designing video games. You will learn about video game software and hardware, various gaming platforms, necessary technical skills, troubleshooting and internet safety techniques, and even the history of gaming. And to top it all off, you'll even have the opportunity to create your very own plan for a 2D video game! Turn your hobby into a potential career and go from simply being a player in a virtual world to actually creating one!

Required Materials
- Computer with:
  - internet access
  - slide show program
  - word processing program
  - Unity LTS Release 2017.4.0f1
  - OS: Windows 7 SP1+, 8, 10, 64-bit versions only; Mac OS X 10.9+
    - *Server versions of Windows & OS X are not tested.*
  - GPU: Graphics card with DX10 (shader model 4.0) capabilities
- Timing device (smartphone, stopwatch, or kitchen timer)

- Photo and video equipment
  - May be a digital camera, a phone with a camera, or a computer camera
- Several (10-20) pieces of blank paper
- Pencil and/or pen

Optional Materials
- For students who prefer to complete activities/labs by hand:
  - Poster board or butcher paper
  - Markers, crayons, colored pencils
  - A printer

COURSE METHODOLOGY

- This is an inquiry-based course. Students will generate knowledge through online readings, asynchronous discussions with students and their instructor, interactions with online tutorials, and online and hands-on simulations.

- The instructor will act as a guide, a facilitator, an events planner, and a resource advisor. He/she will always be available through course message.

- The student must actively construct and acquire knowledge by being intrinsically motivated to succeed. To succeed, students must participate and complete all readings and activities. This course requires the student's active participation.

- Both formal and informal assessment methods will be used in the course. Informal assessment will include an evaluation of the quality and timeliness of participation in class activities. Formal assessment may include multiple-choice quizzes, tests, discussion board participation, and written assignments. A final exam will be given at the end of the course.

COURSE PARTICIPATION OBJECTIVES

This course for which you are registered is a college preparatory, academically rigorous course that covers an entire semester's worth of material. As such, it is important that you adhere to the following guidelines as you manage your time and commit to successfully completing all required coursework:

1. The requirements for this course are equivalent to completion of minimum of 90+ hours of class instruction at a traditional on-site high school

2. Assignments must be submitted for each unit as they are completed so that the teacher may review and assess your performance. Do not hold your work, you must submit each unit's homework as it is completed, demonstrating weekly assignment completions

3. You must log in regularly to your course to demonstrate continued participation, and completion of all course requirements, including assignments, assessments and discussion forums

4. You must complete your individual work and any incident of suspected cheating, plagiarism or collaboration on assignments violates the academic integrity expectations outlined at the time of your enrollment and can result in failure of the course or further action as deemed appropriate

Citizenship

Students are expected to conduct themselves in a responsible manner that reflects sound ethics, honor, and good citizenship. It is the student's responsibility to maintain academic honesty and integrity and to manifest their commitment to the goals of NUVHS through their conduct and behavior. Students are expected to abide by all NUVHS policies and regulations. Any form of academic dishonesty, or inappropriate conduct by students or applicants may result in penalties ranging from warning to dismissal, as deemed appropriate by NUVHS.

Communication

Throughout this course students will need to be in close contact with their instructor and fellow students. Students are expected to communicate via course message and electronic discussion boards. Therefore, students should plan on checking their course messages at least three times a week and participate in the discussion boards during the weeks they are live.

Instructors strongly encourage and welcome open communication. Clear, consistent, and proactive communication will ensure a successful experience in this course. It is the student's responsibility to notify the instructor immediately if and when a personal situation occurs that affects his/her performance in this class. Being proactive with communication will result in a quick solution to any problems that may occur.

COURSE OUTLINE

Unit 1 – From Tut to Mario: A History of Gaming

Have you ever wondered what it would be like to create your very own video game? Well, this unit is going to equip you with everything you need to know in order to start that process! We'll begin with some important history to help you get a feel for the games that have succeeded and those that were big-time flops. You'll explore gaming's "family tree" as you learn about the different generations of games. Finally, prepare to become an expert on the common characteristics that all game systems share, as well as what sets some apart from the competition.

Learning Objectives

- Describe the technological developments that contributed to the video game industry
- Identify and evaluate the attributes of memorable (and forgettable!) games
- Research, compare, and categorize different game platforms and game hardware
- Strategically start planning your own video game

Activities

Unit 1 Text Questions	Homework	10 points
Unit 1 Online Lab Questions	Homework	10 points
Unit 1 Activity 1	Homework	15 points
Unit 1 Activity 2	Homework	15 points
Unit 1 Discussion 1	Discussion	5 points
Unit 1 Discussion 2	Discussion	5 points
Unit 1 Quiz	Quiz	15 points

Unit 2: What's in a Game?

Video games can put you in the driver's seat of a rally car or send you into a mythical mountain to overcome a dark wizard and steal a dragon's treasure. You might even have to mimic certain rhythms or dance steps to emerge victorious. But no matter what type of video game is at the top of your most-played list, it is sure to make use of four critical elements to create the unique blend of fun and challenge that keeps you coming back for more. Learn these elements and how they can be combined to form a totally addictive and engaging video game.

Learning Objectives

- Define what a game is and name the four main components of a game
- Identify the three player perspectives and describe advantages and disadvantages of each
- Give examples of how specific game mechanics can help form player immersion
- Use what you have learned so far to continue developing your own video game

Activities

Unit 2 Text Questions	Homework	10 points
Unit 2 Online Lab Questions	Homework	10 points
Unit 2 Activity 1	Homework	15 points
Unit 2 Activity 2	Homework	15 points
Unit 2 Discussion 1	Discussion	5 points
Unit 2 Discussion 2	Discussion	5 points
Unit 2 Quiz	Quiz	15 points

Unit 3: Game Pieces

In big gaming studios, the processes and tasks that go into making a video game require different skills and would be broken up among many people; a game design team can range in size from just one to hundreds of people. While you'll be doing pretty much everything yourself in this course, understanding all the roles and tasks involved will serve as a useful roadmap when designing and building your own game and considering a career in this field. It will also help you find where your strengths will shine best in the real world! Which game piece will you be?

Learning Objectives

- Analyze a game idea through the proper filters to determine whether it is a feasible idea
- Define the various roles on a game development team
- Explain the game design process, from concept to finished game
- List software commonly used in game development

Activities

Unit 3 Text Questions	Homework	10 points
Unit 3 Online Lab Questions	Homework	10 points
Unit 3 Activity 1	Homework	15 points
Unit 3 Activity 2	Homework	15 points
Unit 3 Discussion 1	Discussion	5 points
Unit 3 Discussion 2	Discussion	5 points
Unit 3 Quiz	Quiz	15 points

Unit 4: Let's Talk Shop About Game Mechanics!

Grab your tool belt and gear up to add a whole slew of brand-new gaming tools to your inventory! It's time to get serious about what your game's going to look like. What approach will you take? How often will you iterate? And what about your mechanics? There is so much to consider when designing a video game, and it all continues here in pre-production. Pretty soon, you're going to have the know-how to answer those questions and many more. So, grab your toolbox, start your engine, and get ready…get set…here we GO!

Learning Objectives

- Differentiate between player-centric and designer-centric game design
- Explain the different phases of an iterative approach to game development
- Define the details of key game mechanics such as movement, rampability, inventory, and randomness

Activities

Unit 4 Text Questions	Homework	10 points
Unit 4 Online Lab Questions	Homework	10 points
Unit 4 Activity 1	Homework	15 points
Unit 4 Activity 2	Homework	15 points
Unit 4 Discussion 1	Discussion	5 points
Unit 4 Discussion 2	Discussion	5 points
Unit 4 Quiz	Quiz	15 points

Unit 4: Let's Talk Shop About Game Mechanics! (Continued)

Midterm Exam Objectives

- Review information acquired and mastered from this course up to this point.
- Take a course exam based on material from the first four units in this course (Note: You will be able to open this exam only one time.)

Midterm Exam Activities

Midterm Discussion	Discussion	5 points
Midterm Exam	Exam	50 points

Unit 5: Developing a Game Design Document

While getting your game mechanics down pat is the most important task of pre-production, creating a blueprint of your game development process is the most important deliverable. This blueprint, better known as a Game Design Document (GDD), describes your video game from the ground up. It covers everything from the subject, style, nature, functionality, gameplay, mechanics, characters, plot, environment design, and user interface design to the narrative devices of your game. Yes, that's a whole lot of information in one document! But the great thing about the GDD is that it is flexible. The document exists as your working catch-all for your plans and hopes for your game and, being a living document, can change as you adapt your design and your ideas during the design process. Learning how to create a meaningful and effective GDD, whether working alone or as part of a team, is essential to conveying a clear image of the intended game concept and final product.

Learning Objectives

- Explain the steps a game design team moves through from idea, to concept, to game design document
- Identify the main elements in a game design document and which game design team member would be best suited to help give input into that part of the GDD
- Create your own game design document

Activities

Unit 5 Text Questions	Homework	10 points
Unit 5 Online Lab Questions	Homework	10 points
Unit 5 Activity	Homework	15 points
Unit 5 Discussion 1	Discussion	5 points
Unit 5 Discussion 2	Discussion	5 points
Unit 5 Quiz	Quiz	15 points

Unit 6: Narratology: Storytelling in Games

Now that your game mechanics have been tried and tested, it is time to write a game story around them. The age-old skill of storytelling plays a very central role in creating a video game! In fact, in games, storytelling involves much more than coming up with an interesting character and developing a plot. You have to create an entire parallel universe, from its laws of gravity all the way down to its look and feel. Let's examine the elements of a good story, and prepare you to complete these crucial sections of your GDD.

 Learning Objectives

> • Describe the progression of the Hero's Journey structure and give examples of this structure at use in video games
> • Design a game character using Jungian archetypes
> • Explain the various delivery methods for conveying story in games
> • Contrast the different uses for storyboarding in the video game design industry

Activities

Unit 6 Text Questions	Homework	10 points
Unit 6 Online Lab Questions	Homework	10 points
Unit 6 Activity 1	Homework	15 points
Unit 6 Activity 2	Homework	15 points
Unit 6 Discussion 1	Discussion	5 points
Unit 6 Discussion 2	Discussion	5 points
Unit 6 Quiz	Quiz	15 points

Unit 7: The Business of Video Game Design

You might think game design is nothing but fun and games, but the business side of gaming is as serious and cutthroat as any other industry, with its own unique ethical and legal considerations. Ignore these issues at your peril! It's certainly not much fun putting your blood, sweat, and tears into building a fabulous game, only to get into hot water having accidentally infringed upon someone else's intellectual property or being called out by the media because your game has contributed to absenteeism or other negative behaviors! You'll also have to develop special skills, such as social media marketing, to find new users and make your game go viral! #gamesusedtobefun #seriouslygaming #Adulting101

Learning Objectives

- Make justifiable decisions following an ethical decision-making process
- Outline the legal matters which relate to game development and design
- Explain the various kinds of companies and organizations which operate in the game industry space
- Decide which form of marketing and producing works best for your situation

Activities

Unit 7 Text Questions	Homework	10 points
Unit 7 Online Lab Questions	Homework	10 points
Unit 7 Activity 1	Homework	15 points
Unit 7 Activity 2	Homework	15 points
Unit 7 Discussion 1	Discussion	5 points
Unit 7 Discussion 2	Discussion	5 points
Unit 7 Quiz	Quiz	15 points

Unit 8: Let's Make a Game!

Time to roll up those sleeves and move into the development phase. Imagine you were the first person to ever create a video game, say a hunting game like the Nintendo® classic, Duck Hunt®. You would have to write computer code to mimic the laws of gravity, momentum, elasticity, and who knows what else! To make things a lot quicker (and cheaper), developers build their games in existing game engines that have a lot of tools and data already built in. You are going to learn to work with Unity® software, one of the most popular game engines, to create the basic elements of your game prototype.

Learning Objectives

- Understand how video games apply physics concepts, such as friction, drag, and collision
- Explain the evolution of computer programming languages through their generations
- Describe the basic components and advantages of object-oriented programming
- Identify the different components in a simple script
- Program your first object in Unity

Activities

Unit 8 Text Questions	Homework	10 points
Unit 8 Online Lab Questions	Homework	10 points
Unit 8 Activity 1	Homework	15 points
Unit 8 Activity 2	Homework	15 points
Unit 8 Discussion 1	Discussion	5 points
Unit 8 Discussion 2	Discussion	5 points
Unit 8 Quiz	Quiz	15 points

Unit 8: Let's Make a Game! (Continued)

Final Exam Objectives

- Review information acquired and mastered from this course up to this point.
- Take a course exam based on material from units five to eight in this course – the last four units. (Note: You will be able to open this exam only one time.)

Final Exam Activities

Class Reflection Discussion	Discussion	10 points
Final Exam	Exam	50 points

HOW YOU WILL BE GRADED

For critical thinking questions, there are no right or wrong answers. For example, a question on your thoughts on why you think people are shy is a pretty open-ended type of question. Grades will be based on the depth of personal insight you present. **Do not simply agree or disagree** with an insight question. We are looking for critical thinking and possibly a related personal experience with the question.

It is important to provide detailed answers for insight/opinion questions.

For review questions, you should be produce a more academic answer. For example, "What two categories are norms divided into?" This type of direct question requires a specific answer. Please use full sentences and proper grammar.

When submitting paragraphs, use these guidelines.

1. The first, second or last sentence contains the main idea and key words from the question or assigned topic.
2. Paragraph contains one to three explanatory sentences.
3. Paragraph contains two to four sentences about specific details related to question.
4. Details are colorful, interesting and appropriate.
5. Paragraph ends with a good closing sentence that refers to the main idea without repeating it.
6. Free of spelling and grammatical errors.

GRADE SCALE

The following grading scale will be used to determine your final letter grade.

Letter Grade	Percentage Earned
A	95%+
A-	90% - 94.9%
B+	87% - 89.9%
B	84% - 86.9%
B-	80% - 83.9%
C+	77% - 79.9%
C	74% - 76.9%
C-	70% - 73.9%
D+	67% - 69.9%
D	64% - 66.9%
D -	60% - 63.9%
F	59% and lower

SUPPORT

At NUVHS you will have access to multiple support teams. Who you contact will depend on the questions you have. Always start by contacting your teacher through the Message Center in the course. Your teacher should be able to answer your question, but if they can't, then they will direct you to another support team. If you have questions about any of the course content, your grades, or course policies, you should contact your instructor.

For questions about your enrollment, transcripts, or general school-wide policies, you can contact **NUVHS Student Services** at info@nuvhs.org or by phone at 866.366.8847. For example, if you would like to withdraw from your course, you should contact Student Services. Please note that a refund for your course can only be obtained if you drop within the first seven days of enrolling in the course.

For help with login/password issues, or other technical issues specific to the Blackboard website, you can contact the team at [National University Blackboard Learn](#). They can also be reached by phone at (888) 892-9095.

EXPECTED SCHOOL-WIDE LEARNING RESULTS (ESLRs)

Engaged Learners

- Demonstrate self-directed learning skills such as time management, and personal responsibility through the completion of course requirements
- Develop an understanding of their own preferred learning styles to enhance their overall academic potential
- Incorporate effective and relevant internet and multimedia resources in their learning process to broaden their knowledge base

Critical Thinkers

- Effectively analyze and articulate sound opinions on a variety of complex concepts
- Illustrate a variety of problem-solving strategies that strengthen college preparation and workforce readiness
- Formulate a framework for applying a variety of technology and internet-based research to enhance information literacy and collaborative thinking

Effective Communicators

- Demonstrate awareness and sensitivity to tone and voice in multiple forms of communication
- Express concepts and ideas in a variety of forms
- Enhance communication skills through the use of media rich or other technology resources

Global Citizens

- Appreciate the value of diversity
- Understand the range of local and international issues facing today's global community
- Demonstrate awareness of the importance of cultural sensitivity and social responsibility in the 21st century