

WANIC @ DigiPen Game Design Year One

Class Meeting Times: Monday - Friday

7:15 a.m. - 9:45 a.m.

12:30 p.m. - 3:00 p.m.

Course high school credits: CTE (2.0), Third Year Math (1.0)

Overview:

What makes games fun, functional, or engaging? How can we design systems to allow users the most enjoyment and the greatest payoff? How do we provide the best value for the player's investment of time and energy? This program is intended to complement the current Video Game Programming track. It is for creative-minded students who are deeply curious to understand the behavior and psychology behind games and are eager to learn the skills and methods used for designing fun and engaging interactive experiences.

Students study and apply fundamental engagement theory content and other topics, including computer science, cognitive psychology, economics, communications, and user experience. As a project-based program, students spend much time prototyping, testing, and rapidly developing game ideas.

Program Vision:

To equip students with a robust understanding of game design across analog and digital mediums, focusing on the user experience and rooted in the study of player psychology.

Program Outcomes:

By the end of the course, students will be able to:

1. Analyze and articulate the principles of game design and how they contribute to user experience.
2. Understand different game design disciplines, including systems, level, user experience, narrative, and technical design.
3. Understand and apply knowledge of player psychology and essential user experience design techniques to enhance game mechanics and engagement.
4. Design games across a variety of genres and mediums.

5. Ability to incorporate mathematical principles into game design to enhance fairness, balance, and engagement.
6. Proficiency in using probability to predict and analyze game outcomes and player choices.
7. Capability to design and refine in-game systems based on statistical analysis and simulations.
8. Prototype, playtest, and refine game designs based on iterative feedback.
9. Understand and apply the production processes for both digital and analog games.
10. Communicate and collaborate effectively within a game development team environment.

Competency-Based Approach:

DigiPen uses a competency-based approach for its educational experience, and these course policies reflect that philosophy. In a competency-based system, your progress is measured by your ability to demonstrate mastery of key skills and concepts rather than by time spent in the classroom. This approach ensures you receive a personalized learning experience, allowing you to move at your own pace while meeting rigorous standards. The following policies are designed to support your journey towards mastering these competencies.

1. To earn a passing grade, students must demonstrate competency by completing ALL assignments.
2. There is no homework component; all work is done during regular class time, allowing instructors to observe and evaluate mastery of knowledge and skills. Additional in-class work time is built into the schedule to accommodate absences or a slower work pace. Please note that excessive absences will likely affect a student's ability to meet the competencies.
3. Assignments are assessed as "Complete" if competencies are met and "Incomplete" if they are not. To achieve a "Complete," assignments can be resubmitted without penalty as many times as needed within the semester. All resubmissions must be uploaded to Canvas before the semester ends.
4. Students who complete all assignments will receive at least a "B" letter grade on their high school transcript. Students not completing the required competencies will receive an "N" (No credit) letter grade. To receive an "A," students must be rated as a "Highly Sought Out Candidate" in a minimum of 5 of the 7 areas evaluated on the DigiPen

[WANIC Workplace Expectation Rubric](#), as evaluated by both the student and the instructor through a self-evaluated performance review at the end of each quarter.

The breakdown of competencies students must acquire is listed at the end of this syllabus.

Academic Integrity and Coursework Policy:

To maintain high academic integrity and a productive learning environment, all students must adhere to the following guidelines:

1. **Original Work Requirement:** All work must be original. Plagiarism and the use of others' work are prohibited. This includes images, music, code, or any creative work. Students must ensure their work does not include elements recognizable as belonging to existing works, such as characters, logos, or styles from popular media.
2. **Generative AI Tools:** The use of generative AI tools is prohibited unless explicitly permitted by the instructor.
3. **In-Class Completion of Assignments:** All assignments must be completed during class time. Work done outside designated class hours will not be accepted for credit.

Violations of these policies will result in the work not being accepted for credit, and serious violations may lead to removal from the course.

Absences:

Parents/guardians must email WANIC (wanic@lwsd.org) and DigiPen (wanic@digipen.edu) if a student will be absent or late. Failure to notify will result in unexcused absences. Students are responsible for coordinating with instructors to make up missed class time.

Food & Drink:

No food is allowed in the classrooms. Drinks must be in sealed containers.

Technology Use Policy:

Personal devices, including phones, may be used only for educational purposes during class. Non-educational use is prohibited to ensure focus. Misuse of any personal technology in the classroom may result in temporarily confiscating the device or other appropriate actions.

DigiPen College Transfer Credit:

This course offers the opportunity to earn college transfer credit, meaning that you may be eligible to transfer credits to a college or university upon successful completion. Students have the option to pursue college transfer credit for the following DigiPen courses:

- **DES 100 Introduction to Design Process:** This course introduces the design process as it applies to interactive experiences. Topics include exploration, research, proposals, prototypes, iteration, and polishing of an interactive experience.
- **DES 115 Introduction to Game Design:** This course introduces game design theory and the process of designing games. Topics may include design principles, writing rules, playtesting, game state, randomness, hidden information, and game balance.
- **GAM 120 Introduction to Digital Production:** This course introduces the workflows, methodologies, and best practices for working within a modern digital game development environment. Topics may include game editors, components, basic scripting, input processing, importing art and audio, level creation, and source control.

For college transfer credit courses, letter grades will be issued, with a “C” equivalent to “Complete.” To receive an "A" for the course, students must be rated "Highly Sought Out Candidate" on the DigiPen WANIC Workplace Expectation rubric.

To earn college transfer credit for DigiPen courses, students must:

- Complete all required assignments and projects for the course at a higher standard.
- Complete all required exams (if any).

Students must "declare intent" to pursue college transfer credit. They will be evaluated using a separate rubric and issued a separate transcript by DigiPen. Full-year attendance is required.

Please note:

1. DigiPen College Transfer Credit is separate from the WANIC grade recorded on a student's high school transcript.
2. Students interested in advanced study must submit a completed declaration of intent form with a parental/guardian signature.
3. Withdrawal from the advanced study must be formalized through a withdrawal form, which must also have a parental/guardian signature.
4. Parents/guardians are expected to monitor student progress for advanced study, which will be posted on Canvas.

5. Each individual institution determines whether these credits are accepted, so it's important to check with your chosen college or university for their specific policies and to confirm whether the credit will be accepted.

Course Competencies & Grades:

This syllabus lists the minimum competencies that must ALL be demonstrated before the end of each semester. Students who complete all competencies will receive at least a "B" letter grade on their high school transcript. Students who do not complete the required competencies will receive an "N" letter grade on their high school transcript. To receive an "A" students must also adhere to the [workplace expectations](#).

Assignments:

You are responsible for completing and submitting all required work. Information about all assignments will be posted in this Canvas course. The work is self-paced and is expected to be done during your regular class time and anything you do not finish during the current class period can be resumed during the following one. There will however be due dates posted on the assignments, these due dates are there more as guidelines to help a student tell if they are falling behind.

Each assignment is assessed based on your ability to fulfill general requirements that relate to that assignment. These requirements are often used in multiple assignments, and your overall grade is based on your ability to meet the expectations for these competencies.

Each assignment is graded as “complete” if competencies are met, and “incomplete” if competencies are not met or the assignment is not submitted.

Late Assignments:

As all work in this class is self-paced, assignments will not typically have due dates. Your instructor will suggest when you should have things done to keep pace with the minimum requirements for that quarter, but there is no academic penalty for submitting assignments past that suggested date. Keep in mind that once the grading period is over, grades cannot typically be changed.

Resubmitted Assignments:

Any standard assignment that has been previously submitted can be resubmitted without penalty after it has been submitted. Exceptions may be made for content that falls outside the scope of the minimum class requirements (such as college material).

Leadership:

By the end of the first semester, students may work on group projects involving other game designers in the classroom. Throughout the second semester, game designers may collaborate with sound designers, programmers, and artists on an interdisciplinary group project. This presents an opportunity for both leadership and teamwork within a student's own discipline and across different tracks.

Independent Study Project:

Upon completing the required competencies, students may have time to work on an "independent study" project that is non-graded, which encourages learning for the sake of learning, not grades. Students choose the type of project they would like to try, and the instructor then helps students to develop an individualized learning plan to achieve their project outcome.

Course Competencies:

Below are the required concepts and skills ("grammar") that students must demonstrate by the end of each quarter. Students who achieve competency early can move on to other essential concepts or undertake independent projects during the "studio" portion of the course. Assessments will include:

- **Project-based Assignments:** Students will showcase their understanding by designing and iterating on game projects.
- **Written Reflections:** Students will write reflections on readings, lectures, and personal experiences to articulate their understanding of concepts.
- **Peer Reviews:** Students will participate in giving and receiving feedback on game projects.
- **Portfolio Submission:** A culmination of their work throughout the year.
- **Capstone Project:** A final project where students design a game from concept to release candidate.

Below are the required concepts and skills (or "grammar") that students are expected to demonstrate understanding and competency with by the end of each semester.

Unit 1 – Analog Design

- Anatomy of a game

- Understand the differences between and how to utilize game types, genres, and themes
- Anatomy of a game - Student Understand game and utilize game pillars.
- Anatomy of a game - Student understands core elements of a game including Systems and Mechanics
- Technical
 - Students can create a well written rulebook
 - Can create a game design document.
 - Be able to use Excel for simple mathematical functions
- Player Motivation
 - Understand Basic Psychological Needs and how they are satisfied in games.
 - Understand how to satisfy Autonomy
 - Understand how to satisfy Competence/Mastery
- Game Components
 - Resources – Students understand what a resource is and how to manipulate resources to drive Agency and Rewards.
 - Create meaningful opportunities for Agency to satisfy need for Autonomy
 - Create systemic Rewards using resources that satisfy needs for Competence
 - Create non-systemic Rewards using feedback that satisfy needs for Competence
 - Understand the role of and how to design Hidden Information in games.
 - Randomness
 - Randomness - Understanding randomness and chance
 - Calculating simple probabilities: coin flips, dice rolls, and card draws
 - Incorporating randomness in-game mechanics to ensure fairness and replicability
 - Understand and read random range of variable distribution
 - Can calculate the possibility space of a given scenario

Unit 2 – Narrative

- Anatomy of a game
 - Understand different Scales in game narrative.
 - Understand what Arcs are in narratives and various Arcs.
 - Can construct Arcs at various Scales.
 - Can nest Arcs at various Scales.
- Player Motivation
 - Understand how to satisfy Relatedness through Storytelling.
 - Understand how to satisfy Autonomy through Storytelling.
- Components

- Understand how to create and reward narrative decisions.
- Understand common structures of interactive storytelling.
- Understand how to construct narrative rewards.
- Understand how narrative design to game systems.
- Understand how characterization applies both to textual elements and mechanics.
- Understand roles of characters within a story.

Unit 3 – Digital Development

- Technical
 - Understand basic syntax including conditionals, inputs, variables, and invoking methods.
 - Can create kinematic player controllers that feel good to control.
 - Can implement assets into game engines
 - Can implement menus in game engines.
 - Can create, display, and modify resources in game engines.
 - Understand polymorphism and inter-script communication
 - Create novel behaviors utilizing documentation and forms.
 - Utilize functions to reuse and organize code
 - Students can debug programs independently.
 - Habitually comments code.
 - Students can adjust variables to create new or tune existing game content
- Project Management
 - Understand the expectations of each step of the production process
 - Understand how to break down goals into smaller actionable tasks
 - Be able to use Project Management software such as Trello
 - Understand the importance of an MVP in each development phase

Unit 4 – UX

- Anatomy of a Game
 - Understand Affordances, Signifiers, and Feedback to create compelling mechanics
 - Understand how to document ASF
- Player Motivation
 - Understand player motivation and engagement theories
 - Understand Player archetypes and user personas
- Art
 - Be able to apply Color Theory and themes intentionally

- Understand the basics of shape languages
- Understand the basics of Value and Contrast to create visual readability
- Can create basic sprite sheet animations
- Can create readable characters and environments.
- Audio
 - Familiarity with common musical elements (simplified).
 - Knowledge of how to source basic sound effects.
 - Understanding the importance of placeholder sounds for testing.
- Technical
 - Can tune game feel using Min-Max and Binary Search approaches
 - Can design readable user interface including HUD and menus.

Unit 5 – Level

- Anatomy of a Game
 - Understand how to create and document a Level Arc
 - Understand how scales apply to level design.
 - Be able to design Gameplay Beats and level sequences based on game mechanics
 - Understand the constitution of a challenge and obstacles
- Technical
 - Understanding how to document levels.
- Project Management
 - Be able to create a production schedule and iterate during the development process.
 - Be able to produce an investor pitch
- Player Motivation
 - Be able to design levels around goalsetting
 - Understand how to satisfy Competence through skill growth.
- Components
 - Create Expansions and Evolutions in the CSST Framework

Unit 6 – Group Project

- Project Management
 - Understand different roles in Game Development
 - Be able to collaborate with other classmates to create a team project

Unit 7 – Statistics

- Technical
 - Understand what statistics are and types of data.

- Describe data based on measures of center and variability
- Understand and remove outliers from datasets
- Understand how to communicate data with graphs.
- Be able to calculate the possibility space of a given scenario
- Analyzing Regression & Correlation
- Draw conclusions from datasets to impact game design

Unit 8 – Capstone

- Entrepreneurship
 - Understanding the concepts of user retention rates, DAU, and conversion rate
 - Understand different monetization models and their pros and cons
 - Understand the difference between different publishing platforms
- Career Development
 - Be able to create a project tailored towards growth goals.

Playtesting

- Students iterate based on peer feedback
- Students generate research questions and operational definitions to guide playtesting
- Students clearly answer research questions in playtest report
- Students generate recommendations based on playtest data
- Students create cohesive playtest procedures
- Students create comprehensive playtest scripts
- Students are respectful to playtest participants and allow participants to make mistakes without interruption

Additional Policies and Course Requirements

WANIC Expectations & Policies – Student Handbook

Students are expected to review and follow the school rules, procedures, and processes outlined in the [WANIC Student Handbook](#). WANIC Skill Center follows Lake Washington School District policies. Rules will not be reprinted in the syllabi.

Cheating/Plagiarism

Students are expected to do their own work. Cheating and Plagiarism (presenting another's work as one's own) will not be tolerated.

Electronic Equipment

Personal electronic devices, including but not limited to, cell phones, Nintendo Switches, mp3 players, etc., can be a disruption to the educational process and are not allowed out during class normally. Check with the teacher during private work time if you wish to listen to your own music, but please pay full attention during instruction times.