**GAM 100 Project Introduction**

**Fall-2019 DigiPen Institute of Technology**

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| **Prerequisites** | None | | | | | |
| **Schedule:**  **Class Room:** | **Class A** | | | **Class B** | | |
| Wednesday  10:00am -12:10pm  TESLA | Wednesday  1:00pm – 3:10pm  PASCAL | | Friday  10:00am - 12:10pm  TESLA | | Friday  1:00pm – 3:10pm  PASCAL |
| **Class Web Page:** | Join GameCentralSG page in Moodle | | | | | |
| **Instructor:**  **Contact:** | **Andy Logam Tan**  [Andy.logam@digipen.edu](mailto:Andy.logam@digipen.edu) | | **Yannick Gerber**  [Yannick.gerber@digipen.edu](mailto:Yannick.gerber@digipen.edu) | | **Raymond Teo**  [rayteoactive@hotmail.com](mailto:rayteoactive@hotmail.com) | |
| **Office hour:** | Strictly by appointment | | | | | |

**Description**

This class presents an overview of the way the game development industry works, and a history of game development. It will expose students to the positions and job responsibilities that each member of a game development team has, along with the industry requirements for concept pitches, design documents and schedules. It will also introduce sprite animation, object motion, and input processing, which students will use in the creation of a game of their own design.

**Course Objectives and Learning Outcomes**

In this class, students will be introduced to game development and architecture, with outcomes in the following areas:

* **Development**: Demonstrating basic knowledge of game architecture, the elements of game code, and game flow, as well as source control and code organization.
* **Production**: Examining the game production process, including pitches, concepts, design documents, scheduling, milestones, testing, and team roles.
* **Analysis**: Analyzing games and exposure to the history of video games, genres, and platforms.

**Academic Integrity Policy**

Cheating, or academic dishonesty in any form, will not be tolerated in this course. Penalties for cheating may include receiving a zero on an assignment, or a failing grade in the course, or even expulsion from DigiPen. For further details, please consult the *DigiPen Academic Integrity Policy*.

**External Preparation**

It is expected that the students in this class spend **8 hours on average per week for outside classroom activities** through the trimester, including, but not limited to, homework, reading assignments, project implementation, group discussions, preparation of examinations, etc.

**Disabled Student Services**

Students who have special needs or medical conditions and require formal accommodations in order to fully participate or effectively demonstrate learning in this class should **contact the Student Life & Advising Office** [studentlife.sg@digipen.edu](mailto:studentlife.sg@digipen.edu) at the beginning of each semester. A Student Life & Advising Officer will meet with the student privately to discuss how the accommodations will be implemented.

**Mechanisms and Procedures**

**Attendance**

You are expected to attend class and attendance will be tracked. **Every unexcused absence past the first will result in a -5% penalty to your final grade in the class**. To gain an excused absence, you MUST contact your instructor. You must sign the attendance sheet in order be counted as present. You will also be considered absent if you are more than 15 minutes late to class.

**Class Behavior**

In class, the following rules apply:

1) No electronics usage during class unless directed to do so. This includes laptops, school computers, PDAs, cell phones, etc.

2) No private discussions or talking during lecture.

3) No eating in class.

4) No sleeping in class.

**Professionalism**

All students in this class are expected to behave in a professional manner in their interactions with all students, faculty, and staff. This includes personal conduct in class, verbal discussions, and emails. Rude or otherwise unprofessional conduct will result in a penalty of up to 10% on the student's final grade in the class, or more in extreme cases or in cases involving more than a single incident, at the sole discretion of the instructor. Exceptionally professional conduct, above and beyond what is normally expected, can result in a bonus of up to 5%, also at the sole discretion of the instructor. More than any other role in the game industry, a designer's reputation for professional conduct is critical to their career.

**No camera recordings or shots (except by instructor’s approval).**

**Grading Policy**

The grades for this class are based on the weighted average of the assignments below (in addition to any modifiers for attendance, professionalism, etc.

| **Assignment** | **Weight** |
| --- | --- |
| Previous GAM100 Games Play Report | 5 |
| GAM100 Snake | 20 |
| Original GAM100 Game pitch | 5 |
| Original GAM100 Game Presentation | 10 |
| Original GAM100 Game Prototype | 5 |
| Original GAM100 Playtest Report | 5 |
| Original GAM100 Game Project | 50 |
| Total | 100 |

Altogether combined they result in a **pass grade** (if score is 70% or higher) or **non-pass grade** (if score is less than 70%).

**Milestone Report**

Every student in the class must submit an individual report describing their contribution to the team project and presentation. This means coding, debugging, optimizing, designing, testing, research, organizing meetings, helping other teams, etc. List everything, with an indication about how much time/effort you spent on each item. Include the number of hours on each item, even if it is just an estimate. Also include any notes about how the project went in general, team problems, praise for others who did something exceptional, or anything else.

The milestone report will be used to determine a contribution modifier for exceptional or insufficient participation in the team project. The expected range of contribution will not modify the team project grade.

**Presentations**

Teams are required to give two presentations on their game idea and project. Missing a scheduled presentation will result in an automatic zero for the presentation without prior written approval of the instructor. It is the responsibility of the student to notify their instructor, in a timely manner, in the event of an illness or emergency that prevents that individual from participating in a presentation.

**Programming in C**

The individual assignments and the team project will be completed in the C programming language using Visual Studio 2015, available on lab computers and available for free online.

The class will rely on knowledge and skills taught in CS120. Some information may be repeated between the two classes. Grading requirements, style and submission standards may vary between the classes.

The games created in this class will make use of projects and libraries provided by the instructor. They will run entirely within a console application, using text input and output.

**Version Control**

The course will cover development of software using version control techniques, utilizing the Subversion software and client. Students will utilize their individual DigiPen Subversion account, and teams will create a shared DigiPen Subversion account. Other version control systems and hosts may not be used for this course.

See https://svn.digipen.edu/ for details. Contact the IT department to get a repository for your project. You must use DigiPen’s source control, not an external server.

**Submission Guidelines**

All work must be submitted according to submission guidelines that will be posted on the class webpage. Any work that does not conform to the submission guidelines may be rejected; resulting in a 0% grade. At the instructor’s discretion work may be resubmitted, incurring a late penalty as outlined below.

**Late Policy**

All work must be submitted before the posted deadline. Any late submissions will receive one of the following penalties, unless otherwise specified:

* 25% penalty for up to 1 week late
* 0% grade for any assignment submitted after 1 week

**Game Competitions**

DigiPen games can only be submitted to competitions by the DigiPen faculty—you cannot enter them yourself. If you think you have a game good enough to be entered into competitions (or that is the goal you are aiming for), make sure you inform your instructors as soon as possible, as they can give you advice directly targeted at making your game better for competitions. As a general rule, any game that doesn’t get a final score of 90% or higher will not be submitted to a competition (unless it is later improved). To have a real chance of winning a competition, you’ll usually need a 95% or more.

**Changing Teams**

One of the key practices in GAM 100 is to realize, learn and practice team work therefore changing teams in GAM 100 is not allowed. Students need to work with each other to solve any team dynamics issues. Please contact your instructors if you need help in solving those issues. Solo projects are not allowed.

**Game Content**

DigiPen games must be able to get an EC, E, or E10+ ESRB rating. Anything that would require a T (13+) rating requires permission from an Assistant Dean. M (17+) and AO (18+) ratings are not allowed under any circumstances.

**Violence**: only cartoon / fantasy violence is allowed—no gore, body parts, realistic blood, etc. Social Issues: any references to real-world politics or alcohol/tobacco/drugs require approval. Sexual Content: nudity, sex, strongly suggestive sexual themes or references are not allowed. Language: profanity and disparaging / stereotyping of race / gender / culture / disability are not allowed.

Remember that all art and audio must either be created by a current DigiPen student/instructor or be from the DigiPen approved art and audio libraries. You cannot use your friends, family members, public domain material, or other students not in your class (unless you talk to your instructor first). You can never use outside artists / musicians at all.

**Instructor Questions and Meetings**

You will undoubtedly have many questions for the instructors and will often wish to have individual meetings as well. In addition to asking questions through email, if you talk with an instructor in person (whether in class or otherwise) and there is some follow-up action the instructor has agreed to perform, you must email that instructor with a reminder. If you don’t send a follow-up email, whatever you talked about will be forgotten and not followed up on (regardless of what the instructor said at the time). Making follow-up emails a habit is excellent practice for the real-world of working with busy bosses, producers, executives, etc.

**Last Day to Withdraw**

In order to withdraw from a course it is not sufficient simply to stop attending class or to inform the instructor. In accordance with policy, contact your advisor or the Registrar to begin the withdrawal process. The last day for withdrawal from this course is cited in the official catalog.

**Last Day to Drop Class without Academic Penalty**: End of Week 2.

**Last Day to Withdraw:** End of Week 8.

**Class Schedule** (subject to change)

|  |  |
| --- | --- |
| **Week** | **Lecture** |
| 1 | **[Lecture]** Course Introduction | The path through DigiPen  **[Lab Work]** (group): Previous years game project study |
| 2 | **[Lecture]** Production: Game production 101  **[Lecture]** Production: The lecturers and their background |
| 3 | **[Lecture]** Game Design: How to create a Design  **[Lecture]** Code: Visual Studio 101  **[Lecture]** Code: Source Control 101 |
| 4 | **[Lecture]** Code: Game Engine Architecture 101  **[Lecture]** Code: Debugging with Visual Studio 101  **[Lecture]** Code: Introduction to Finite State Machines  **[Lab Work]** Project 1 (individual): NIM Game  **[Lab Work]** Project 2 (group): Snake Game |
| 5 | **[Lecture]** Code: Rendering loop | Double buffering  **[Lecture]** Code: 1D Arrays | Collision grid & spatial partitioning  **[Lab Work]** Project 2 (group): Snake Game |
| 6 | **[Lecture]** Game Design: Presentation Skills  **[Lab Work]** Project 3 (group): Original Game |
| 7 | **Study break** |
| 8 | **[Presentation]** Project 3 (group): Original Game – Pitch |
| 9 | **[Lab Work]** Project 3 (group): Original Game |
| 10 | **[Presentation]** Project 3 (group): Original Game – Prototype presentation to Lecturers  **[Lab Work]** Project 3 (group): Original Game |
| 11 | **[Lecture]** Game Design: Conducting a Playtest  **[Lab Work]** Project 3 (group): Original Game |
| 12 | **[Lecture]** Code: Advanced Debugging with Visual Studio  **[Lab Work]** Playtest  **[Lab Work]** Project 3 (group): Original Game |
| 13 | **[Lab Work]** Project 3 (group): Original Game |
| 14 | **[Presentation]** Project 3 (group): Original Game – Final Game Presentation  **Project Submission** |
| 15 | **No class** |