

08 - Midterm Study Guide

CS 3160 - Game Programming
Max Gilson

Midterm

- True/False
 - 2 questions
 - 1.25 points each
 - 2.50 points total (2.5% of final class grade)
- Multiple choice
 - 2 questions
 - 1.25 points each
 - 2.50 points total (2.5% of final class grade)
- Short answer
 - 2 questions
 - 3.75 points each
 - 7.50 points total (7.5% of final class grade)
- Coding (Must be graded manually (0 points initially))
 - 2 question
 - 6.25 points each
 - 12.5 points total (12.5% of final class grade)

02 - Introduction to Unity

- Game Engines
- Unity Editor Interface
- GameObjects, Components, and Transforms
- Primitives (Cubes, spheres, etc.)
- Materials
- GameObject Parenting
- Prefabs
- Creating Custom Scripts and Referencing Scripts
- Player Input and Rigidbodies
- Checking for Triggers
- Creating and Destroying GameObjects

03 - Game Assets, Scripts, and Debugging

- Asset Types
- Models vs Meshes
 - Poly Count and LODs
- Animations
- Textures vs Sprites
 - Texture Maps
 - Shaders
- Audio Files
- Levels and Scenes
- Libraries
- Greyboxing
- Config Files, Moddable Scripts, Scriptable Objects
- Debugging, The Debugger, and User Bugs
- Version Control

04 - The Game Loop and Game Ticks

- Frame Rate
- Variable Update Loop
 - VSync
- Fixed Update Loop
 - Physics Update
- Network Loop
- Unity's Game Loop

05 - Physics and Collision Systems

- Uses For Physics
- Rigidbodies vs Softbodies
- Broad Phase vs Narrow Phase
- Collision Response
- Ragdolls
- Raycasts and Overlaps
- Interpolation vs Extrapolation
- Continuous Collision Detection

06 - Menus and User Interface

- Menus and UI
- Types of UI
- UI Elements and Menus
- UI in Unity
- TBD

07 - AI and NPCs

- TBD