

Course Title (English)	Introduction to Game Programming
Course Title (Chinese)	遊戲程式設計
Grade (Unit)	Senior undergraduate / graduated students (3 units)
<p>1. Course Description</p> <p>Game development is a hot topic in the modern entertainment industry. In this course, we will introduce a popular game engine, Unity3D. In the first half of the course, we will present various components in Unity3D that are fundamental for the beginner of game development. The remaining lectures will cover advanced topics necessary for producing games with large-scale, high quality, and rich interactivity. Every student is requested to participate in a team-project with the capacity of up to 4 persons. Each team will present a complete and original game at the end of the semester. Those outstanding works will be recommended to join a domestic game competition.</p> <p>2. Prerequisite Course</p> <ul style="list-style-type: none"> ● C/C++ Programming <p>3. Text Books</p> <ul style="list-style-type: none"> ● 人氣遊戲這樣做！Unity3D 遊戲設計實例講堂 第二版 <p>4. References</p> <ul style="list-style-type: none"> ● Game Programming Gems Series (1-8) <p>5. Teaching Method</p> <ul style="list-style-type: none"> ● Self-study the online video lectures at home. ● Doing practices and quizzes in the course ● Joining the discussion session after the quiz. <p>6. Outlines</p> <ul style="list-style-type: none"> ● Unity3D 引擎基本介紹 ● 用 C# 撰寫 Unity script ● 控制物理引擎與物件 transformation ● 創建地圖(地形、植被、風、水、天空)與使用粒子特效 ● 音效設計與 Unity GUI ● 動畫系統、動畫曲線、key frame、finite state machine、blend tree 及匯入動畫 ● Unity2D 引擎介紹 ● 建立多人網路連線 ● 如何提升遊戲效能 ● 使用 Navigation <p>7. Evaluation</p> <ul style="list-style-type: none"> ● Assignments: 30% ● Quizzes: 20% ● Final Project: 50% 	