國立東華大學

課　　綱　Course Outline
資訊工程學系國際組

中文課程名稱 Course Name in Chinese	虛擬實境				
英文課程名稱 Course Name in English	Virtual Reality				
科目代碼 Course Code	CSIEM0580	班 別 Degree	碩士班 Master's		
修別 Type	選修 Elective	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					

課程目標 Course Objectives
1. Introduce the VR input/output/hardware 2. Develop and construct VR contents 3. Discuss VR applications in a variety of fields 4. Learn OpenGL programmin

系教育目標 Dept.'s Education Objectives	
1	探究學科知識，善用專業技能 Explore academic knowledge, utilize professional skills.
2	訓練評析思考，創新解決問題 Exercise analytical thinking, enhance creative problem solving skills.
3	學習團隊分工，強化溝通表達 Participate in teamwork, strengthen communication skills.

	系專業能力 Basic Learning Outcomes	課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.'s Education Objectives
A	統合資工知識技術之能力 Ability to integrate knowledge and technologies of computer science and information engineering.	●
B	設計技術理論驗證實驗之能力 Ability to design and conduct science experiments and to validate hypotheses.	○
C	資訊軟硬體設計開發之能力 Ability to design and develop computer software and hardware.	●

D	團隊專案開發之能力 Ability to design and develop team projects.	●
E	批判性思考與創新研發之能力 Ability of analytical thinking, creative research planning, and innovative development.	○

圖示說明Illustration ：● 高度相關 Highly correlated ○中度相關 Moderately correlated

課程大綱
Course Outline

1. VR Overview
2. VR Input
3. VR Output
4. VR Hardware
5. VR Application
6. Open GL Overview
7. Open GL 3D Graphics and Transformation
8. VRML & X3D
9. ARToolKit
10. 3D Display Technology
11. Construction of 3D contents
12. Construction of Panorama & Object Movie

資源需求評估（師資專長之聘任、儀器設備的配合···等）
Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

1. 3D立體眼鏡(Stereo Glasses)。
2. 發展軟體- World Tool Kit。
3. 單槍投影機。

課程要求和教學方式之建議
Course Requirements and Suggested Teaching Methods

要求學生實做一套簡單的互動式VR系統。

其他
Miscellaneous