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	高互動多媒體設計之研究				
英文課程名稱 Course Name in English	Highly interactive multimedia design				
科目代碼 Course Code	CSIEM0640	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

Foster Students’ critical and creative thinking through presentation, discussion and brainstorming for finding some strengths, weakness and potentials of the HCI journal papers. Students will be grouped as some collaboration for preparing paper presentation and furthermore will be asked to think how to integrate advanced technologies for improving HCI design of the paper they presented in the mid-term and final evaluations. Therefore, students will learn how to solve problems together and cultivate the HCI research sense.

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

Part I Theory for Interaction
Chapter 1 Social Constructivism (1)
1.1 Intra-action versus interaction versus outeraction
1.2 The interplay of Intra-act, interaction and outeraction
Chapter 1 Social Constructivism (2)
1.3 Benefit of Intra-action for web-based learning
1.4 Group Discussion for suggestions and conclusion
Chapter 2 Applications using Intra-action (1)
2.1What is Intra-action: Annotations and Learning Journal
2.2 Encoding and Facilitating Short-term Memory
Chapter 2 Applications using Intra-action (2)
2.3 Intra-Psychology before Inter-Psychology
2.4 Group Discussion for suggestions and conclusion
Part II Distant Field Interaction for Collaboration
Chapter 3 Annotation for Collaboration
3.1 Multimedia annotation with Computers and Internet
3.2 Annotations Sharing and Teamwork
3.3 Study on Annotation versus Homework Reviewing
3.4 Multimedia Annotation for Learning English, Computer and Mathematic
3.5 Annotation in E-readers for Learning English with Parental Involvement
3.6 Group Discussion for suggestions and conclusion
Mid-term Presentation(Summary & Reflection& Proposal)
Mid-term Presentation(Summary & Reflection& Proposal)
Chapter 4 Whiteboard for collaboration
4.1 Multimedia Whiteboard with computers and Internet
4.2 Whiteboard Sharing and Teamwork
4.3 Multimedia Whiteboard for Creativity in Mathematic Problem Solving
4.4 Peer learning behaviors using multiple representations in virtual reality with Multimedia Whiteboard on geometry problem solving
4.5 Group Discussion for suggestions and conclusion
Part III Near Field Interaction for Collaboration
Chapter 5 Handheld Device for Collaboration and Practice
5.1 Characteristics of Handheld Device for Learning
5.2 Familiar Contexts with Handheld Device for Practice
5.3 Bridging formal and informal learning with Handheld device
5.4 Group Discussion for suggestions and conclusion
Chapter 6 Multi-touch Device for Collaboration and Practice
6.1 Characteristics of Multi-touch Device for Learning
6.2 Awareness and Presence for Collaboration
6.3 Applications of Multi-touch Device for Collaboration
Final Presentation(Summary & Reflection & Proposal)
Final Presentation(Summary & Reflection& Proposal)

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.)
Bring own laptop computer.
課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods
Teaching methods: Paper presentation and discussion with Google classroom Assessment methods: Presentation, Report, Attendance and Q&A
其他 Miscellaneous