

Course Description**CAP2047 | User Interface Design | 4.00 credits**

This course is for students majoring in game development. Gaining a foundational understanding of programming and the use of Adobe Photoshop or Illustrator is suggested prior to enrolling in this course. It covers designing and developing interfaces for games. Students will learn how to use different input/output hardware devices, how to create and use existing interfaces for different types of hardware, and the development process for different types of gaming systems. Prerequisite: DIG1710 and DIG1729C; Pre/Corequisite: COP2335.

Course Competencies:

Competency 1: The student will demonstrate an understanding of designing interfaces for games by:

1. Analyzing existing games and applications for interface usability and intuitiveness
2. Comparing the requirements and limitations of games and application interfaces
3. Comparing the requirements and limitations of PC games and console game interfaces

Competency 2: The student will demonstrate mastery of interface development by:

1. Using existing libraries to create new interfaces
2. Creating reusable libraries for new interfaces
3. Creating new interfaces for existing applications
4. Creating new interfaces for PC and console games

Competency 3: The student will demonstrate knowledge of input interface hardware programming by:

1. Analyzing existing input devices concerning usability for different game genres
2. Analyzing the restriction created by using different hardware for input such as, but not limited to mouses, trackballs, joysticks, and gamepads
3. Writing small games that use different input interfaces such as mice, trackballs, joysticks, and gamepads

Competency 4: The student will demonstrate knowledge of output interface hardware programming by:

1. Analyzing existing output devices concerning usability for different game genres
2. Analyzing the restrictions created by using different hardware for output such as, but not limited to, touch screens, 3D glasses, sound, and motion simulation devices
3. Writing small games that use different output interfaces such as touch screens, 3D glasses, sound, and motion simulation devices

Competency 5: The student will demonstrate knowledge of game console programming and development by:

1. Analyzing the programming and interface limitations of the console
2. Analyzing different libraries and development tools for different game consoles
3. Writing code that takes advantage of the console hardware to improve performance

Competency 6: The student will demonstrate knowledge of hardware programming libraries by:

1. Using existing programming libraries to communicate with hardware
2. Creating new reusable programming libraries and classes for handling hardware input and output

Competency 7: The student will demonstrate an understanding of the future of interfaces by:

1. Researching past interface hardware
2. Researching the failures of past computer input/output hardware

Competency 8: The student will demonstrate knowledge of the history of computer interfaces by:

1. Researching current developments in interface hardware
2. Researching the future of interfaces.
3. Researching the future of game consoles

Learning Outcomes:

- Formulate strategies to locate, evaluate, and apply information
- Use computer and emerging technologies effectively