Course Description
IN 148. 3D Virtual Environments. 3 hours credit. Prerequisite: IN 162 or IN 166 or IN 174 or IN 183 with a C or better. This course will enable the student to create basic content and interactive environments inside Second Life (a multi-user virtual environment) and OpenSim (the stand-alone server technology of Second Life). The student will learn a variety of skills that can be used to create architecture, vehicles, clothing, accessories, sound, animations, and textures. The student will learn the basics of programs/scripts for personal, educational, and commercial use.

Required Materials

Portable storage device – 4GB minimum

Earbuds/headphones

*For complete material(s) information, refer to: https://bookstore.butlercc.edu*

Butler-assessed Outcomes
The intention is for the student to be able to
2. Create an interactive virtual world using OpenSim.

Learning Outcomes
1. Build 3D virtual architecture.
2. Create custom avatars and build vehicles/transportation inside a virtual world.
3. Apply scripting in a virtual environment.
4. Prepare virtual content for personal use, professional and commercial use, and possible commercial sale.
5. Build a true virtual interactive environment.

Learning PACT Skills that will be developed and documented in this course
Through involvement in this course, the student will develop ability in the following PACT skill area(s):

Technology Skills
- Discipline-specific technology - Through the creation of virtual content, the student will demonstrate mastery of the skills needed for the creation of virtual content and assets.

Major Summative Assessment Task(s)
These Butler-assessed Learning Outcome(s) and the Learning PACT skill(s) will be demonstrated by:
1. Creating a virtual world and environment of professional quality suitable for industry and education using Second Life and OpenSim.

Skills or Competencies
These actions are essential to achieve the course outcomes:
1. Use in-world tools to create content.
2. Apply basic scripting to the OpenSim environment.
3. Use external applications to create content.

Learning Units
I. Concepts of three-dimensional modeling in virtual space
   A. Three-dimensional modeling terms
   B. Moving primitives on an XYZ grid
   C. Linking multiple primitives
   D. Coloring and texturing primitives

II. Basic building techniques
    A. Furniture
    B. Dwellings
    C. Multi-user areas
    D. Basic display boards and signs

III. Apparel creation
     A. Clothing template use
     B. Texture creation

IV. User experience
    A. Texture sizing
    B. Understand lag
    C. Build scales
    D. User interfaces

V. Video content
    A. Video basics
    B. Video uploading
    C. Video display

VI. Advanced building techniques
    A. Large area user areas
    B. Roofs/foundations
    C. Large surface texture application
    D. Repeats and single tiles

VII. Virtual entrepreneurship
A. “Setting up shop”
B. Content creation for resale
C. Designing a true virtual business

VIII. Interactive media
A. Active display
B. Media import
C. Web interaction

Learning Activities
Learning activities will be assigned to assist the student in achieving the intended learning outcomes through lectures, class discussions, team research, individual research, reading, viewing tutorials and study material, quizzes, tests, and other activities at the discretion of the instructor. These activities may be either face-to-face or online.

Grade Determination
The student will be graded on the learning activities and assessment tasks. Grade determination may include the following: class participation, projects, team and individual participation, research assignments, quizzes, tests, and other activities at the discretion of the instructor.