

COURSE OUTLINE

Motion Capture

Course Description

ID122. Motion Capture. 3 credit hours. This course will enable the student to do demonstrate the benefits and limitations of motion capture animation. The student will capture and refine motion capture performances. The student will generate finished 3D assets for digital content creation.

Required Materials

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

Butler-Assessed Outcomes

The intention is for the student to be able to do the following:

1. Demonstrate the benefits of motion capture over keyframe animation.
2. Create content using motion capture methods.

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 development of motion capture animations, the student will be able to create realistic movement for animations and simulations.

Major Summative Assessment Task(s)

These Butler-assessed Outcome(s) and Learning PACT skill(s) will be demonstrated by the following:

1. Creating a motion captured animation.
2. Creating an animated humanoid 3D asset for film or video games.

Learning Units

- I. Motion Capture
 - A. Benefits and limitations
 - B. Methods of motion capture
- II. Full-body motion capture
 - A. Area restrictions
 - B. Technical restrictions
- III. Animation loops
 - A. Humanoid movement

- B. Bipedal controllers
- IV. Facial motion capture
 - A. Acting
 - B. Eye movement
 - C. Audio
- V. DCC
 - A. Realtime renderers
 - B. Offline renderers
 - C. Asset pipeline
- VI. Existing assets
 - A. Transferring motion capture
 - B. Rigging
- VII. Cinematics
 - A. Storyboarding
 - B. Pacing
- VIII. Production
 - A. Efficiency
 - B. Industry techniques

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, readings, 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 determinations may include the following: class participation, projects, team and individual participation, research assignments, quizzes, tests, and other methods of evaluation at the discretion of the instructor.