COURSE CONTENT

Course Code	DR3002
Course Title	Computer Aided Design II
Pre-requisites	DR2005
No of AUs	3
Contact Hours	39 hours lab contact

Course Aims

This course is designed to expose design students to an intermediate level of principles, concepts and techniques related to computer-aided design for concept development, presentation and technical documentation. Students will develop competencies in the use of modeling, rendering, animation, presentation and parametric software to support their design studio projects.

Intended Learning Outcomes (ILO)

By the end of the course, you should be able to:

1. Identify and discuss advanced surface modeling, sub-division modeling, parametric modeling, and key-frame animation principles and processes.
2. Demonstrate techniques in advanced surface modeling, sub-division modeling, parametric modeling, and key-frame animation.
3. Apply methods to develop 3D models and animations of product design concepts.
4. Present various computer aided design assignments in a clear and cohesive manner using 3D models, renderings, and animations.
5. Constructively discuss, critique, and contribute to problem solving of fundamental 3D modeling, rendering and animation techniques employed by peers.

Course Content

This course focuses on intermediate principles and techniques for the design, visualization and presentation of product designs such as consumer products, environments, and furniture amongst others.
Building on the content and assignments from the DR2005 Computer Aided Design I course, you will go through a series of assignments with increasing complexity and variety to bring your modeling and presentation skills to an intermediate level.

Advanced Surface Modeling
Intermediate level three-dimensional NURBS (Non-Uniform Rational B-Spline) surface modeling, with emphasis on curve and surface continuity.

Sub-division Modeling
Introduction to Sub-division modeling principles and techniques.

Animation

Introduction to keyframe animation of three-dimensional computer models.

Parametric Modeling workflow and documentation
Introduction to integrated workflow for associative parts, assembly and drawings creation using parametric modeling programs.

Class assignments
You will produce a series of increasingly complex assignments and develop your understanding of intermediate and advanced computer-aided design principles and techniques, through lectures, tutorials, class exercises and peer/instructor feedback sessions.