

**J. Sargeant Reynolds Community College**  
**Course Content Summary**

**Course Prefix and Number:** DRF 239

**Credits:** 3

**Course Title:** Computer–Aided Modeling and Rendering II

**Course Description (including lecture hours, lab hours, total contacts)**

Focuses on training students in the contemporary techniques of 3D modeling, rendering, and animation on the personal computer. Introduces the principles of visualization, sometimes known as photo-realism, which enables the student to create presentation drawings for both architectural and industrial product design. Uses computer animation to produce walk-throughs that will bring the third dimension to architectural designs. Part II of II. Prerequisite: DRF 238. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

**General Course Purpose**

Serves as an intermediate-level class in the use and development of computer-aided-modeling and animation, expanding beyond the fundamentals of 3D modeling, material-mapping, lighting/shading, and rendering established in DRF 238. Can serve as an elective in the Architectural & Industrial Design track of the Architectural & Civil Engineering Technology A.A.S. degree curriculum.

**Course Prerequisites/Corequisites**

DRF 238, Computer-Aided Modeling and Rendering I

**Course Objectives**

Upon completing the course, the student will be able to:

1. Develop complex three-dimensional models using both primitive-based shapes and 2D extrusion techniques
2. Create advanced materials from digital images and graphic design applications, i.e., Photoshop, Indesign, etc.
3. Execute advanced rendering techniques such as radiosity to achieve high-fidelity imagery
4. Utilize render-farm technology to produce animations in short times pans via networking

**Major Topics to be Included**

- NURB modeling
- Use of advanced modifiers
- Mental-Ray rendering
- File integration with conventional CAD applications

**Effective Date of Course Content Summary (Month, Date Year):** Sept. 2010