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COURSE SYLLABUS

COURSE: DFT 153 COMPUTER AIDED DRAFTING III

HOURS: Lecture: **2** Lab/Shop: **3** Work Exp/Clinical: **0** Credits: **3**

COURSE DESCRIPTION:

This course introduces advanced CAD applications. Emphasis is placed upon advanced applications of CAD skills. Upon completion, students should be able to use advanced CAD applications to generate and manage data.

PREREQUISITE(S): DFT 151

COREQUISITE(S): None

TEXTBOOK(S) & OTHER SPECIAL REQUIREMENTS:

To Be Determined

STUDENT LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

1. Use the in-house CAD software to create basic 3-D models.
2. Apply several 3-D viewing options to the 3-D models.
3. View and control a model interactively in 3-D space.
4. Draw objects at different Z elevations and use coordinate entry.
5. Apply the mirror command to objects in 3-D, and create 2-D faces.
6. Create user coordinates systems (UCS), name them, and save them.
7. Move objects among user coordinates systems as necessary on a 3-D model.
8. Create solid primitives, including a cylinder, torus, cone, wedge, box, sphere, pyramid, and polysolid.
9. Create models from 2-D objects with the Resolve, Extrude, Sweep, and Loft commands.
10. Create trimmed and planar surfaces with the PLANESURF command.
11. Convert surfaces into solids.
12. Prepare solid primitives for Boolean operations (subtraction of portions of a solid model).
13. Use the Boolean operation to combine composite models.
14. Modify solids as necessary to create chamfers, fillets, slices, and shells.
15. Create a full section, 2-D flat shot views, and orthographic projection drawing sheets of a solid model.
16. Apply the in-house CAD software to generate visual styles, to render, and to navigate solid models.
17. Divide, calculate the mass properties, and create a file of a solid model for prototype fabrication.
18. Produce and plot, using the in-house plotter/printer, 3-D drawings in harmony with the ANSI and ISO scales and paper sizes in English and Metric units.
19. Discuss the use the CAD software (written in 16 languages) in other countries and its impact

on products drawings, design, manufacturing, employment, and the economy.

20. Use the Internet to navigate through websites related to CAD applications, vendors' updated software releases, CAD related publications/ magazines, societies, and the American Design and Drafting Association (ADDA).
21. Collect and apply standard drafting practices as part of the preparation process for the National Certification Exam with ADDA.

*****Please refer to the online version of the Richmond Community College Program & Course Catalog and the Student Handbook for current academic and general information.**