Common Course Outline
CADD 251
Computer-Aided Civil Applications
3 Credits

Community College of Baltimore County

Description

CADD 251 – Computer-Aided Civil Applications Management introduces students to CAD civil engineering techniques and applications through the use of a customized package; includes subdivision design, grading, roads, parking lots, drainage, sewerage, water mains, erosion and sediment control, earthwork quantities (cut and fill), and cost estimation.

3 Credits: 2 lecture and 2 laboratory hours

Prerequisites: CADD 101, or written permission from the CADD coordinator.

Overall Course Objectives

Upon completion of this course students will be able to:

1. create point, surface and line, and curve data;
2. set lot creation defaults;
3. calculate a grid, Earthworks volume, a Section volume, and a Composite volume;
4. work with point, default, and contour data;
5. calculate runoff and graphical peak discharge;
6. use pond design tools to design a pond;
7. draft, design, edit, analyze, and station a centerline;
8. create a profile;
9. design a cul-de-sac with transitions;
10. create a 3D grid of a roadway;
11. superelevate a roadway design; and
12. place and annotate ground cover and individual plantings.

Major Topics

  I. Softdesk Project and Drafting Environment
 II. Point Data
III. Line and Curve Data
IV. Surface Data
 V. Lots, Figures, and Parking
VI. Site Volumes
VII. Hydrology

VIII. Roadway Design Process
 IX. Roadway Volumes
  X. Cul-de-sacs
 XI. Slope Control and Superelevation

Course Requirements

Grading procedures will be determined by the individual faculty member but will include the following:

Grading/exams

- Portfolio including a minimum of three graded exercises
- A minimum of three tests
- One comprehensive midterm and final examination (Two examinations)

Written Assignments: Students are required to use appropriate academic resources.

Other Course Information

This course an elective course in the CADD curricula. This course is taught in a computerized environment.

Offered spring semester only.

Date Revised: 3/07/17