COURSE OUTLINE: CAD222 - APPLIED CAD II

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Course Code: Title	CAD222: APPLIED CAD II
Program Number: Name	4080: CIVIL ENG TECHNICIAN
Department:	CIVIL/CONSTRUCTION
Academic Year:	2024-2025
Course Description:	This course is intended to expand on the basic skills developed from other introductory CAD courses. Students should have as a prerequisite, CAD100 or CAD120 or equal industrial experience. The student will learn how use advanced Civil 3D features such as 3D modeling (including wire frames, surfaces and solids), rendering, dynamic blocks and interface customization. Students will also use BIM (Building Information Modeling) software to create a structural model. The model will be used to further create structural details and related construction document components such as schedules and material quantity estimates.
Total Credits:	3
Hours/Week:	3
Total Hours:	42
Prerequisites:	CAD100
Corequisites:	There are no co-requisites for this course.
Vocational Learning Outcomes (VLO's) addressed in this course: **Please refer to program web page for a complete listing of program outcomes where applicable.**	**4080 - CIVIL ENG TECHNICIAN** VLO 6 collect, process and interpret technical data to produce written and graphical project-related documents. VLO 7 use industry-specific electronic and digital technologies to support civil engineering projects. VLO 8 participate in the design and modeling phase of civil engineering projects by applying engineering concepts, basic technical mathematics and principles of science to the review and production of project plans.
Essential Employability Skills (EES) addressed in this course:	EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 10 Manage the use of time and other resources to complete projects. EES 11 Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 50%, D

A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.

Other Course Evaluation & Assessment Requirements:

Grade
Definition Grade Point Equivalent
A+ 90 - 100% 4.00
A 80 - 89%
B 70 - 79% 3.00
C 60 - 69% 2.00
D 50 - 59% 1.00
F (Fail)49% and below 0.00

CR (Credit) Credit for diploma requirements has been awarded.
S Satisfactory achievement in field /clinical placement or non-graded subject area.
U Unsatisfactory achievement in field/clinical placement or non-graded subject area.
X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.
NR Grade not reported to Registrar`s office.
W Student has withdrawn from the course without academic penalty.

Attendance
Students are only allowed to miss three classes without a documented explanation. One mark will be deducted from your overall grade for each undocumented explanation. The maximum deduction in overall grade is not to exceed 15%. Valid documented explanation include:

- Medical reason
- Family emergency
- Child care issue
- Transportation problems
- And any other reasonable explanation

The documented explanation has to be sent to the course professor by e-mail no later than three days from a missed class. A Doctor note, etc., is to be attached as a PDF file to your e-mail.

Course Outcomes and Learning Objectives:

Course Outcome 1	**Learning Objectives for Course Outcome 1**
Upon successful completion, the student will be able to: 1. Collect, process and interpret technical data to produce written and graphical project-related documents	1.1 Select and use appropriate technologies to produce documents for civil engineering projects. 1.2 Present civil engineering data to stakeholders. 1.3 Use relevant information to construct models for civil engineering projects by using drawings and computer assisted technologies.
Course Outcome 2	**Learning Objectives for Course Outcome 2**
Upon successful completion, the student will be able to: 2. Use industry-specific electronic and digital technologies to support civil	2.1 Keep abreast of changes in technology that affect civil engineering. 2.2 Identify the impact and application of technology throughout the lifecycle of civil engineering projects, i.e., field data collection, design and engineering, estimating and

	engineering projects.	construction. 2.3 Select and use industry specific electronic and digital technologies to design projects, produce plans and to solve project related problems (e.g., Computer Aided Design (CAD), Building Information Modeling (BIM), etc.) 2.4 Visualize, manipulate and analyze spatial data using a variety of data sources and technologies.
	Course Outcome 3	**Learning Objectives for Course Outcome 3**
	Upon successful completion, the student will be able to: 3. Participate in the design and modeling phase of civil engineering projects by applying engineering concepts, basic technical mathematics and principles of science to the review and production of project plans.	3.1 Review the technical criteria used in the design, layout and construction of civil engineering projects.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Final Test	25%
Laboratory/Assignments	50%
Mid-Term Test	25%

Date: August 18, 2024

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.