MOHAWK VALLEY COMMUNITY COLLEGE

UTICA & ROME, NEW YORK

COURSE OUTLINE

ENGINEERING DRAWING & MICROSTATION CAD

CT 102

**Course Outline:** **CT 102 – Engineering Drawing and MicroStation CAD**

1. **Catalog Description**

CT 102 Engineering Drawing and MicroStation CAD [C-1, P-4, CR-3]

This course includes both basic technical drawing techniques and MicroStation CAD to support engineering design. Topics include line types, dimensioning, scaling, auxiliary views, sectioning and notations. This course also introduces the use of MicroStation software.  Topics include operational concepts; main palette use; projecting elements; entity construction and editing; entity manipulations; and text and dimensioning parameters.

Prerequisite: None

1. **Course Objectives**

This course is designed to enable the student to prepare completely annotated detail drawings of civil engineering related drawings while applying basic engineering drawing techniques and using MicroStation software.

1. **Student Learning Outcomes** *(ETAC-ABET Assessment Criteria)*
2. Students will be able to read civil engineering drawings. (1)
3. Students will be able to prepare completely annotated detail drawings of civil engineering plans from given example plan sheets, sketches, or other detailed drawings. (1, 3)
4. The student will demonstrate the ability to draft use proper line weights and styles according to standards. (1)
5. Students will demonstrate the ability to view orthographic projections and interpret multi-view and section view drawings and be able to draw an isometric view. (1, 4)
6. Students will be able to use an engineering scale to perform measurements from a set of drawings/plans. (1, 2)
7. Students will be able to manipulate/organize and store files within the MS Windows environment.
8. Students will be able to navigate the internet for information retrieval.
9. Students will demonstrate the ability to use email and Blackboard as modes of communication and document sharing/transfer.
10. **Major Topics**

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| **Week** | **Topic** |
| 1-4 | Setting up a MVCC Blackboard & Bentley account. Engineering drawings; reading plans, drawing set format, index, estimate sheets, plan view, scaling, and sketches |
| 5-9 | Creating CAD drawings; drawing files, precision inputs, blocks, delete, view control, text, lines, circles, arcs, fillets, trim, creation of cell library, insertion of cells, fence, copy, mirror, rotate, chain, & dimensions |
| 10-14 | Complex geometric constructions, modify elements, detail drawings, insert files, drawing templates, scaling to plot, inserting geo-referenced images & digitizing data. Referencing external files |

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| **Date** | **Faculty Name** | **Change** | **Input** | **Measurement** | **Assessment** | **Action** |
| 10 Jan 2011 | Maggie Reilly | Created |  |  |  |  |
| 24 Nov 2014 | Jerry Stegeman | Ref. ABET a-m objectives |  |  |  |  |
| 16 Dec 2014 | Jerry Stegeman | Final review |  |  |  |  |
| 27 Feb 2015 | Brittany Fuller | Edited to match format |  |  |  |  |
| Aug 2017 | Brian Judycki | Reviewed for content and format |  |  |  |  |
| 27 Aug 2018 | Mike Sisti | Updated format/content and ABET-ETAC Criteria |  |  |  |  |
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