STATE UNIVERSITY OF NEW YORK
COLLEGE OF TECHNOLOGY
CANTON, NEW YORK

MASTER SYLLABUS

COURSE NUMBER – COURSE NAME
CONS 132 - CONSTRUCTION DRAFTING

Created by: Robert F. Burnett
Updated by: Robert F. Burnett

Canino School of Engineering Technology
Department: Civil/Cons
Semester/Year: Spring 2019
A. **TITLE:** Construction Drafting

B. **COURSE NUMBER:** CONS 132

C. **CREDIT HOURS:** (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity)

   # Credit Hours: 3
   # Lecture Hours: 1 per week
   # Lab Hours: 4 per week
   Other: per week

   Course Length: 15 Weeks

D. **WRITING INTENSIVE COURSE:** Yes ☐ No ☒

E. **GER CATEGORY:** None: ☒ Yes: GER
   *If course satisfies more than one:* GER

F. **SEMESTER(S) OFFERED:** Fall ☐ Spring ☒ Fall & Spring ☐

G. **COURSE DESCRIPTION:**

   An introduction to the fundamental principles of engineering and architectural drafting and to the basic idea that all people involved in engineering/Architecture and/or construction will communicate with CADD drawings of some nature. The student will demonstrate a basic understanding of orthographic projection, perspective and isometric views, descriptive geometry, good CAD practices. A variety of construction prints will be utilized to create the ability to deal with all varieties of drawings commonly emanating from architectural engineering firms and those found on construction job sites. Throughout the course, CAD concepts are reinforced through the use of AutoCAD and software.

H. **PRE-REQUISITES:** None ☐ Yes ☒ If yes, list below:

   SOET 116

   **CO-REQUISITES:** None ☒ Yes ☐ If yes, list below:
I. **STUDENT LEARNING OUTCOMES:** *(see key below)*

By the end of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Course Student Learning Outcome [SLO]</th>
<th>Program Student Learning Outcome [PSLO]</th>
<th>GER [If Applicable]</th>
<th>ISLO &amp; SUBSETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review AutoCAD basics and begin Setting up drawings using AIA standards for drafting</td>
<td>NA</td>
<td>2-Crit Think 3-Found Skills ISLO</td>
<td>Subsets Subsets Subsets Subsets</td>
</tr>
<tr>
<td>Creating/learning the symbols used in construction drafting</td>
<td>NA</td>
<td>2-Crit Think 3-Found Skills ISLO</td>
<td>Subsets Subsets Subsets Subsets</td>
</tr>
<tr>
<td>Using external references (xrefs) to create drawing backgrounds</td>
<td>NA</td>
<td>1-Comm Skills 3-Found Skills ISLO</td>
<td>Subsets Subsets Subsets Subsets</td>
</tr>
<tr>
<td>Navigate effectively through residential, light and heavy commercial construction plans</td>
<td>NA</td>
<td>2-Crit Think 4-Soc Respons 1-Comm Skills</td>
<td>Subsets Subsets Subsets Subsets</td>
</tr>
<tr>
<td>Draw Building elevations using orthographic projection. Draw Civil/Construction details data</td>
<td>NA</td>
<td>2-Crit Think 3-Found Skills ISLO</td>
<td>Subsets Subsets Subsets Subsets</td>
</tr>
</tbody>
</table>

**KEY**

<table>
<thead>
<tr>
<th>ISLO #</th>
<th>Institutional Student Learning Outcomes [ISLO 1 – 5]</th>
</tr>
</thead>
</table>
| 1      | Communication Skills  
Oral [O], Written [W] |
| 2      | Critical Thinking  
Critical Analysis [CA], Inquiry & Analysis [IA], Problem Solving [PS] |
| 3      | Foundational Skills  
Information Management [IM], Quantitative Lit./Reasoning [QTR] |
| 4      | Social Responsibility  
Ethical Reasoning [ER], Global Learning [GL], Intercultural Knowledge [IK], Teamwork [T] |
| 5      | Industry, Professional, Discipline Specific Knowledge and Skills |

*Include program objectives if applicable. Please consult with Program Coordinator*
J. **APPLIED LEARNING COMPONENT:** Yes ☒ No ☐

If YES, select one or more of the following categories:

- Classroom/Lab
- Internship
- Clinical Placement
- Practicum
- Service Learning
- Community Service
- Civic Engagement
- Creative Works/Senior Project
- Research
- Entrepreneurship

K. **TEXTS:**

COMMERCIAL DRAFTING AND DETAILING
Author: ALAN JEFFERIS & KENNETH D. SMITH, AIA, DELMAR CENGAGE LEARNING

L. **REFERENCES:**

American Institute of Architects, Autodesk Education Community, New York State Department of building Codes

M. **EQUIPMENT:** None ☐ Needed: Mechanical (automatic) pencil, engineering computation paper, straight edge/45 degree triangle, Flash drive/Memory Stick, Architects and engineers scales,

N. **GRADING METHOD:** A-F

O. **SUGGESTED MEASUREMENT CRITERIA/METHODS:**

Students are evaluated using quizzes, exam, drawing assignments; a major CAD project is employed as a final project. The final exam is comprehensive. Participation in the discussion board and or Class Café on ANGLE is also including in the final grade.

P. **DETAILED COURSE OUTLINE:**

I. Blueprint reading
   a. Use of scales
   b. Metric drawings
   c. Print reading practice exercises
   d. Use conversion of fractions and decimal measurements
II. AutoCAD
   a. Review of AutoCAD environment and basic commands
   b. Drawings in AutoCAD
      1. Section drawings
      2. Isometric drawings
      3. Dimensioning
      4. Construction drawings
      5. Floor plans
6. Elevations
III. Manual Sketching and Drawing
a. Students may practice creating a rough sketch to be used converted to a CAD drawings
b. Sketching techniques (No Manual drafting) shall be basic skills to create a
drawings/detail that is considered legible by someone other than the student who
created the drawing. This course does not cover Manual drafting and should not be
confused with Sketching
c. Manual lettering standards practiced

Q. LABORATORY OUTLINE: None ☐ Yes ☑

NOTE: The laboratory projects assigned in this course are assignments that require the
students to create a variety of industrial quality drawings adhering to the AIA standards.
I. Reintroduce AutoCAD 2010
a. Briefly review of 2D CAD skills
II. Construction Drawing Organization using CADD
a. Advanced Layer management
b. Xref management
c. PEN WIEGHT
d. PAPER/MODEL space
e. MVSETUP
f. PSLTSSCALE
g. VIEWPORTS
III. Reading Measuring Tools
a. Use Architects and Engineers Scales
IV. Applications of Dimensioning
a. Dimension style formatting for typical scales in construction documents (AIA)
b. Various layout standards used in the Construction and Architectural Industry are
covered.
c. Residential dimension standards of plan view drawings
V. Complex layer management tools
a. Advanced Layer management
b. Layer states manager
c. LAYERS II tools
d. Proper use of external references in Cad drawings
a. XREF manager
b. INSERT
c. BIND/DETACH
d. Sharing files with other CADD users