

Course Outline of Record

1. Course Code: DRA-001
2.
 - a. Long Course Title: Technical Drafting I
 - b. Short Course Title: TECHNICAL DRAFTING I
3.
 - a. Catalog Course Description:
 This course introduces students to general and architectural drafting skills. Students learn to differentiate among several drafting techniques. This course prepares students for higher level drafting courses and more complex drawing types.
 - b. Class Schedule Course Description:
 This course introduces students to general and architectural drafting skills.
 - c. Semester Cycle (if applicable): Every semester
 - d. Name of Approved Program(s):
 - ARCHITECTURAL TECHNOLOGY Certificate of Achievement
4. Total Units: 3.00 Total Semester Hrs: 90.00
 Lecture Units: 2 Semester Lecture Hrs: 36.00
 Lab Units: 1 Semester Lab Hrs: 54.00
 Class Size Maximum: 28 Allow Audit: Yes
 Repeatability No Repeats Allowed
 Justification 0
5. Prerequisite or Corequisite Courses or Advisories:
Course with requisite(s) and/or advisory is required to complete Content Review Matrix (CCForm1-A)
 Advisory: ENG 070 and
 Advisory: MATH 060
6. Textbooks, Required Reading or Software: (List in APA or MLA format.) *N/A*
7. Entrance Skills: *Before entering the course students must be able:*
 - a. Employ basic vocabulary and style.
 - ENG 070 - Develop and expand vocabulary.
 - ENG 070 - Identify and employ transitions and connectors to show unity between ideas.
 - b. Develop organize and express ideas in paragraph and essay form.
 - ENG 070 - Identify and employ prewriting activities.
 - ENG 070 - Demonstrate the ability to generate, develop and organize ideas into a cohesive essay using multiple paragraphs.
 - ENG 070 - Demonstrate through the writing process the ability to apply standard rules of grammar, punctuation and spelling in academic writing.
 - ENG 070 - Demonstrate the ability to produce several drafts of essays through a series of revisions using a computer.
 - c. Read texts and respond in writing at the literate level.
 - ENG 070 - Comprehend and summarize readings.
 - ENG 070 - Read and identify main ideas and supporting details.
 - ENG 070 - Recognize and explain patterns of idea development in readings.
 - d. Add, subtract, multiply, and divide Whole Numbers.
 - MATH 060 - Compute using the four basic operations of addition, subtraction, multiplication, and division on the rational numbers in both fraction and decimal form.
 - MATH 060 - Apply the basic operations to solve application problems that involve whole numbers, integers, and rational numbers.
 - MATH 060 - Apply methods of conversion between percents, decimals, and fractions.
 - e. Add, subtract, multiply and divide Fractions.

DRA 001-Technical Drafting I

- MATH 060 - Compute using the four basic operations of addition, subtraction, multiplication, and division on the rational numbers in both fraction and decimal form.
- MATH 060 - Use concepts and formulas from geometry.

f. Basic Geometry – Area, Volume.

- MATH 060 - Compute using the four basic operations of addition, subtraction, multiplication, and division on the rational numbers in both fraction and decimal form.

8. Course Content and Scope:

Lecture:

1. Course Orientation
2. Basic Drawing Areas
 1. Types of equipment and tools
 2. Use of drafting equipment and tools
 3. Line work
 4. Lettering
3. Use of scale
4. Architectural drafting standards
 1. Reproduction methods
 2. Office standards
 3. Manufacture's literature
5. Geometric Shapes
6. Constructional Document Reading and Drafting
 1. Basics of a Floor Plan
7. Multiview Projections
8. Axonometric Drawings
9. Oblique Drawings

Lab: *(if the "Lab Hours" is greater than zero this is required)*

1. Draw the basic border sheet used for every drawing exercise.
2. Practice the use of the Architectural scale.
3. Draw lines in accordance to given lengths and scale.
4. Draw geometric shapes utilizing the prescribed drafting tools.
5. Use Architectural lettering to define geometric terms and draw the graphic representation of each word.
6. Draw basic floor plan and include dimensions.
7. Draw line types using the given line weights.
8. Complete "Lettering Plate" (Weekly assignment).
9. Draw Orthographic views using Multiview Projection.
10. Draw Oblique objects derived from Multiview Projections.
11. Draw Isometric objects derived from Mutiview Projections.

9. Course Student Learning Outcomes:

1.
Analyze multi-view drawings and develop axonometric solutions utilizing technical drafting techniques.
2.
Compose two-dimensional geometric patterns utilizing basic techniques, line weights and format commonly practiced in technical drafting.
3.
Demonstrate techniques of lettering incorporating proportion, form, spacing, and consistency.

10. Course Objectives: *Upon completion of this course, students will be able to:*

- a. Use specific drafting tools

DRA 001-Technical Drafting I

- b. Apply basic mechanical and or architectural drafting skills and techniques.
- c. Identify terms and concepts used such as Plan, Section and Detail.
- d. Demonstrate the ability to letter and draft in a clear and concise manner.
- e. Define the meaning of basic symbols used in construction documents.

11. Methods of Instruction: (*Integration: Elements should validate parallel course outline elements*)

- a. Demonstration, Repetition/Practice
- b. Discussion
- c. Experiential
- d. Lecture

Other Methods:

Slides and overhead projections Individual student desk critiques Problem solving strategies Demonstrations of acceptable drawing examples by instructor Pin-ups of students' assignments and critique Demonstrations of interactive CAD lab and studio preparation

12. Assignments: (*List samples of specific activities/assignments students are expected to complete both in and outside of class.*)

In Class Hours: 90.00

Outside Class Hours: 72.00

a. In-class Assignments

1. Draw the basic border sheet used for every drawing exercise.
2. Practice the use of the Architectural scale.
3. Draw lines in accordance to given lengths and scale.
4. Draw geometric shapes utilizing the prescribed drafting tools.
5. Use Architectural lettering to define geometric terms and draw the graphic representation of each word.
6. Draw basic floor plan and include dimensions.
7. Draw line types using the given line weights.
8. Complete "Lettering Plate" (Weekly assignment).
9. Draw Orthographic views using Multiview Projection.
10. Draw Oblique objects derived from Multiview Projections.
11. Draw Isometric objects derived from Mutiview Projections.

b. Out-of-class Assignments

1. Students will be required to complete a series of drafting sheets from a workbook and additional sheets as assigned by the instructor.
2. The students will be required to visualize 3-D objects and represent them through sketches and mechanical drawing techniques on a 2D surface.
3. Lettering Plates.
4. Students will develop and maintain a Design Notebook as an organizational system for all completed drawings, notes, handouts, and assignments.

13. Methods of Evaluating Student Progress: *The student will demonstrate proficiency by:*

- Written homework
Homework Assignments
- Critiques
- Portfolios
- Laboratory projects
Lettering
- Product/project development evaluation
Final Project – Design Notebook
- True/false/multiple choice examinations
- Mid-term and final evaluations

DRA 001-Technical Drafting I

- Student participation/contribution

14. Methods of Evaluating: Additional Assessment Information:

15. Need/Purpose/Rationale -- *All courses must meet one or more CCC missions.*

PO - Career and Technical Education

Apply critical thinking skills to execute daily duties in their area of employment.

Apply critical thinking skills to research, evaluate, analyze, and synthesize information.

Exhibit effective written, oral communication and interpersonal skills.

PO-BS Problem Solving

Use a variety of solution methods and techniques, for example, making a sketch, systematic listing, using the solution of a simpler (but related) problem.

IO - Aesthetics

Value appearance in terms of how pleasing it is in movement, form, and function.

16. Comparable Transfer Course

University System	Campus	Course Number	Course Title	Catalog Year
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17. Special Materials and/or Equipment Required of Students:

Triangles, erasing shield, architectural scale, drafting tape, eraser, compass, French curve, circle template, dusting brush, general purpose template, plan template, drafting pencils, mechanical pencils, adjustable triangle, pencil sharpeners for mechanical pencils, manila folder, and carrying case.

18. Materials Fees: Required Material?

Material or Item

Cost Per Unit

Total Cost

19. Provide Reasons for the Substantial Modifications or New Course:

Periodic Course Review

20. a. Cross-Listed Course (*Enter Course Code*): *N/A*
b. Replacement Course (*Enter original Course Code*): *N/A*

21. Grading Method (*choose one*): Letter Grade Only

22. MIS Course Data Elements

- a. Course Control Number [CB00]: CCC000283499
b. T.O.P. Code [CB03]: 95300.00 - Drafting Technology
c. Credit Status [CB04]: D - Credit - Degree Applicable
d. Course Transfer Status [CB05]: B = Transfer CSU
e. Basic Skills Status [CB08]: 2N = Not basic skills course
f. Vocational Status [CB09]: Clearly Occupational
g. Course Classification [CB11]: Y - Credit Course
h. Special Class Status [CB13]: N - Not Special
i. Course CAN Code [CB14]: *N/A*
j. Course Prior to College Level [CB21]: Y = Not Applicable
k. Course Noncredit Category [CB22]: Y - Not Applicable
l. Funding Agency Category [CB23]: Y = Not Applicable
m. Program Status [CB24]: 1 = Program Applicable

Name of Approved Program (*if program-applicable*): *N/A*

Attach listings of Degree and/or Certificate Programs showing this course as a required or a restricted elective.

23. Enrollment - Estimate Enrollment

First Year: 28

Third Year: 28

24. Resources - Faculty - Discipline and Other Qualifications:

a. Sufficient Faculty Resources: Yes

b. If No, list number of FTE needed to offer this course: *N/A*

25. Additional Equipment and/or Supplies Needed and Source of Funding.

N/A

26. Additional Construction or Modification of Existing Classroom Space Needed. (*Explain:*)

N/A

27. FOR NEW OR SUBSTANTIALLY MODIFIED COURSES

Library and/or Learning Resources Present in the Collection are Sufficient to Meet the Need of the Students Enrolled in the Course: Yes

28. Originator Donbert M. Bitanga Origination Date 03/04/17