MURRAY STATE UNIVERSITY

DEPARTMENT OF INDUSTRIAL AND ENGINEERING TECHNOLOGY

COURSE NUMBER: ITD 101 CREDIT HOURS: 4

I. TITLE: Introduction to Design and Graphic Communication

II. CATALOG DESCRIPTION:

An introduction to the fundamental theory and practice of technical design communication, engineering sketching and CAD drafting conventions. Techniques are presented with emphasis on both theory and practical applications. The course includes an introduction to product design, the engineering design process, orthographic projection of product geometry and dimensioning/specifications. Lecture and laboratory: 6 contact hours.

III. PURPOSE:

To provide basic competencies in technical drawing and design needed by industrial and engineering technology and design students.

IV. COURSE OBJECTIVES:

As a result of this course, each student will have developed or achieved:

- A. a familiarity with the graphic and verbal language of industry and an ability to visualize spatial relationships
- B. a facility for utilizing principles, problem-solving techniques, and conventions of graphical communications as is applicable to various industrial and architectural design
- C. The ability to visualize 3-D product geometry and product engineering sketches and free hand drawings of that geometry
- D. a high quality of draftsmanship and efficient procedures thereof, in preparing CAD databases of product geometry
- E. the ability to wisely select, utilize and maintain CAD data files, drawings, and CAD equipment
- F. have developed a better understanding of the processes, problems and materials of industry, particularly as they relate to drawing and design.

V. CONTENT OUTLINE:

- A. Design processes
- B. Scales and instruments
- C. Geometric construction
- D. Parallel projection oblique & orthographic projection theory and freehand drawing techniques
- E. Orthographic projection—sketching
- F. Orthographic projection—scaled ruler drawings
- G. Auxiliary views
- H. Sectional views
- I. Dimensions
- J. Tolerancing
- K. Architectural floor plan
- L. Working drawings, mechanical and architectural
- M. Computer assisted drafting (CAD)

VI. INSTRUCTIONAL ACTIVITIES:

- A. Lectures
- B. Demonstrations
- C. Individualized instruction
- D. Individual problems
- H. Reference reading assignments
- I. Laboratory drawing
 - 1. Exercise sheets
 - 2. Applied problems

VII. FIELD, CLINICAL, AND/OR LABORATORY EXPERIENCES:

VIII. RESOURCES:

- A. Professional publications
- B. Teacher developed materials
- C. University and industrial/business personnel

IX. GRADING PROCEDURES:

Α.	Midterm Exam	10%
В.	Final Exam	10%
C.	Assignments	65%
D.	Class Participation & Attendance	15%

Grading Scale: 90-100 = A

80-89 = B 70-79 = C 60-69 = D Less than 60 = E

Unless arrangements are made prior to missing class; make up assignments, tests, and/or quizzes will not be accepted.

Unless otherwise specified, assignments will be due at the beginning of class. Any late assignment(s) are subject to a demotion in grade or a deduction in points; all at the discretion of the instructor.

The instructor retains the right to adjust the grading system to allow for unusual circumstances.

X. ATTENDANCE POLICY:

This course will adhere to the policy published in the current <u>MSU Undergraduate</u> <u>Bulletin</u>. Regular attendance is important. It affects your educational experience in that you have an opportunity to gain from your instructor and your fellow classmates, as well as make a contribution to them. Likewise, your time is generally utilized more efficiently with proper equipment available in the classroom. Be present and prompt as it will affect your grade. Upon the fourth unexcused absence your grade will be reduced by 1 letter grade and by ½ letter grade for each unexcused absence thereafter. Attendance may be recorded at any time during the class period.

Unless arrangements are made prior to missing class; make up assignments, tests, and/or quizzes will not be accepted.

XI. ACADEMIC HONESTY POLICY:

This course will adhere to the policy published in the current MSU Undergraduate Bulletin. Cheating, plagiarism (submitting another person's material as one's own), or doing work for another person which will receive academic credit are all impermissible. This includes the use of unauthorized books, notebooks or other sources in order to secure or give help during an examination; the unauthorized copying of examinations, assignments, reports or term papers; or the presentation of unacknowledged material as if it were the student's own work. Disciplinary action may be taken beyond the academic discipline administered by the faculty member who teaches the course in which the cheating took place.

XII. TEXT AND REFERENCES:

A. Bertoline, Wiebe, Hartman & Ross. <u>Technical Graphic Communication</u>. <u>4th Edition</u>. McGraw-Hill Higher Education, 2009

XIII. PREREQUISITES:

None

XIV. STATEMENT OF AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY:

Murray State University endorses the intent of all federal and state laws created to prohibit discrimination. Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or the provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities.

For more information, contact the Director of Equal Opportunity, 103 Wells Hall, (270) 809-3155 (voice), (270) 809-3361 (TDD).

XV. IET – PRINTING POLICY

The network printers in IET are only available to students currently enrolled in a course offered by the Department of IET. Each student starts the semester with a print allocation that is based on the number of pages course instructors have said they need you to print for each class. As a student prints pages this balance automatically declines. If a student prints non-class material it is likely the student will run out of allocated pages before the end of the semester. Each student is responsible for items printed from their account. Additional pages may be purchased through Sharon Crouch (Room IT 263) or Kevin Barrow (Room IT 253-Y). For any technical, print or account related questions, please see Wesley Spencer.

XVI. Note to Students:

The use of any type of email or instant messenger is strictly prohibited during class time. Do <u>NOT</u> use email or instant messenger during class. A break is allowed mid class session. Food or drinks are <u>NOT</u> allowed in the computer labs. Do <u>NOT</u> bring food or drinks into the lab. The use of any tobacco products in the drafting lab or CAD laboratory is strictly prohibited.

Please turn off or silence your cell phone during class time. Do <u>NOT</u> use your cell phone during class; this includes phone calls and text messaging.

Please refrain from Facebook, Twitter, and other internet use that distracts you from learning.

REQUIRED EQUIPMENT

.5 mm and .7 mm automatic pencils with HB lead Good compass or Circle Template Good eraser Architect's scale and civil engineer's scale 30°-60°-90° triangle

OPTIONAL EQUIPMENT

.3mm automatic pencil with HB lead Eraser shield Drafting tape/dots Flash pin/drive 45°-45° triangle

CONTACT INFORMATION

Rudy Ottway Office 259

Phone: 270.809.6897

Email: rudy.ottway@murraystate.edu