I. INTRODUCTION

Introduction to pictorial drawings as used in industrial catalogs, assembly sheets, newspaper publications, and promotional literature.

Technical illustration is a field of Drafting Technology that deals with the laying out of pictorial drawings complete with shade, shadow and texture to make the drawings appear as real objects. The technical illustrator prepares much of his work for original displays such as slide presentations, display cases, or on poster mounts for conference preparation. In addition, the technical illustrator is aware of the art needs of the printing industry and is familiar enough with their requirements to prepare original drawings for line copy reproduction in books, magazines, or journals.

The skill and knowledge levels required of the illustrator are probably greater than in any of the drafting fields. The illustrator’s compensation is also much greater since a good technical illustrator must be a combination of an artist and draftsman.

II. OVERALL OR GENERAL OBJECTIVES OF THE COURSE

Upon successful completion of this course, Technical Illustration, the student will be able to:

A. Use Isometric Drawings as a Method to Produce a Pictorial Representation of an object.

B. Freehand sketch isometric views of an object.

C. Use oblique drawing as another method to produce Pictorial representations of an object.

D. Use one and two point perspective drawing to produce a more realistic representation of Architectural interiors and exteriors.

E. Use shade and shadow techniques to render Pictorial drawings.

F. Prepare camera ready copy for the offset printing.

G. Prepare brochure drawings.
III. INSTRUCTIONAL MATERIALS

A. The instructional materials identified for this course are viewable through www.ctcd.edu/books

B. References:

1. Duff, John M., INDUSTRIAL TECHNICAL ILLUSTRATION, Monterey, CA: Brooks/Cole Engineering Division,

C. Equipment and Materials

The following items must be obtained by the student before any drawing assignments may be attempted. These items need not be expensive but should be of professional quality. When any questions arise pertaining to the selection of equipment, the student should seek the advice from the instructor, an experienced drafter, or a reliable dealer.

1. Three lead holders a 0.3, 0.5, and 0.7mm
2. Leads for the above holders
   0.3mm – 1pk. 2H
   0.5mm – 1pk. 2H
   0.7mm – 1 pk. H
3. 1 2mm lead holder with 4H lead
4. 1 drafting dots
5. 1 White Plastic Eraser
6. 1 Individual instrument set (center wheel bow compass and universal Adapter)
7. 1 Irregular curve
8. 1 Erasing shield
9. 1 Desk brush
10. 1 Sandpaper pad
11. “6” - 180-degree protractor
12. 1 Triangular Civil Engineer’s Scale
13. 1 Triangular Architect’s Scale
14. 1 Triangular Metric Scale
15. 1 Ames lettering guide
16. 1 45-degree Triangle (6” sides)
17. 1 30 degree x 60 degree triangle (6” long side)
18. 1 Circle template
19. Comp Book w/graphic lines (5x5 quad)

IV. COURSE REQUIREMENTS

Students are encouraged to work quickly and efficiently. Their grades will depend upon their speed and skill as well as their knowledge of drafting techniques. Students should remember that requirements for a passing grade includes keeping up-to-date on all assignments. (See section VI for assignment grading)

All outside reading assignments must be read before discussion dates. There will be associated study materials on the course Blackboard site. Textbook, notebook and disk should be brought to each class meeting.

EXAMINATIONS

A. Examinations will generally consist of a combination of objective questions and drawing problems. The drawing portions shall be graded for accuracy, neatness, and speed.

B. Unannounced short quizzes shall be given at the discretion of the instructor. There are no make-up for unannounced quizzes. Students with an excused absence shall review the grading computation with the instructor.

C. Make-up examinations shall be given only to those students having an excused college absence. Excusable absences are those resulting from personal illness, emergencies arising within the family, official school sponsored trips, and military duties or orders requiring brief absences. The student must notify the instructor prior to the absence.

D. At the option of the instructor, any missed exams shall be: made-up at a time convenient to the instructor; or the following exam shall count additionally for the missed exam.

E. At no time shall a student use a cell phone or other personal communication or music device during a test, quiz, or any other evaluation type process. Any of these devices should be turned off during the time of the test or quiz and should not be accessed until the student has completed the evaluation and has left the classroom. Violation of this policy shall result in the student receiving a failing grade for the course.
VI. SEMESTER GRADE COMPUTATION

Ninety-five percent of the semester grade will be derived from the average score of the unit quizzes combined equally with the averaged score of the drawing assignments. The remaining 5% of the semester grade shall be based on attendance/participation.

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\text{Attendance} = 5 \text{ points minus 1 point for each unexcused absence}
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\[
\text{Quiz Average} = \frac{\text{Total Score of Quizzes}}{\text{Numbers of Quizzes}}
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\[
\text{Drawing Average} = \frac{\text{Total Score of Assignments}}{\text{Number of Assignments}}
\]

\[
\text{Semester Average} = \frac{(\text{Quiz Average} + \text{Drawing Average} \times 0.95) + \text{Attendance}}{2}
\]

Students are advised to keep an accurate record of their respective assignments and quiz scores. With this record and by using the formulas provided, grade averages can be calculated at any time during the semester.

The drawing problems assigned will be graded on five major points: Speed, View placement, Accuracy, Line Type, and Text. In most cases, a number grade will be assigned to the drawing based on the numbers one to ten (one being the lowest and ten the highest).

Unless otherwise instructed, all assignments shall be the individual work of the student. Although collaboration and assistance by other students is encouraged, the creation and production of the work must be that of the individual student. The electronic (or otherwise) sharing of assignments is to be considered collusion and shall result in disciplinary action.

All assignments are due per the course outline. Assignments are due at the beginning of class. Late assignments may be accepted at the instructor’s option. Late assignments will be penalized 1 point for every 24 hours the assignment is late.

VII. NOTES AND ADDITIONAL INSTRUCTIONS FROM COURSE INSTRUCTOR

ATTENDANCE POLICY

Tardiness
Students are required to be in classrooms on time. Instructors may choose to lower a student's grade because of tardiness. Excessive tardiness, since it is disruptive to the educational process, may result in disciplinary action. Due process and the right to appeal will be provided to students subjected to disciplinary action. Details can be found in the Student Handbook, which is available at the Office of Student Services.
tardies is equal to 1 absence. See Section VI for Grade Computation.

Class Attendance

Because absences for any reason negatively affect the learning process, the individual student, and the class, students are expected to attend all classes in which they are enrolled. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is expected, and the College reserves the right to deal at any time with individual cases of nonattendance.

1. The effect of absences on grades is determined by the instructor.

2. Excessive absences constitute cause for dropping a student from class; in such a case the grade of FN may be given.

3. In extreme cases, the academic dean may suspend the student from the College.

4. When absence from class is necessary for any reason, the student has the responsibility to arrange to make up assignments missed during the absence.

5. The decision to allow a student to make up work following any absence rests solely with the instructor.

6. The student who desires to be absent from classes for the observance of a religious holy day should submit a request to each instructor by the 15th calendar day after the first day of the semester. Although the student will be excused from classes, he/she will be responsible for make-up of all work or tests missed. A "religious holy day" means a holy day observed by a religion whose place of worship is exempt from property taxation under Section 11.20, Tax Code.

Excessive Absences

Absences from classes for any reason must not exceed College standards. Because objectives can vary from department to department and from course to course, the instructor shall inform the student of specific course objectives at the initial class meeting. A student who is not meeting course objectives may be withdrawn from the course at the discretion of the instructor.

Students who have not attended class by the 12th class day will be dropped by the instructor with a grade of "W". Students may be administratively withdrawn from any class when their absences exceed a total of five (5) class meetings for long semester, three (3) class meetings for eight-week semester, two (2) class meetings for six-week semester, and in the opinion of the instructor they cannot satisfactorily complete the course. The final decision rests solely with the instructor.
The following specific rules apply to absences:

A. Instructors are required to keep attendance records.

B. Each faculty member will inform students of the attendance policy of the course at the initial class meeting.

C. Students are responsible for understanding the attendance policy for each course in which they enrolled and for meeting the attendance requirements.

D. Failure to meet the attendance requirements in a course may lower a grade for the semester or may result in failure in the course.

E. An administrative withdrawal may be initiated when the student fails to meet College attendance requirements. The instructor will assign the appropriate grade on the Administrative Withdrawal Form for submission to the registrar.

F. Only instructors can authorize an absence. Regardless of the reason for the absence, students are responsible for completing all course work covered during any absence.

Official Withdrawal Policy

1. It is the student's responsibility to officially drop a class if circumstances prevent attendance. Any student who desires to must officially withdraw from a course after the first scheduled class meeting must file an Application for Withdrawal or an Application for Refund at the Records Office, or with a Central Texas College representative at the Military Education Center.

2. The withdrawal form must be signed by the student.

3. Application for Withdrawal will be accepted at any time prior to the 12th week of classes. Students attending the Fort Hood eight-week classes may withdraw at any time before the Wednesday prior to the first day of finals. Also see Grade Notes: "W", page 29. The date is published each semester in the Schedule Bulletin.

4. Students using Financial Aid, Military Tuition Assistance, VA benefits or other than personal funds may be required to repay tuition and fees to the funding agency. For specific repayment requirements, students are referred to the Student Financial Aid Office, or the Veterans Services Office. Military Tuition Assistance students are referred to the Military Education Center. Students must withdraw in person after receiving FA, MTA, or VA approval.
5. Student may not withdraw from a class for which the instructor has previously issued the student a grade of "F" or "FN" for nonattendance.

Disability Support Services
Disability Support Services provides services to students who have appropriate documentation of a disability. Students requiring accommodations for class are responsible for contacting the Office of Disability Support Services (DSS) located on the central campus. This service is available to all students, regardless of location. Review the website at www.ctcd.edu/disability-support for further information. Reasonable accommodations will be given in accordance with the federal and state laws through the DSS office.

VIII. COURSE OUTLINE

A course outline and assignment sheet will be provided to each student as a supplement to this syllabus, prepared so as to reflect the most current date and state-of-the-art drafting assignments for the respective semester. As will be seen below, that outline divides the course into eight units of studies, with information grouped according to the title of the respective unit.

Student activities through each unit will be essentially the same. Reading assignments are to be prepared prior to the scheduled class in order to better facilitate discussions and greater enhance understanding.

A. Unit One: Use Isometric Drawings As A Method to Produce A Pictorial Representation of an Object.

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

   a. Identify and draw the three axes of isometric drawing - regular, reverse and long
   b. Identify and draw a right vertical, left vertical, and horizontal plane in isometric
   c. Draw an isometric cube on the three isometric axes
   d. Produce an isometric drawing of an object composes of all normal planes
   e. Produce an isometric drawing of an object composed of normal and incline planes
   f. Produce an isometric drawing of an object composed of normal, incline, oblique, and irregular surfaces
   g. Use the four-center method to draw isometric circles
   h. Use the isometric template to draw isometric circles
   i. Use the templates to draw holes in isometric and non-isometric surfaces
j. Draw an isometric full section of an object  
k. Draw an isometric half section of an object  
l. Draw isometric spheres in section  
m. Produce an isometric drawing of intersecting geometric shapes  
n. Draw isometric views of mechanical fasteners  

B. **Unit Two:** Freehand sketch isometric views of an object  

1. **Unit Objectives:** Upon successful completion of this unit, the student will be able to:  
   
a. Sketch the following:  
   i. Isometric lines  
   ii. Non-isometric lines  
   iii. Isometric and non-isometric planes  
   iv. Isometric circles  
   v. Objects composed of basic geometric shapes  

C. **Unit Three:** Use oblique drawing as another method to produce Pictorial representations of an object.  

1. **Unit Objectives:** Upon successful completion of this unit, the student will be able to:  
   
a. Use the following methods to draw oblique pictorials:  
   i. Regular oblique  
   ii. Cabinet oblique  
   iii. Cavalier oblique  

D. **Unit Four:** Use one and two point perspective drawing to produce a more realistic representation of Architectural interiors and exteriors.  

1. **Unit Objectives:** Upon successful completion of this unit, the student will be able to:  
   
   A) Establish a one-point perspective layout including the following:  
   a) Picture plane  
   b) Horizontal line  
   c) Ground line  
   d) Vanishing point  
   e) Station point  
   f) Elevation view  
   g) Plan view  
   B) Use the above layout to draw one-point perspectives of objectives and room interiors
C) Establish a two-point perspective layout including the following:
   i. Picture plane
   ii. Horizontal line
   iii. Ground line
   iv. Vanishing point right
   v. Vanishing point left
   vi. Station point
   vii. Elevation view
   viii. Plan view

D) Use variations of the above layout to vary the proportions of a drawing.

E) Use the above layout to draw two-point perspectives of objects and structures composed of the following geometric features:
   a) Normal planes
   b) Incline planes
   c) Oblique planes
   d) Circles
   e) Arcs

E. Unit Five: Use shade and shadow techniques to render Pictorial drawings.
   1. Unit Objectives: Upon successful completion of this unit, the student will be able to:
      a. Use pencil tone to shade and shadow a drawing
      b. Use the following techniques to render a drawing in pencil:
         i. Bold line
         ii. Parallel/line
         iii. Cross-hatch
         iv. Stipple

F. Unit Six: Prepare Camera Ready Copy for Offset Printing
   1. Unit Objectives: Upon successful completion of this unit, the student will be able to:
      a. Explain the offset printing process
      b. Prepare a line copy drawing for production

G. Unit Seven: Prepare Brochure Drawings
   1. Unit Objectives: Upon successful completion of this unit, the student will be able to:
      a. Prepare an isometric exploded assembly or sub assembly complete with call outs and parts list