SPRING SEMESTER, 2013

Instructor: *Mark Scherer*

Course No. & Title: DESN **104-41C, Mechanical Graphics**

Credits: 3   Contact Hours: 4

Prerequisite: DESN-103

Course Description: This course covers working drawings both in detailing and assembly. Presents fastening devices, thread symbols and nomenclature, surface texture symbols, classes of fits, the use of parts lists, title blocks, and revision blocks..

Course Objectives:
1. Identify and draw various fastening devices
2. Draw thread symbols and understand thread nomenclature
3. Develop proper surface texture symbols
4. Calculate classes of fits
5. Develop a parts list
6. Complete accurate title and revision blocks
7. Research and utilize various standard parts
8. Develop detailed parts and assembly drawings

Textbook: Technical Drawing 6th Edition, Goetsch, Chalk, Nelson, Rickman, Copyright 2010
        ISBN-13: 978-1-4283-3587-7
        One USB Flash Drive

Suggested References: Machinery's Handbook

STUDENT PORTFOLIOS

The North Central Association (NCA) which is the accrediting body for colleges and universities has requested that our programs have an instrument to measure Technical Outcome. All programs in the Technology Division use a Student Portfolio as the tool of measurement for the Technical Outcome, with the exception of the Automotive and Electrical programs which use the ASE and CET exam as the tool of measurement for their Technical Outcome. Students must present their portfolio to their Program Chair prior to graduation because it is a "Requirement for Graduation". Even if the student is not degree seeking, they should be advised to keep a portfolio in the event that they should change to degree seeking and/or portfolios can be used for job interviews. Recommended items for a portfolio are course syllabus, drawings, worksheets, program sheets (CNC), homework, quizzes, mid-term exam, final exam (if released), resume, and transcript/grade report.

Instructional Strategies: Lecture/demonstration, hands-on assignments, final projects

Evaluation: Graded projects must be done completely by the student without extended help from others. Copying another student's assignment or allowing your assignment to be copied is expressly prohibited and will result in suspension from this class. All of your drawings must have your name embedded in the file by the CAD Lab Security Program. Student's final grade will be determined primarily by the totals from the quizzes, the short projects, and the final project. Figure your grade each week by dividing your total by the total possible. Although you are not graded down for absence, absence will have an indirect effect on your grade and you are expected to complete the same work with the same quality as if you had no absence.

Grading Scale: (Always check your current grades at: https://cc.ivytech.edu)

Lowest A = 94%
Lowest B = 86%
Lowest C = 78%
Lowest D = 70%

Attendance policy: Regular attendance is expected. If you are absent, it is your responsibility to read the appropriate sections in the manuals, etc. in order to keep current. If you are absent it is your responsibility to obtain the lecture notes from a classmate. There will be no make-ups on any quizzes or tests.

Course Outline and Schedule of Requirements: ALL DRAWINGS MUST BE **COMPLETE** BEFORE THEY WILL BE GRADED. The assignments listed on the following pages are due by the end of the class session in which they are listed or at the **beginning** of the next class **(regardless of your class attendance)** for the same amount of credit. After that time 50% will be deducted **before** the assignment will be graded. All assignments build upon each other & must be completed in the order that they are assigned. No assignment will be graded until all previous assignments have been completed. The FINAL PROJECT will not be graded until all previous assignments have been completed and graded. Reading assignments should be completed **BEFORE** the class session in which they are listed. **YOU** ARE RESPONSIBLE FOR ALL READING ASSIGNMENTS REGARDLESS OF WHAT MATERIAL IS COVERED IN CLASS.

IT IS **YOUR RESPONSIBILITY** TO SEE THAT ALL OF YOUR **ASSIGNMENTS ARE TURNED IN ON TIME**, EVEN IF YOU ARE NOT IN THE CLASS THE DAY THE DRAWING IS DUE.

IMPORTANT: **Do not get behind.** Most students require extra time in the lab. You can make best use of class time if you read the assigned sections ahead of class, and look ahead at the drawing exercise and assignments.

The FINAL PROJECT will not be graded until all previous assignments have been completed and graded.

IF POSSIBLE, KEEP A BACKUP COPY OF ALL ASSIGNMENTS ON A SEPARATE STORAGE DEVICE. FILE FAILURE IS NOT AN EXCUSE FOR LATE ASSIGNMENTS. IF YOUR DRAWING FILE FAILS TO OPEN AND YOU DO NOT HAVE A BACKUP COPY OF YOUR ASSIGNMENTS, YOU WILL HAVE TO REDRAW THE ASSIGNMENT.

CIVIL CONDUCT IN CLASS AND IN THE CAD LAB

The CAD Lab is intended as a place of learning and work. It is your responsibility as a student using the CAD Lab to help maintain a business-like atmosphere conductive to individual concentration. The policies will be enforced so that the time and effort each person invests in his/her work in the CAD Lab will be productive as possible.

Cell Phones. No cell phone use in the CAD Lab. Silence all phones while in the CAD Lab.

Radios and CD/tape players. When you are working on your own Lab, you may use an individual radio or tape player if you are the only person who can hear it. If anyone else can hear it, you will be asked to turn it off.

Reserving workstations. When there is no class being taught in the Lab and the workstation is not reserved for maintenance, you are free to use the workstation on a first-come first-serve basis. If you do not plan to use plotters/printers, use a station that does not have one. When you have been working in the Lab, then need to leave the lab for a short break or a quick lunch, your workstation will be considered reserved for you. However, do not expect to hold a workstation while you are out of the Lab from more than 30 minutes, especially when the Lab is in heavy demand.

If you are using a workstation and a class is scheduled to begin soon, finish up your work and save your files in plenty of time so you can **be out of the Lab BEFORE the beginning of the class.**

Using systems during another class. Most CAD instructors will allow students who are not in their class to use a workstation during the class. However, do not assume this will be the case for all instructors or at all times. The instructor may only want class members in the Lab during exams, demos, etc. Each time you want to use a free workstation during a class, ask the instructor.

If you have permission to use a workstation during another class (one in which you are not enrolled), use a workstation in the back row. And remember that **the instructor is there to help the class members first.**

Getting help from instructor or Lab assistant. When an instructor is walking around looking for someone to help, feel free to ask him/her. However, when an instructor is working at one of the workstations with another student, or at the instructor's station, please approach him/her and ask for help when you see he/she is not in deep concentration. **Do not call out the instructor's name while he/she is working with another person or at the instructor's station.**

Conversation. Quiet conversation is acceptable. But, please do not continually talk out loud to yourself about your work. Other people are more interested in their own stream of thought than yours. Do not "whistle while you work". **Foul language, swearing, and indiscreet language are for the immature and for those who try to intimidate. They have no place in the CAD Lab or in any class and will not be tolerated.**

CAD LAB POLICIES

1. You may move the keyboard, monitor, or digitizing tablet slightly for most comfortable use. However, do not move the unit. IMPORTANT: Do not move the system unit while it is turned on. The hard disk runs continually and is especially vulnerable to damage while running.
2. All software and manuals must remain in the CAD Lab at all times. Additional manuals, Tutorials and other resources are found both on the instructor's table and in the Learning Resource Center (library).
3. **No copying of software in permitted.** Copying any ITSC owned/licensed software puts you in jeopardy of **immediate dismissal from class/college.**
4. **Use the switch on the multi-outlet box to turn each system on and off. Leave the monitor and system unit switches ON.**
5. Do not lie anything on top of the monitors that will block air vents.
6. Do not alter any files designed to remain on the hard disk.
7. Do not reconfigure AutoCAD.
8. **All of your files must be stored on your "Flash" drive.** You are permitted to copy your files from your flash drive onto the \WORK subdirectory on the hard disk for use during and editing session. **Make sure the C:\WORK directory is empty before you copy any of your files to use it.** However, **you must move your files back onto your flash drive before leaving the Lab, and must erase al l your files from the hard disk.** Also, the hard disk will be periodically purged of all student files found in other subdirectories.
9. **Students must do all their work on the \WORK subdirectory.** (The /WORK subdirectory must be the current or default directory.)
10. The CAD Lab will remain locked when not in use. Students currently in CAD classed will usually need to use the Lab beyond their regular class time. The Lab should be used only for class assignments and related practice, and only during the times when another class is not in session in the Lab. The schedule of regular classes will be posted on the Lab door. To gain entrance to the Lab, show your permission slip at the reception desk.
11. **Do not eat, drink, or smoke in the Lab. Do not bring anything to eat or drink into the Lab even if you are not using it.**
12. **Children are not permitted in the Lab.**
13. Any equipment failure or missing software or manuals or supplies should be reported to your instructor at once.
14. Please leave your workstation cleaner that you found it.
15. You may not install any software on these systems.
16. Do not attempt to do any system maintenance (hardware or software) on these systems. Instead, inform an instructor of any problems.

ASSIGNMENTS

All assignments are 20 points unless noted elsewhere.
This schedule is subject to revision at instructor's discretion.

Session	Date	Chapters	Assignments
1	1/14	5 (page 158) Orthographic Projections	5-8, 5-12
2	1/21		Closed
3	1/28	5 (page 158) Orthographic Projections	5-22, 5-32
4	2/4	7 (page 236) Primary Auxiliary Views	7-3, 7-22 (7-11, 7-12)

Limits = Lower Left = 0,0
        = Upper Right = Corner of the Border
Dimscale = 1.000 [25.4]
Ltscale = 0.500 [10.0]
Grid = 0.500 [10.0]
Snap = 0.125 [2.0]

Test Style=IVY TEXT
Font=ROMANS
Width=0.80
Height=0.0

Session	Date	Chapters	Assignments
5	2/11	6 (page 201) Section Views	6-6, 6-17
6	2/18	13 (page 511) 14 (page 557) Fasteners & Springs	½-13 Hex Head Bolt Drawing ½-13 Miscellaneous Bolt Drawings
7	2/25	10 (page 371) Dimensioning	Add Dimensions to 5-8, 5-12, 5-22, 5-32

PORTFOLIO

Your portfolio will contain the following from this class:
1.   A typed (not handwritten) Table of Contents at the beginning of the portfolio that lists the included drawings in order, and the reason for each drawing you have chosen to include within your portfolio.
2.   A typed current resume.
3.   Plotted drawing of:
4.   Minimum of 10 additional plotted drawings of your choice

The portfolio must be enclosed in a portfolio case.
No drawings are to be rolled up.
C & D size sheets are to be folded to A or B size.

Session	Date	Chapters	Assignments
8	3/4	10 (page 371) Dimensioning	Add Dimensions to 7-3, 7-22
9	3/18	10 (page 399) Tolerances	Worksheet 73, 82
10	3/25	17 (page 610) Assembly Drawings	Wheel Assembly 60 Point
11	4/1		Drill Press Bracket 100 Points
12	4/8 *	Final Project	
13	4/15		
14	4/22		
15	4/29		
16	5/6	THE COMPLETE FINAL PROJECT DUE **BEFORE** END OF CLASS TODAY **(NO EXCEPTIONS)**	

- Last day to withdraw:

ATMAE - REQUIREMENTS

Students wishing to graduate from a School of Applied Science and Engineering or the School of Technology, from Ivy Tech Community College Northeast must complete at least 12 semester hours of Management and/or Technical training. This requirement is concurrent with the college requirement that each student must complete 15 semester hours at this institution.

Students transferring to Ivy Tech Community College Northeast and entering into the School of Applied Science and Engineering or the School of Technology must also meet the 12 semester hours of Management and/or Technical training. Credits considered for transfer may be from another Ivy Tech ATMAE accredited campus or obtained from an ATMAE accredited institution.