ULSTER COUNTY COMMUNITY COLLEGE
STONE RIDGE, N.Y. 12484

COURSE SYLLABUS

COURSE TITLE: Advanced Drafting

COURSE NUMBER: IND 135 **SEMESTER:** Spring **YEAR:** 2012

INSTRUCTOR: Salvatore Ligotino

OFFICE HOURS: Monday 3-5, Wednesday 12-1 & Thursday 11-12. If you can't make it during these times please email me at ligotins@sunyulster.edu to schedule an appointment.

TEXTBOOKS: **Technical Drawing** by Giesecke, Mitchell, Spencer, Hill; 12th Edition
Machinery's Handbook by Oberg & Jones, any edition

GENERAL COURSE DESCRIPTION:
The course is designed to further the student's knowledge in drafting with emphasis placed on design.

GENERAL COURSE GOALS:
Students will acquire knowledge of design and assembly of machine components, elements of movement, and mechanisms of supporting structure. Topics of study are in the form of details, assemblies, drafting of cams, gears, bearings, jigs, and cabinets.

SPECIFIC COURSE GOALS:
1. Students will design a vandal proof mailbox post.
2. Students will produce drawings that include calculations for a belt & pulley, springs, gears and cams.
3. Students will design and draw cam details and profiles.
4. Students will design and draw plans for a trebuchet.
5. Students will design and a draw gear reduction box.

OUTLINE OF THE COURSE:
1. Introduction
2. Belts and Pulleys
    a. V belt
    b. Tooth belts
    c. Keyed shafts and their calculations
3. Springs
    a. Drawing and calculations for coil springs
4. Gears
    a. Drawing of spur & bevel gears
    b. Discussion of worm, rack & pinion, herringbone, intermittent, change, internal, helical, planetary, ratchet & spiral gears.
5. Cam & follower

   a. Drawings of radial, plate & drum cams
   b. Study of uniform, constant accelerating & harmonic motions
   c. Discussion of other cams such as toe & wiper yoke, cylindrical groove, constant diameter, cylindrical end inverse, rectilinear and geneva.
   d. Drawing of flat, pointed, & roller followers
6. Bearings
   a. Drawing of ball & roller bearings
   b. Discussion of other types of bearings
7. Jigs & Fixtures
   a. Drawings of simple jigs and fixtures
8. Cabinet making
   a. Design components
   b. Frame design
   c. Connecting joints
   d. Assembly methods

COURSE COMMUNICATION:
For this course, all e-mail communication with students will occur though the use of the MYSUNYULSTER.edu portal. Students are required to use this means of contact with their instructor for all course related items (grades, making appointments, absences, etc.). This use of portal e-mail for faculty- student communication complies with Federal law (FERPA).

STUDENT REQUIREMENTS FOR THE COURSE:
Complete homework projects, show results of study with satisfactory grades, pass midterm and final exam.

ATTENDANCE POLICY:
Attendance is expected for all classes. Attendance will affect the final grade. Full attendance will positively affect the final grade. A lack of attendance will negatively affect the grade. In addition, late arrival and early departure will negatively affect the grade. Should an individual arrive to class as to miss a significant portion of that class, the lateness will be treated as an absence. Should an individual miss more than **TWO** classes each absent thereafter will lower your grade by one letter.

METHOD FOR ASSESSING STUDENT ACHIEVEMENT:

Homework/assignments	10%
Final Exam	20%
Drawings and Designs	70%

FINAL EXAM:
A final examination will be given during the final exam period.

BIBLIOGRAPHY:
As supplied by instructor