

BOROUGH OF MANHATTAN COMMUNITY COLLEGE

City University of New York

Department of Science

Title of Course ENGINEERING GRAPHICS

ESC 130 Section _____

Credits 2

Class hours 1

Lab hours 3

Instructor Information

Name:

Office:

Room:

Email:

Course Description

This is a course in fundamental of engineering Graphics and Computer Aided Drawing. Topics covered include: Visualization, Sketching, Solid Modeling, Constraint-based Modeling, Geometry, Dimensioning, Multiviews & Pictorial projections, Manufacturing processes, Working drawings, Sectional views, Auxiliary view, Assemblies.

Prerequisites/Co-requisites

Student Learning Outcomes

1. Students will be able to learn visualization and conceptualization of three-dimensional models, geometry and vector calculus.
2. Students will be able to gain knowledge of engineering graphics and implementation of design drawings with emphasis on product realization.
3. Students will be able to gain working knowledge of constraint-based solid modeling software with emphasis on Pro/Engineer package.

Required Text & Readings

Pro / Engineer Tutorial & Multimedia CD, 2001: Rodger Toogood

Other Resources

References

1. Giesecke, G., Mitchell, A., Spence, H., Hill, I., Dygdon, J, Novak, J. Lochhart, S., Modern Graphics Communication, 3rd Edition, Pearson/Prentice Hall, isbn0-13-141516-6
2. Craig, J. and Craig O., Engineering Graphics Workbook, Series 1, Schroff Development Corp., ISBN 0-30-000808-4
3. Toogood, R., Pro/Engineer Tutorial release 2001, Schroff Development Corp., ISBN 1-58503-029-5

Use of Technology (if applicable)

Evaluation & Requirements of Students

| | |
|-----|----------------------------|
| 30% | Quizzes |
| 30% | Weekly projects & Homework |
| 20% | Final Examination |
| 20% | Term Projects |

Outline of Topics

LECTURE SYLLABUS

TOPIC(S)

- Sketching
- Solid modeling
- Geometry
- Multiviews and pictorial
- Visualization
- Sectional views
- Auxiliary views
- Constraint-based modeling
- Dimensioning and Tolerances
- Manufacturing processes

Assemblies

COMPUTER USAGE

Pro/Engineer software is integrated as main teaching tool.

PROJECTS

Final projects consists of modeling all parts in an assembly, putting the parts together in an assembly, and creating detail drawing of parts. Students have to consider modeling strategies for all the parts and how specific parts interact with other parts.

College Attendance Policy

At BMCC, the maximum number of absences is limited to one more hour than the number of hours a class meets in one week. For example, you may be enrolled in a three-hour class. In that class, you would be allowed 4 hours of absence (not 4 days). In the case of excessive absences, the instructor has the option to lower the grade or assign an F or WU grade.

Academic Adjustments for Students with Disabilities

Students with disabilities who require reasonable accommodations or academic adjustments for this course must contact the Office of Services for Students with Disabilities. BMCC is committed to providing equal access to all programs and curricula to all students.

BMCC Policy on Plagiarism and Academic Integrity Statement

Plagiarism is the presentation of someone else's ideas, words or artistic, scientific, or technical work as one's own creation. Using the idea or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations, require citations to the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism.

Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has guides designed to help students to appropriately identify a cited work. The full policy can be found on BMCC's web side, www.bmcc.cuny.edu. For further information on integrity and behavior, please consult the college bulletin (also available online).