BOROUGH OF MANHATTAN COMMUNITY COLLEGE
The 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

<table>
<thead>
<tr>
<th>Course Student Learning Outcomes (Students will have...)</th>
<th>Measurements (means of assessment for student learning outcomes listed in first column)</th>
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</thead>
<tbody>
<tr>
<td>Knowledge of using graphics as a tool for communicating ideas.</td>
<td>1. In class exam.</td>
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<td>Ability to perform freehand sketching and lettering.</td>
<td>2. In class exam.</td>
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<td>Knowledge of geometric construction and modeling using professional drafting software.</td>
<td>3. In class exam.</td>
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<td>Knowledge of multiview representations, oblique drawing and solid modeling.</td>
<td>4. In class exam.</td>
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<td>Knowledge of scaling and dimensioning, placement of dimensions and standard practices.</td>
<td>5. In class exam.</td>
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Below are the college’s general education learning outcomes, the outcomes that are checked in the left-hand column indicate goals that will be covered and assessed in this course. (Check at least one.)

<table>
<thead>
<tr>
<th>General Education Learning Outcomes</th>
<th>Measurements (means of assessment for general education goals listed in first column)</th>
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<tr>
<td>Communication Skills- Students will be able to write, read, listen and speak critically and effectively.</td>
<td>Project report and presentation</td>
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<td>Quantitative Reasoning- Students will be able to use quantitative skills and the concepts and methods of mathematics to solve problems.</td>
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<tr>
<td>Scientific Reasoning- Students will be able to apply the concepts and methods of the natural sciences.</td>
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<tr>
<td>Social and Behavioral Sciences- Students will be able to apply the concepts and methods of the social sciences.</td>
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<tr>
<td>Arts &amp; Humanities- Students will be able to develop knowledge and understanding of the arts and literature through critiques of works of art, music, theatre or literature.</td>
<td>Mastery in using graphics software as demonstrated by in class exams and projects</td>
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<td>Information &amp; Technology Literacy- Students will be able to collect, evaluate and interpret information and effectively use information technologies.</td>
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<tr>
<td>Values- Students will be able to make informed choices based on an understanding of personal values, human diversity, multicultural awareness and social responsibility.</td>
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Textbook

Other Resources:
Reference


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 and Assemblies

COMPUTER USAGE

SolidWorks 2017 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.
Class Participation
Participation in the academic activity of each course is a significant component of the learning process and plays a major role in determining overall student academic achievement. Academic activities may include, but are not limited to, attending class, submitting assignments, engaging in in-class or online activities, taking exams, and/or participating in group work. Each instructor has the right to establish their own class participation policy, and it is each student’s responsibility to be familiar with and follow the participation policies for each course.

BMCC is committed to the health and well-being of all students. It is common for everyone to seek assistance at some point in their life, and there are free and confidential services on campus that can help.

Single Stop www.bmcc.cuny.edu/singlestop, room S230, 212-220-8195. If you are having problems with food or housing insecurity, finances, health insurance or anything else that might get in the way of your studies at BMCC, come by the Single Stop Office for advice and assistance. Assistance is also available through the Office of Student Affairs, S350, 212-220-8130.

Counseling Center www.bmcc.cuny.edu/counseling, room S343, 212-220-8140. Counselors assist students in addressing psychological and adjustment issues (i.e., depression, anxiety, and relationships) and can help with stress, time management and more. Counselors are available for walk-in visits.

Office of Compliance and Diversity www.bmcc.cuny.edu/aac, room S701, 212-220-1236. BMCC is committed to promoting a diverse and inclusive learning environment free of unlawful discrimination/harassment, including sexual harassment, where all students are treated fairly. For information about BMCC's policies and resources, or to request additional assistance in this area, please visit or call the office, or email olevy@bmcc.cuny.edu, or twade@bmcc.cuny.edu. If you need immediate assistance, please contact BMCC Public safety at 212-220-8080.

Office of Accessibility www.bmcc.cuny.edu/accessibility, room N360 (accessible entrance: 77 Harrison Street), 212-220-8180. This office collaborates with students who have documented disabilities, to coordinate support services, reasonable accommodations, and programs that enable equal access to education and college life. To request an accommodation due to a documented disability, please visit or call the office.

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
This syllabus is provided as a general informational guide. Some of the information may vary depending on the specific course section and instructor. Different sections of the same course may require different textbooks. Verify the section specific textbook information in the CUNY’s Academic Course Schedule Web Page. Modifications of the grading system presented here will be communicated by the instructors of the sections when they meet the class.

Policy can be found on BMCC’s Web site, www.bmcc.cuny.edu. For further information on integrity and behavior, please consult the college bulletin (also available online).