



University/Academy: Arab Academy for Science, Technology & Maritime Transport
Faculty/Institute: College of Engineering & Technology
Program: B.Sc. Mechanical Engineering

Form no. (12): Course Specification

1- Course Data

Course Code: ME151	Course Title: Engineering Drawing and Projection	Academic Year/Level: 1st year / 2nd semester
Specialization: Mechanical	No. of Instructional Units 3 credits	Lecture 2 hrs.
		Practical 4 hrs.

2- Course Aim

- To give the students the ability to communicate by means of Engineering Drawing and to relate the applications of drawing techniques to engineering practice

3- Intended Learning Outcomes

a- Knowledge and Understanding	Through knowledge and understanding, students will be able to: a.1) Concepts and theories of mathematics and sciences, appropriate to the discipline a.4) Principles of design including elements design, process and/or a system related to specific disciplines. a.10) Technical language and report writing
b- Intellectual Skills	Through intellectual skills, students will be able to: b.12) Create systematic and methodic approaches when dealing with new and advancing technology.
c- Professional Skills	Through professional and practical skills, students will be able to: c.3) Create and/or re-design a process, component or system, and carry out specialized engineering designs c.4) Practice the neatness and aesthetics in design and approach. c.11) Exchange knowledge and skills with engineering community and industry c.12) Prepare and present technical reports c.p.2) Prepare engineering drawings, computer graphics and specialized technical reports c.p.4) Describe the basic Thermal and fluid processes mathematically and use the computer software for their simulation and analysis
d- General Skills	Through general and transferable skills, students will be able to:

	<p>d.3) Communicate effectively</p> <p>d.4) Demonstrate efficient IT capabilities.</p> <p>d.5) Lead and motivate individuals</p> <p>d.6) Effectively manage tasks, time, and resources</p> <p>d.7) Search for information and engage in life-long self learning discipline</p> <p>d.8) Acquire entrepreneurial skills</p> <p>d.9) Refer to relevant literature</p>
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4- Course Content

Week No.1	Drawing practices and techniques (Exercises on geometrical construction)
Week No.2	Methods of object projection (Exercises on geometrical construction – Exercises on object projection)
Week No.3	Orthogonal projection (Exercises on orthogonal projection)
Week No.4	Missing views, dimensioning and free hand sketching (Exercises on projection and free hand sketching)
Week No.5	Sectioning and conventions (Exercises on sectional views)
Week No.6	Intersection of geometrical surfaces and development (Exercises in intersection of geometrical surfaces and development)
Week No.7	Standard metal sections and metal structures (Exercises on metal structures) / 7th week evaluation
Week No.8	Compound metal sections and welds (Exercises on metal structures)
Week No.9	Isometric projection (Exercises on Isometry)
Week No.10	Isometric projection & Surface intersections (Exercises on Isometry and surface intersections)
Week No.11	Perspective projection (Exercises on Perspective projection)
Week No.12	Perspective projection (Cont.) (Exercises on interior and exterior perspective projection) / 12th week evaluation
Week No.13	Computer Aided drafting using AutoCAD (General Introduction).
Week No.14	Drawing and editing commands in AutoCAD
Week No.15	Writing texts, Dimensioning and viewing commands
Week No.16	Final Examination

5- Teaching and Learning Methods

- Lectures
- Tutorials
- Reports & sheets
- Laboratories
- Seminars

6-Teaching and Learning Methods for Students with Special Needs

- Lectures
- Tutorials
- Reports & sheets
- Laboratories
- Seminars

Engineering Requirements and Design Considerations in college Buildings and its Leading Passages

- The design of college buildings and pedestrian passages leading to it are sloppy to allow the transportation of the handicapped;
- Doors are wide enough to let wheel chairs pass through easily and conveniently.
- Lifts are provided for movement between floors.
- Doors are made from light weight materials to make it easy for the handicapped suffering from weakness in limb muscles or those handicapped using prosthetic limbs to deal with them with the least muscular effort.
- Class floors are made from non-slippery materials to prevent falls on the part of the handicapped.
- Sudden changes in the floor level are prevented.

Design Considerations of the Classes

- Class boards are placed at 60 cm high to allow wheeled chair users or those suffering from limited arm mobility use them.
- Enough spaces are left between seats and benches to prevent hindering the movement of wheeled chairs between them.
- Handicapped students sit among normal people in class to be able to interact with them. Nevertheless, in urgent cases according to the nature of the disability, the handicapped students sit in fixed suitable places whether at the front or the back of the class.
- Handicapped students sit close to the main exits of the class to be able to evacuate in case of emergencies.

Academic Support:

- The general academic advisor appoints an academic supervisor for handicapped students.
- Continuous follow ups are made for handicapped students after each assessment to evaluate their academic level of achievement

7- Student Assessment

a-Procedures used	1-Written Examinations to assess The Intended Learning Outcomes. 2-Class Activities (Reports, Discussions, -----) to assess The Intellectual and general Skills.
b- Schedule:	Assessment 1 7 th Week Assessment Assessment 2 12 th Week Assessment Assessment 3 Continuous Assessments Assessment 4 16 th Week Final Written Exam
c- Weighing of Assessment	7 th Week Evaluation 30 % 12 th Week Evaluation 20 % Final-term Examination 40 % Oral Examination 00 % Practical Examination 00 %

	Semester Work	10 %
	Total	100%

8- List of References:

a- Course Notes	N/A
b- Required Books (Textbooks)	<ul style="list-style-type: none"> • Notes prepared and edited (from several related text books, standards and codes in use) to cover the syllabus
c- Recommended Books	<ul style="list-style-type: none"> • S. Bogolyulov A. Voinor, "Engineering Drawing", MIR Publishers, Latest Edition. • Thomas E., French, "Engineering Drawing & Graphic Techniques", McGraw-Hill Co., Latest Edition.
d- Periodicals, Web Sites, etc.	N/A

Course Instructor: Dr. Ashraf Sharara

Head of Department: Prof. El-Sayed Saber

Program Manager: Prof. El-Sayed Saber

Dean of College of Engineering and Technology of AASTMT

Name: Prof. Moustafa Hussein Aly

Signature:

Executive Manager of Quality Assurance Center of AASTMT

Name: Prof. Aziz Ezzat

Signature: