

ME-119: ENGINEERING DRAWING
2017-18 Semester II

Instructions for the Students

Please read the **all** the instructions below carefully, before showing up for the first lab session

Syllabus

<i>Sh. No.</i>	<i>Title</i>	<i>Chapter in Ref. 1</i>	<i>Remarks</i>
1.	Basics of Drawing, Geometric Construction	3 - 5	• In Class Demo of AutoCAD
2.	Engineering Curves	6 & 7	• Performed on AutoCAD in Drawing Hall • pdf files have to be submitted at specified network location
3.	Projections of Points and Straight Lines	8 - 10	
4.	Projections on Auxiliary Planes	11	
5.	Projections of Planes	12	
6.	Projections of Solids	13	
7.	Sections of Solids	14	
8.	Development of Surfaces	15	
9.	Intersection of Surfaces	16	
10.	Pictorial Views: Isometric Projections	17	
11.	Part and Assembly Modeling Using SolidWorks	-	Performed using SolidWorks

Note:

Number of lectures : 11

Number of lab sessions : 13 (Including Test 1 and Test 2)

Text books:

1. N. D. Bhatt (revised and enlarged by V. M. Panchal and Pramod R. Ingle), Engineering Drawing, 50th Ed., Charotar Publishers, Anand, 2010.
2. Dhananjay A. Jolhe, Engineering Drawing, Tata McGraw Hill, 2011
3. Thomas E. French and Charles J. Vierck, Engineering Drawing and Graphic Technology, 12th Ed., McGraw-Hill, 1978.

Instructors, Venues and Schedules

Divisions	Lecture			Drawing Lab Session	
	Schedule	Venue	Ins.	Schedule	Ins.
P01 & P03	Mon 3:30-4:30 pm (9A)	LA-302	VS	Tue 2:00-5:00 pm (L2)	VS
P02 & P04	Mon 3:30-4:30 pm (9A)	LA-301	AB	Fri 2:00-5:00 pm (L4)	SGK
P11 & P13	Wed 4:00-5:00 pm(X3)	LC-001	AB	Mon (9:30 am -12:30 pm) LM	AB
P12 & P14	Wed 4:00-5:00 pm (X3)	LC-002	RM+ST	Thu (9:30 am-12:30 pm) LH	ST

Note:

- *Contact details of the instructors:*
AB - Amitabh Bhattacharya (7539; bhattach@iitb.ac.in)
VS - Vivek Sangwan (9357; vivek.sangwan@iitb.ac.in)
RM - Rakesh Mote (7529; rakesh.mote@iitb.ac.in)
ST - Shantanu Tripathi (9359; tripathi@iitb.ac.in)
SGK - Shivasubramnian Gopalakrishnan (7524; sgopalak@iitb.ac.in)
- *Lab sessions will be held in the Drawing Hall in the first floor of Transit Building. This building is opposite to OrthoCAD Laboratory (corner of the Y Point road and the road adjacent to library). It is at the other side of your Physics Laboratory.*
- *Only the lectures will be delivered in the first week and no practice sessions.*
- *When a lecture class falls on a holiday, it will be compensated within the same or previous week.*
- *When a practice session falls on a holiday, it will be compensated in the forenoon of the previous or following Saturday.*
- **Please do not commit your ME119 slots for any other course.**
- *Detailed schedule made on the above guidelines is given as Annexure I.*

Contact Details

Intercom number in the Drawing Hall is 4582. Mr. Prakash A. Rokade and the RAs will be there.

Note: 1. Clarify your doubts and queries as far as possible in the lecture classes.
2. Use emails sparingly. Due to the large class size, we may not be able to reply all queries through emails.

Implementation

- A common pool of 4 sets of instructors, Mr. Prakash A. Rokade, several RAs and TAs will be responsible for all the 4 divisions.
- Each topic will have contact hours in the form of (a) lecture and (b) drawing session. The problem sheet of any topic as well as its lecture slides will be uploaded in *moodle* <<http://moodle.iitb.ac.in>> before the corresponding lecture session.
- Each sheet n will have a life cycles of 4 weeks:

Week $n-1$: Lecturing

Week n : Laboratory session and submission

Week $n+1$: Evaluation & declaration of marks

Week $n+2$: Cribs and freezing.

- The students shall bring the following to the drawing hall for lab sessions:
 - Identity card (for attendance and entry)
 - Hardcopy of the current problem sheet for all sheets EXCEPT sheet 11. **Penalty of 10% of points will be imposed if you do not bring the hardcopy of the problem sheet.**
 - The text book.
 - Sketch book and pencil.
 - Calculator
 - ALL sheets will be performed on AutoCAD/SolidWorks. Therefore, Drawing Instruments (Drafters, Compass etc) are NOT required.
- The students shall NOT have the following with them in the Drawing Hall:
 - Devices with camera, display, storage and transmitting/communicating capabilities such as laptops, USB memory devices and mobile phones of any kind.
 - Photocopies of the previous batch/year sheets
 - **As per institute rules, you will get a grade penalty for the course if you are found using unfair means to solve the sheets in the lab sessions.**
 - **Students using unfair means in the Tests will be given an FR grade.**

The items not allowed inside the Drawing Hall may be kept under the table in a bag.

- Most problem sheets will have 6 problems each. Students shall practice these problems well in advance on a sketch book before coming to the drawing hall. 2-4 problems randomly selected by the section instructor from the sheet shall be solved in the Drawing Hall.
- You will be submitting the pdf of your sheets for evaluation at a common network location. More instructions on submission of sheets (e.g. location of network drive) will be given later on moodle. The lab RAs will be printing the pdfs during the week, and the TAs will be grading the sheets.
- Maximum TWO pdf files (A3 sized) will be allowed per sheet

- An instructor and RAs/TAs will guide the students in both the lecture as well as the practice sessions. Students are also allowed to consult the text book, their sketch book and discuss with their friends. However, they shall not verbatim reproduce from the sheets of neighbours nor will they consult the sheets of the previous batches.
- The sheet will be completed in the same session and submitted onto the network location.
- **Late submission of sheet in lab will lead to a penalty of 10%**
- The sheet will be graded and returned the following week.
- The performance of the students will be uploaded in Moodle periodically.
- Any queries in corrections shall be described in an A4 sheet neatly and legibly and stapled to the answer sheets and resubmitted for review. This can be done either in the following lecture class or practice class. Cribes based on comparison with the marks of the other students shall not be entertained as some subjectivity is inevitable during the correction.
- Biometric attendance will not be used. If attendance is being taken by the instructor, then you need to sign the attendance sheet for each lab and theory class. So, please do not waste time in recording biometric attendance in the classes. You shall show IIT Identity Card when demanded.
- 80% attendance in both lectures and laboratory sessions is compulsory.
- Compensation of lab session shall be permitted only for the following genuine cases:
 - Absence due to medical reasons certified by IIT Hospital (“pink slip”).
 - Absence to attend a co-/extra-curricular activity (to be certified by the appropriate Dean only).

The student absent due to one of these genuine reasons, shall do the compensation as follows:

- Write a requisition letter on plain A4 sheet citing the reason for the absence and staple the pink slip or the letter of the Dean in support of the reason.
- Get the approval of his lab-instructor.
- Show this approved letter to Mr Rokade who will write the slot for compensation. You cannot come for compensation on any other slot. Note that female students will not be allowed to work alone in the Drawing Hall.

- Evaluation scheme:

Evaluation of all the sheets (best 9 out of 10 sheets will be counted)	70.0%
Test-1 (just before Mid-sem exam): Till manual drafting	15%
Test-2 (just before End-sem exam): From AutoCAD drafting and 3D CAD	15%

Procedure in the Drawing Hall

- You will receive login and password for the PCs in drawing hall during the first week of instructions. Each login will be associated with one roll number. DO NOT try and login into any other student's account; you WILL be penalized severely if you are caught logging into an account other than yours. **You will not be allowed to enter the drawing hall without your ID cards.**
- You may use any of the PCs in the drawing hall. Report to the nearest TA/RA if you are having issues with logging in.
- The first five chapters of N.D. Bhatt's book gives preamble details on sheet layout, lines, lettering, dimensioning etc. These shall be followed in all sheets.
- Wherever not specified, the drawings may be scaled appropriately. Plan the layout of each page so as to optimally and nicely accommodate the problems. Up to 2 A3 sheets (saved in separate pdf files) may be used to accommodate your problems.
- The drawing sheet should have title block and borders as shown below. All lettering in the name plate should be in capitals.
- Complete the dimensioning and lettering for each problem as soon as it is completed. Please do not postpone it to the end. This leads to poor quality.
- Lettering, dimensioning, line types etc. shall be as per the standards discussed in Chapters 1-5 of N.D. Bhatt.

