

Welcome to

**MLL100 : Introduction to Materials
Science and Engineering (3-0-2)**

Instruction Team

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Course website:

<https://web.iitd.ac.in/~bkrishna/MLL100.html>

MLL100: Introduction to Materials Science and Engineering (3-0-2)

Lectures 3 hours/wk

(Tues. Wed. and Fri. from 10:00-10:50 AM)

Lab 2 hours/wk
(Mondays and Tuesday 1 - 5 PM)

Total 5 hours/wk

Announcements

All the course related information will be updated on course page

<https://web.iitd.ac.in/~bkrishna/MLL100.html>

Labs will commence from week of 8th Jan 2023

The list of lab groups will be available on

<https://web.iitd.ac.in/~bkrishna/MLL100.html>

All the lab classes will be held in LH202
Materials Science Laboratory

Grading

Evaluations	Marks
Minor	30
Major	35
labs	20
Quizes	10
Surprise	5
Total	100

Examinations

- All exams to be taken in person.
 - Pen and Paper – orthodox.
- Minor
 - Syllabus covered till minor
- Major:
 - The entire syllabus – with about 70 percent weightage to the content covered after minor

Labs

- List of labs:

1	2D Bravais
2	3D lattices
3	Crystal arrangements
4	XRD
5	Phase diagrams
6	Defects
7	Microstructure
8	Tensile Tests
9	Rubber Elasticity
10	Creep

All labs have equal weightage
2 buffer labs in whole semester

You can repeat only 1 lab every half semester.

Attendance Policy

75% attendance is mandatory

Attendance <75% will cause one grade lower than the actual grade

Entry in class

Doors will be closed at 10:05 AM, no late entry will be allowed after this.

Entry in Lab

- Lab timings:
 - Two slots: 2 PM and 4 PM
- No late entry after 5 mins of start time
- Wear shoes
- Shorts are not allowed
- Come with your stationary and text book
- Mobile phones not allowed.

Warning

Discipline in class: the person will be out for the entire semester from the course

Unfair means in exam: 16 students had faced DISCO in this course

Course content

1. Introduction
2. Thermodynamics Review
3. Crystallography
4. Structure of solids
5. Phase Diagrams
6. Defects in crystalline solids
7. Diffusion
8. Mechanical properties
9. Phase transformation
10. Electronic materials (If time permits)

Textbooks:

- V. Raghavan, *Materials Science and Engineering: A First Course*, Sixth Edition, PHI India.
- William D Callister, *Materials Science and Engineering, An Introduction*, Sixth Edition, John Wiley and Sons.