

MS2082 – LABORATORY IIB

Course Code	MS2082					
Course Title	Laboratory IIB					
Pre-requisites	NIL					
Pre-requisite for	NIL					
No of AUs	1					
Contact Hours	LABORATORY CLASS	15 hrs				

Course Aims

This course allows students to apply the theoretical knowledge learnt in their various materials engineering classes in a hands-on experiment session. They will have to correlate theoretical concepts with practical phenomena using mathematical calculations, scientific equations and answering descriptive questions of processes and mechanisms.

Intended Learning Outcomes (ILO) for Part B

By the end of this course, you (as a student) would be able to:

1. perform hands-on scientific and engineering experimentation
2. correlate theoretical concepts to practical phenomena
3. apply relevant engineering calculations to predict the mechanisms taking place
4. explain theoretical phenomena in a descriptive text
5. draw logical conclusions from experimental data
6. produce lab reports in accordance with established practices of the engineering discipline

Course Content

This course consists of the following five laboratory sessions related to the various subjects covered in Materials Science & Engineering:

- EC1. Electrical Properties of Materials
- EC2. Heat Treatment & Mechanical Properties of Steel
- EC3. Precipitation Hardening in an Aluminium Alloy
- EC4. Sintering, Microstructure & Properties of Ceramics
- EC5. Microstructure of Materials

Course Policies and Student Responsibilities

(1) General

Students are expected to read all laboratory manuals, attend all laboratory classes punctually and submit all scheduled reports/log sheets by due dates.

(2) Absenteeism

MS2082 requires you to be in laboratory classes to perform hands-on experiments. Absence from class without a valid reason will affect your overall course grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. Students who miss a lab session without valid reasons will be given a penalty deduction of 10 marks.

If you miss a laboratory session (with or without valid reasons), make-up is compulsory. The students who did not attend the make-up will be considered as 'ABS', and no mark will be awarded to the missed laboratory session(s). For students who missed an experiment due to valid reasons

and did not attend the make-up, they will still be considered as 'ABS' and no mark will be awarded to the missed laboratory session(s).

Academic Integrity

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values.

As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the [academic integrity website](#) for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.