



**THE UNIVERSITY OF ZAMBIA**  
**SCHOOL OF ENGINEERING**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

**MEC 2309 – PROPERTIES OF ENGINEERING MATERIALS I**

# **COURSE OUTLINE AND ASSESSMENT**

# Lecturers:

## 1. Mr. Grain M. Munakaampe

- School of Engineering Main Building, First Floor, Room 131.
- Phone 097 785 7896; Emails: [\*gmmunakaampe@unza.zm\*](mailto:gmmunakaampe@unza.zm)  
[\*gmmunakaampe@yahoo.com\*](mailto:gmmunakaampe@yahoo.com)

## 2. Miss. Flora K. Chitalu

- School of Engineering Main Building, First Floor, (Shared Office Next to S5)
- Phone 097 083 7907; Emails: [\*flora.chitalu@unza.zm\*](mailto:flora.chitalu@unza.zm)  
[\*florachitalu@gmail.com\*](mailto:florachitalu@gmail.com)

# COURSE CONTENT:

<b>No.</b>	<b>Topic</b>	<b>Wks</b>	<b>Lecturer</b>
1	Class Introduction	1	GMM/FKC
2	Atomic Theory/Structure of Materials and Atomic/Molecular Bonds in Solids, Binary Systems	5	GMM/FKC
3	Solid Solutions, Phase Diagrams, and Iron-Carbon System	4	GMM/FKC
4	Heat Treatment of Steel	2	GMM/FKC

# COURSE CONTENT:

<b>No.</b>	<b>Topic</b>	<b>Wks</b>	<b>Lecturer</b>
5	Test 1	1	GMM/FKC
6	Polymers, Ceramics, Glasses and Composites	4	GMM/FKC
7	Mechanical Properties of Materials	4	GMM/FKC
9	Electrical Properties of Materials	3	GMM/FKC
10	Environmental Effects	2	GMM/FKC
11	Test 2	1	GMM/FKC
12	FINAL EXAMINATIONS	1	GMM/FKC

# PRESCRIBED AND RECOMMENDED TEXTS:

## Prescribed Text Books:

1. Ashby M. F. & Jones D. R. H. (1996). Engineering Materials 1: An Introduction to their Properties and Applications, 2<sup>nd</sup> Ed., Oxford: Butterworth-Heinemann.
2. John V. B. (1994). Engineering Materials, London: Macmillan
3. Rollason, E. C. (1973). Metallurgy for Engineers, 4<sup>th</sup> Ed., London: English Language Book Society & Edward Arnold (Publishers) Ltd.

# PRESCRIBED AND RECOMMENDED TEXTS:

## Recommended Text Books:

1. Ashby M. F. & Jones D. R. H. (1994). Engineering Materials 2: An Introduction to Microstructures, Processing and Design, Oxford: Pergamon.
2. Pascoe K. J. (1982 or later). An Introduction to the Properties of Engineering Materials, Wokingham: van Nostrand Reinhold.

# COURSE ASSESSMENT:

1.	ASSIGNMENTS/QUIZZES	5%
2.	LABS	15%
3.	TESTS	20%
4.	FINAL EXAM	<u>60%</u>
5.	TOTAL	<u>100%</u>

# IMMEDIATE REQUIREMENTS:

- Elect a Class Representative and Assistant(s).
- Class list with the following information:
  - Name (Surname, First and Middle/Initial – in that order).
    - E.g.: Mwiya, Mwando Miti or Mwiya, Mwando M.
  - Computer Number
  - Gender
  - Phone number
  - Email address
- Formation of a Telegram Group for the entire class (LG1 +<sup>8</sup> LG2).

# SOME GROUND RULES:

1. No late coming to class – you attract the wrong attention.
2. Do not disturb my class – you become the wrong kind of star.
3. Do not whisper, just talk but do not disturb others.
4. Assignments are due one week after they are given or, otherwise, on a stated/given date.
5. Late assignments will be penalised.
6. Quizzes may be given on any day during lecture time. (Same weight an assignment).

## Some Ground Rules:

7. No copying in assignments or quizzes.
8. Do not cry for marks (in assignments, labs, tests, exam) – honest marks will be given at all times for your work.
9. Participate during class/lecture by asking questions or making contributions – do not be a silent passenger.
10. Enjoy the course!!!!!!!!!!!!!!!!!!!!!!

Good Luck,  
GAMES!!!!!!