MEC 2309

PROPERTIES OF ENGINEERING MATERIALS I

Course Outline and Assessment

Lecturers:

1. **G. M. Munakaampe**
   - **School of Engineering Building, Room 128 or 202.**
   - **Phone 097 785 7896; Emails: gmmunakaampe@unza.zm**
     gmmunakaampe@yahoo.com

2. **Brig-Gen. V. Musonda**
   - **New School of Engineering Building, Room SR1.**
   - **Phone 097 414 5127; Email: musondachandi@gmail.com**

Course Content:

No.	Topic	Weeks	Lecturer
1	Class Introduction	1	GMM
2	Atomic Theory/Structure of Materials and Atomic/Molecular Bonds in Solids, Binary Systems	5	GMM
3	Solid Solutions, Phase Diagrams, and Iron-Carbon System	2	GMM
4	END OF TERM I TESTS	1	
5	TERM I BREAK	3	
6	Solid Solutions, Phase Diagrams, and Iron-Carbon System	2	GMM

Course Content:

No.	Topic	Weeks	Lecturer
7	Mechanical Properties of Materials	3	VM
8	Heat Treatment of Steel	5	VM
9	END OF TERM II TESTS	1	
10	TERM I BREAK	3	
11	Electrical Properties of Materials	2	VM
12	Polymers, Ceramics, Glasses and Composites	4	VM
13	Environmental Effects	3	GMM
14	FINAL EXAMINATIONS	3	

GMM ⇒ G. M. Munakaampe & VM ⇒ Brig-Gen. V. Musonda

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, 2nd Ed., Oxford: Butterworth-Heinemann.**

2. **John V. B. (1994). Engineering Materials, London: Macmillan**

3. **Rollason, E. C. (1973). Metallurgy for Engineers, 4th 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.**

3. **Rollason, E. C. (1973). Metallurgy for Engineers, 4th Ed., London: English Language Book Society & Edward Arnold (Publishers) Ltd.**

Course Assessment:

1.	Assignments	5%
2.	Labs	15%
3.	Mid-Semester Test	20%
4.	Final Exam	60%
5.	**TOTAL**	**100%**

Good Luck, guys!!!!!

G M Munakaampe