

MODULE CODE: M4X01305
TITLE: Engineering Mathematics and Structures
DATED: 25/09/2017

LEVEL: 4
CREDITS: 20

JACS CODE: G120
LECTURER: Dr Keerthi Ranasinghe (k.ranasinghe@uwtsd.ac.uk)

Syllabus to be covered:

1. Basic Calculus (Differentiation, Integration and Maximum and Minimum values)
2. Properties of Areas (Area, Centroid, Second Moment of Area, Section Modulus)
3. Forces (Equilibrium, Resultants, Resolving of Forces, Pin Jointed Frames)
4. Bending Moment and Shear Force Diagrams
5. Design of Beams and Columns (Steel, Concrete, Timber)
6. Retaining Walls

Days and topics:

Nov.	07	Pythagoras's Theorem & Basics of Trigonometry
	14	Forces and Equilibrium
	21	Resolution of Forces and Pin Jointed Frames I
	28	Introduction to Bending
Dec.	05	Bending in Structures
	12	Equations, Differentiation and Integration
Jan.	09	Maximum and Minimum Values
	16	Properties of Areas
	23	Resolution of Forces and Pin Jointed Frames II
	30	Bending Moment and Shear Force Diagrams I
Feb.	06	Assessment 1 - Presentations
	13	Bending Moment and Shear Force Diagrams II
	20	Steel beams and Columns
	27	Concrete Beams and Columns
Mar.	06	Self-study
	13	Timber Beams and Columns
	20	Retaining Walls
	27	Revision 1 – Lessons from 07 th Nov to 13 th Feb
	24	Revision 2 – Lessons from 20 th Feb to 20 th Mar
May.	01	Revision 3 – All Lessons