

DEPARTMENT OF METALLURGICAL and MATERIALS ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE PLAN – PART I			
Course Title	Strength of Materials		
Course Code	MTPC 11	No. of Credits	03
Course Code of Pre-requisite subject(s)	MTPC10		
Session	July 2018	Section (if, applicable)	NA
Name of Faculty	B.Ravisankar	Department	MME
Email	brs@nitt.edu	Telephone No.	9443578303
Name of Course Coordinator(s) (if, applicable)	NA		
E-mail	----	Telephone No.	----
Course Type	Programme Core		
Syllabus (approved in BoS)			
Refer : https://www.nitt.edu/home/academics/departments/meta/programmes/btech/BTech-MME-2011.pdf			
COURSE OBJECTIVES			
The objective is to determine the stresses, strains on various structural object, displacements in various structures and their components under the specific external loads such as axial load, bending and shear load as well as torsion.			
COURSE OUTCOMES (CO)			
Course Outcomes	Aligned Programme Outcomes (PO)		
1. Understand the different types of material behaviour such have elastic, plastic, ductile and brittle	1,2		
2. Study the fundamental mechanics of solid deformable bodies	1,5,11		
3. Use the concept of moment of inertia of lamina for different shapes	1,5		
4. Able to solve the numerical and practical problems related to real world strength of materials	1,5,8		

Programme Outcomes:

1. The Metallurgical and Materials Engineering graduates are capable to apply knowledge of mathematics, science and engineering.
2. The Metallurgical and Materials Engineering graduates are capable to design and conduct experiments, as well as to analyze and interpret data.
5. The Metallurgical and Materials Engineering graduates are capable to identify, formulate and solve engineering problems.
8. The Metallurgical and Materials Engineering graduates have the broad education necessary to understand the impact of engineering solutions in a global, economic and societal context.
11. The Metallurgical and Materials Engineering graduates are capable to use the techniques, skills, and modern engineering tools necessary for engineering practice.

COURSE PLAN – PART II**COURSE OVERVIEW**

The course covers effect of external forces on the behaviour of materials in elastic region and its relevance in metallurgical and materials engineering.

COURSE TEACHING AND LEARNING ACTIVITIES

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	I-III	Elastic constants, Volumetric strain	Class room lecture with chalk & talk
2	IV-V	Stresses due to different types of axial loading, Thin cylinders	
3	Vi-VII	Biaxial stresses, Beams, Bending theory	
4	VIII-IX	Centre of gravity, Moment of Inertia	
5	X-XII	Torsion, Couplings and springs	

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration (min)	% Weightage
1	Tutorial I	II	45	10
2	Tutorial II	IV	45	10
3	Tutorial III	VI	45	10
3	Assignment	VI	---	10
4	Attendance	I-XII	---	10
CPA	Compensation Assessment	IX	45	10
5	End semester Examination	XIII	180	50

COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)

The exit survey will be assessed based on the questionnaire prepared by the class teacher and expected attainment is 75% on 1-10 scale basis

COURSE POLICY (preferred mode of correspondence with students, policy on attendance, compensation assessment,, academic honesty and plagiarism etc.)**MODE OF CORRESPONDENCE (email/ phone etc)**

Email : brs@nitt.edu Mobile: 9443578303

ATTENDANCE

Minimum 75% excluding ODs. Medical certificate for genuine cases is permitted

COMPENSATION ASSESSMENT

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It will be given during IX week for those who are absent on genuine grounds for any one of the tutorials

ACADEMIC HONESTY & PLAGIARISM

Plagiarism will be checked for assignments.

ADDITIONAL INFORMATION

The Course faculty is available for consultation at any time. Students can also contact him at any time through phone or by mail. The phone number and mail id will be given to the students at the beginning of the course

FOR APPROVAL

B. Ravisankar
Course Faculty
(B.Ravisankar)
26 July '18

R. Sankaranarayanan
CC-Chairperson
(Dr.S.Raman Sankaranarayanan)

V. Muthupandi
HOD
(Prof.V.Muthupandi)