DEPARTMENT OF METALLURGICAL and MATERIALS ENGINEERING

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE PLAN – PART I			
Course Title	Introduction to Metallurgical and Materials Engineering		
Course Code	MTIR 15	**No. of Credits**	02
Course Code of Pre-requisite subject(s)	Nil		
Session	**July 2023**	**Section (if, applicable)**	NA
Name of Faculty	B. Ravisankar	**Department**	MME
Email	brs@nitt.edu	**Telephone No.**	6381279313
Name of Course Coordinator(s) (if, applicable)	NA		
E-mail	----	**Telephone No.**	----
Course Type	**GIR**		

Syllabus (approved in BoS)

Refer : https://www.nitt.edu/home/academics/curriculum/B.Tech-MME-2019.pdf Page No 22

COURSE OBJECTIVES

To develop an understanding of the basic knowledge of Metallurgical and Materials Engineering and gain knowledge on overview of developments in the field of materials over periods ; to become familiar with the metals and materials industry.

COURSE OUTCOMES (CO)

Course Outcomes	Aligned Programme Outcomes (PO)
1. Define engineering materials technology and understand each stageof the materials cycle, material selection criteria	1,2
2. Understand the impact of Metallurgical and Materials Engineering solutions in a global, economic, environmental, and societal context	1,3,6
3. Become familiar with the science behind the development of metals and materials	1
4. Become familiar with current trends / developments and the prevailing industrial scenario in metals and materials	1,12

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.
3. Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations
6. Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
12. Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

COURSE PLAN – PART II

COURSE OVERVIEW

The course covers basic knowledge of Metallurgical and Materials Engineering and gain knowledge on overview of developments in the field of materials over periods ; to become familiar with the metals and materials industry

COURSE TEACHING AND LEARNING ACTIVITIES

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	I-III	Historical perspective, scope of materials science and of materials engineering – Role of metals in civilization and in wars	Black Board and Power point
2	IV-V	rise and fall of emperors who conquered world- Metallurgy and materials of India – Damascus sword – Delhi iron Pillar etc.	
3	VI-VII	Metals and Materials – Classification – Properties – Mechanical, electrical, thermal, magnetic, optical, decorative and its applications. Illustrative examples of practical uses of materials.	
4	VIII-IX	Modern materials – Bio and Nano materials. Role of metals and materials in aerospace and telecommunication	
5	X-XI	Role of metals and materials in Indian medicines – Siddha, Ayurveda, etc.	

S.No.	Mode of Assessment	Week/Date	Duration (min)	% Weightage
1	Cycle test – I	II	45 mins	20
2	Cycle test – II	VI	45 mins	20
3	Assignment	IX	----	10
4	Compensation assessment	IX	45 mins	--
5	End semester exam	XIII	120 min	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: 6381279313

ATTENDANCE

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

COMPENSATION ASSESSMENT

It will be given during IX week for those who are absent on genuine grounds for the tutorial.

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

Course Faculty	CC-Chairperson	HOD
(B. Ravisankar)	(Prof.S.Raman Sankaranarayanan)	(Prof. S.Muthukumaran)

Dr. S. MUTHUKUMARAN
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