



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

COURSE PLAN – PART I			
Name of the programme and specialization	M.TECH. WELDING ENGINEERING		
Course Title	Welding Laboratory		
Course Code	MT630	No. of Credits	2
Course Code of Pre-requisite subject(s)	Nil		
Session	Jan 2023	Section (if, applicable)	NA
Name of Faculty	Dr. A. Muthuchamy	Department	MME
Email	muthuchamy@nitt.edu	Telephone No.	9445939319
Name of Course Coordinator(s) (if, applicable)	NA		
E-mail		Telephone No.	
Course Type	<input checked="" type="checkbox"/> Core course <input type="checkbox"/> Elective course		
List of Experiments (approved in BoS)			
Arc striking practice. Bead-on-platewelding. Effect of welding parameters on weld bead by –GTAWelding –GMAWelding –Submerged arcwelding. Microstructural observation of weldments –Carbonsteel –Stainless steel –Aluminium alloy –Titaniumalloy –Dissimilarjoint. Practice for preparation of welding procedure specification. Practice for preparation of procedure qualification record.			
COURSE OBJECTIVES			
To gain knowledge on practical aspects of different welding processes and able to apply them for various engineering applications.			
COURSE OUTCOMES (CO)			
Course Outcomes			Aligned Programme Outcomes (PO)
At the end of the course student will be able to:			
1. Select process parameters by bead on platetrial			1, 2, 3, 4
2. Gain knowledge in practical aspects of GTAW, GMAW, SAW			6, 7, 10, 12
3. Gain knowledge on welding of carbon steel, stainless steel, aluminum, titanium and dissimilarjoints			10, 12
4. To carryout recommend testing techniques for weldedjoints			2, 3, 6, 7
COURSE PLAN – PART II			
COURSE OVERVIEW			
The course discuss in detail about the practical aspects of different welding processes and their various engineering applications.			
COURSE TEACHING AND LEARNING ACTIVITIES			
S.No.	Week/Contact Hours	Topic	Mode of Delivery

1	I-III	Arc striking practice. Bead-on-platewelding.	Lectures + animated/real videos
2	IV-VI	Process parameter studies by bead on plate trials TIG, MIG, SAW	
3	VII-IX	Microstructural observation of weldments → Carbon steel → Stainless steel → Aluminium alloy → Titanium alloy	
4	X-XI	Dissimilar joints	
5	XII-XIII	Practice for preparation of welding procedure specification. Practice for preparation of procedure qualification record.	

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Technical presentation	Feb 3 rd to March 26 th	30	30
2	Quiz	March 29 th	20	20
3	Lab records	2 nd week of April	--	20
CPA	Compensation Assessment	XIII	60	20
4	Final Viva-voce	XV	120	30

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, compensation assessment policy to be specified)

MODE OF CORRESPONDENCE (email/ phone etc)

Email/Mobile

COMPENSATION ASSESSMENT POLICY

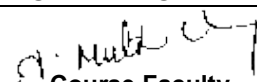
It will be given during XIII week for those who are absent on genuine grounds for any one of the Cycle Tests.

ATTENDANCE POLICY Institute guidelines will be followed for attendance

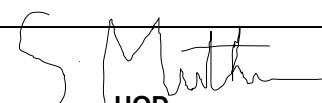
ADDITIONAL INFORMATION

The Course faculty is available for consultation at any time. Students can also contact him at any time through phone call or by mail.

FOR APPROVAL


Course Faculty
Dr. A. Muthuchamy


31-01-2023
CC-Chairperson
Dr. Katakam Siva Prasad


HOD
Prof. S. Muthukumaran