

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

COURSE PLAN – PART I			
Course Title	WELDING LABORATORY		
Course Code	MT 630	No. of Credits	2
Course Code of Pre-requisite subject(s)	MT 603		
Session	Jan 2018	Section	
Name of Faculty	Sivachittrambalam V	Department	MME
Email	sivav@nitt.edu	Telephone No.	9786778444
Name of Course Coordinator(s)	Sivachittrambalam V		
E-mail	sivav@nitt.edu	Telephone No.	
Course Type	Laboratory		
Syllabus (approved in BoS)			
1. Arc striking practice. 2. Bead-on-plate welding 3. Effect of welding parameters on weld bead by <input type="checkbox"/> GTA welding <input type="checkbox"/> GMA welding <input type="checkbox"/> Submerged arc welding 4. Microstructural observation of weldments <input type="checkbox"/> Carbon steel <input type="checkbox"/> Stainless steel <input type="checkbox"/> Aluminium alloy <input type="checkbox"/> Titanium alloy <input type="checkbox"/> Dissimilar joints 5. Practice for preparation of welding procedure specification. 6. 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)		
1. Select process parameters by bead on plate trial.	1,10,12		
2. Gain knowledge in practical aspects of GTAW, GMAW SAW.	2,3,11		
3. Gain knowledge on welding of carbon steel, stainless steel, aluminium, titanium and dissimilar joints.	5,7		
4. To carryout recommend testing techniques for welded joints.	5,6,9		

COURSE PLAN – PART II**COURSE OVERVIEW**

This course will focus on joining of two similar or dissimilar metals by using different fusion welding process. It also covers types of joints, welding symbol, WPS writing, and WPQR evaluation. In addition, it gives basic understanding of weldment studies.

COURSE TEACHING AND LEARNING ACTIVITIES

S.N o.	Contact Hours	Topic	Mode of Delivery
1	16, Jan	Arc striking practice	Experiment
2	23 Jan	Bead on plate welding	Experiment
3	30 Jan	Effect of welding parameters on weld bead by GTA welding,	Experiment
4	6 Feb	Effect of welding parameters on weld bead by GMA welding	Experiment
5	13 Feb	Effect of welding parameters on weld bead by Submerged arc welding	Experiment
6	20 Feb	Microstructural observation of weldments Carbon steel and Stainless steel	Experiment
7	27 Feb	Microstructural observation of weldments Aluminium alloy, Titanium alloy	Experiment
8	6 March	Microstructural observation of weldments Dissimilar joints	Experiment
9	13 March	Practice for preparation of welding procedure specification.	Chalk in Board
10	20 March	Practice for preparation of procedure qualification record.	Chalk in Board
11	27 March	Summary of Experiments	Experimental
12	April 1 st week	Final Exam	Experimental and Descriptive

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Marks	% Weightage
1	Observation/Record	30	30%
2	Experiment/Analysis	30	30%
3	Preparation of WPS and WPQR	15	15%
3	Term end laboratory exam + Viva	15 + 10	25 %
	Total	100	100%

COURSE EXIT SURVEY

Anonymous feedback will be collected from students through class representative at end of the semester.

COURSE POLICY

MODE OF CORRESPONDENCE (email/ phone etc)

Students can meet the faculty at any stage in the course duration in case he/she find difficulty in understanding the concept.

Mobile: 9786778444

In cabin: MME annexure building 202

Email: sivav@nitt.edu

ATTENDANCE : 75% mandatory

COMPENSATION ASSESSMENT

1. Students can do their missed experiment at later stage
2. No compensation exam for end semester practical exam

ACADEMIC HONESTY & PLAGIARISM

Students are expected to behave in ethical and honest manner at all stages throughout the semester and their all relevant work related to academic should be without any plagiarism.

ADDITIONAL INFORMATION

- ✓ Attending all practical class is mandatory.
- ✓ Students who are missing more than two practical classes are allowed to carry their experiment later but there would be subsequent reduction of 5% in weightage in internal assessments **SI.No 2**.
- ✓ One additional class shall be conducted at end of the semester to students those who missed regular practical classes.
- ✓ Viva will be conducted for students to evaluate vertical knowledge along with end semester exam

FOR APPROVAL

Course Faculty

Sivachittrambalam V

V. Sivachittrambalam
12/01/18

CC-Chairperson

[Signature]
12/1/18
(K. SIVAPRASAD)

[Signature]
HOD