

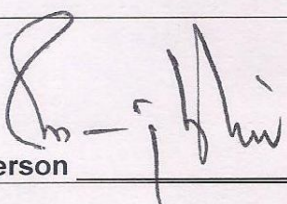
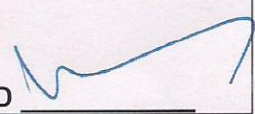
NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE OUTLINE TEMPLATE			
Course Title	WELDING METALLURGY LABORATORY		
Course Code	MT 630	No. of Credits	2
Department	MME	Faculty	Mr. M. KESAVA MOORTHY
Pre-requisites Course Code			
Course Coordinator(s) (if, applicable)			
Other Course Teacher(s)/Tutor(s) E-mail	kesav@nitt.edu	Telephone No.	9962121979
Course Type	<input type="checkbox"/> Core course	<input type="checkbox"/> Elective course	<input checked="" type="checkbox"/> Lab
COURSE OVERVIEW			
Introduction about practical aspects of different welding processes like TIG, CMT, PAW. To understand the weldability of stainless steel, aluminium, titanium and dissimilar joints. To conduct recommended testing techniques for welded joints and to prepare WPS, PQR.			
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.	1,4,9		
2. Gain knowledge in practical aspects of GTAW, CMT, PAW & SAW	1,8,11		
3. Gain knowledge on welding of carbon steel, stainless steel, aluminum, titanium and dissimilar joints.	2,6,7,9		
4. To carryout recommend testing techniques for welded joints.	1,3,5,12		

COURSE TEACHING AND LEARNING ACTIVITIES

S.No	Week/Date	Topic	Mode of Delivery
1	Week 1	Arc striking practice	Laboratory Work
2	Week 2,3	Bead on-plate welding	Laboratory Work
3	Week 4,5	Effect of welding parameters on weld bead by GTA welding	Laboratory Work
4	Week 6	Effect of welding parameters on weld bead by CMT welding	Laboratory Work
5	Week 7	Effect of welding parameters on weld bead by PAW	Laboratory Work
6	Week 8	Microstructural observation of Carbon steel and Stainless steel weldments	Laboratory Work
7	Week 9	Microstructural observation of Aluminium alloy weldments	Laboratory Work
8	Week 10	Microstructural observation of Dissimilar weldments	Laboratory Work
9	Week 11	Practice for preparation of welding procedure specification	Laboratory Work
10	Week 12	Practice for preparation of procedure qualification record	Laboratory Work

COURSE ASSESSMENT METHODS				
S.No	Mode of Assessment	Week/Date	Duration	% Weightage
1	Internal	Week 1 to Week 12		60 %
2	Record work			10 %
3	Final Assessment a. Practical b. Viva Voce	14 th week	3 hours	20 % 10 %
ESSENTIAL READINGS : Textbooks, reference books Website addresses, journals, etc				
1. "Welding Metallurgy" II edition by Sindo Kou, 2003 2. "Principles of Welding Processes" by Robert W. Messler 3. "Welding Processes Handbook" by Klas Weman				

<p>COURSE EXIT SURVEY (mention the ways in which the feedback about the course is assessed and indicate the attainment also)</p> <ol style="list-style-type: none"> Students can meet the faculty at any stage in the course duration in case he/she finds difficulty in understanding the concept Students are requested to give feedback by filling questionnaire about the laboratory course after the final examination
<p>COURSE POLICY (including plagiarism, academic honesty, attendance, etc.)</p> <ul style="list-style-type: none"> The minimum attendance required for appearing for final examination is 75%. Re-Examination will be conducted for students who fail to appear for final practical examination for genuine reasons
<p>ADDITIONAL COURSE INFORMATION</p>
<p>FOR SENATE'S CONSIDERATION</p>
<p>Course Faculty <u>M. Kesavamorthy</u> CC-Chairperson <u></u> HOD <u></u></p>