

**DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING**

**NATIONAL INSTITUTE TECHNOLOGY, TIRUCHIRAPPALLI**

<b>COURSE OUTLINE</b>			
<b>Course Title</b>	<b>MATERIALS JOINING TECHNOLOGY</b>		
<b>Course Code</b>	<b>MTPC20</b>	<b>No. of Credits</b>	<b>3</b>
<b>Department</b>	<b>MME</b>	<b>Faculty</b>	<b>Dr. S. Jerome</b>
<b>Program</b>	<b>B. Tech MME (2015 batch)</b>	<b>Session</b>	<b>July 2017</b>
<b>Pre-requisites Course Code</b>	<b>Nil</b>		
<b>Course Coordinator</b>			
<b>Other Course Teacher(s)/Tutor(s) E-mail</b>		<b>Telephone No.</b>	<b>9443022544</b>
<b>Course Type</b>	<input type="checkbox"/> <b>Core course</b> <input type="checkbox"/> <b>Elective course</b>		

**COURSE OVERVIEW**

This course provides working principle of different joining techniques and also informs the merits, demerits and applications of every processes in detail. .

**COURSE OBJECTIVES**

- To know the concepts of various joining techniques and underlying science and engineering principles.
- To understand the effect of welding parameters on the quality of joints
- To understand the basic concepts of welding metallurgy

**COURSE OUTCOMES (CO)**

<b>Course Outcomes</b>	<b>Aligned Programme Outcomes (PO)</b>
At the end of the course the students will be able to	[1,3,7,10,11,12]
1. Understand the working principle, merits and demerits of different joining processes.	[1,3,4,10,11,12]
2. Understand the working principle, merits and demerits of allied joining processes.	[2,5,8,12]
3. Solve heat flow related problems of welding	[5,6,7,9]
4. Learn weldability of welding related problems different materials	

**COURSE TEACHING AND LEARNING ACTIVITIES**

S.No.	Week	Topic	Mode of Delivery
1	1-6 Week	Fundamentals of Arc Welding, Arc Physics, All arc welding processes, Resistance welding and Gas welding	C &T, VL, PPT
2	7-10 Week	Solid State welding processes	
3	11-12 Week	Sophisticated Welding Processes	
4	13-14 Week	Additional Joining Techniques	
5	15-16 Week	Welding Metallurgy - Basics	

**COURSE ASSESSMENT METHODS**

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Assessment – 1	4 <sup>th</sup> week of August	1 Hr	20
2	Assessment – 2	1 <sup>st</sup> Week of October	1 Hr	20
3	Assignment	End of every chapters		10
4	Final Assesment	24 <sup>th</sup> Week		50

**ESSENTIAL READINGS : Textbooks, reference books Website addresses, journals, etc**

1. Parmer R. S., 'Welding processes', Khanna Publishers, 1997
2. Robert W Messler, Jr. " Principles of welding, Processes, physics, chemistry and metallurgy, Col 10, Wiley, 2004.
3. Larry Jeffus, " Welding Principles and Applications" Fifth edition, Thomson, 2002
4. Richard Little, " Welding and Welding Technology", Tata McGRAW Hill, 2007

**COURSE EXIT SURVEY (mention the ways in which the feedback about the course is assessed and indicate the attainment also)**

Feedback will be collected after completion of the assessment 1 & 2.

**COURSE POLICY (including plagiarism, academic honesty, attendance, etc.)**

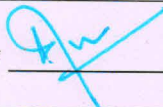
1. 75% Attendance is Mandatory
2. If any student will obtain less than 75% attendance, they have to redo the course. They will also be detained from writing the final assessment.
3. It is mandatory that students must appear for all assessments, if any student misses any of the assessment 1 or 2, a special assessment will be conducted before appearing the final assessment based on the genuineness of the absent.
4. If any student could not appear for the final assessment, they will be allowed to write a special supplementary exam which will be conducted at the beginning of the next semester.
5. Grading will be followed as per the Institute norms.

**ADDITIONAL COURSE INFORMATION**

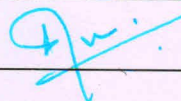
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**FOR SENATE'S CONSIDERATION**

Course Faculty



CC-Chairperson



HOD

