

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

Department of Instrumentation and Control Engineering

Course Plan

COURSE OUTLINE			
Course Title	SENSORS AND TRANSDUCERS LABORATORY		
Course Code	ICLR12	No. of Credits	2
Department	ICE – Section B	Faculty	Dr. K. Srinivasan Mr. C. BarathKanna
Pre-requisites Course Code	None		
Course Coordinator	Dr. K. Srinivasan		
Course Faculty E-mail	srinikkn@nitt.edu barath@nitt.edu	Telephone No.	----
Course Type	Essential Laboratory Requirement (ELR)		
COURSE OVERVIEW			
<p>This is a basic fundamental laboratory course on instrumentation. The instruments are used in industry for the measurement of many parameters and then they are controlled and analysed to achieve desired outcomes. Hence the instrumentation and control engineer must be familiar with the fundamentals of sensors and transducers. This course introduces the students to the fundamental characteristics of instruments. The students should work out both theoretical and practical problems themselves to get better understanding of the Instruments.</p>			
COURSE OBJECTIVES			
<p>The aim of this lab is to fortify the students with an adequate work experience in the measurement of different quantities and also then expertise in handling the instruments involved.</p>			
COURSE OUTCOMES (CO)			
Course Outcomes		Aligned Programme Outcomes(PO)	
At the end of the course student will be able to			
1. Analyze characteristics of different sensors and transducers.		1	
2. Review, prepare and present technological developments		1	

At the end of 4th Week: The student has to finish minimum of three experiments
At the end of 8th Week: The student has to finish minimum of six experiments
At the end of 12th Week: The student has to finish ten experiments
At the end of 15th week: The student has to demonstrate mini project based application/technological development with proper report.

COURSE ASSESSMENT METHODS

The students are expected to complete minimum of 10 experiments. Each experiments will carry 8 marks (6 marks on successful completion of experiment on-time with proper record + 2 marks on viva-voce of respective experiment). Final assessment is based on mini project based experiment which carries 20 marks.

ESSENTIAL READINGS :

Reference Books:

1. John P. Bentley, *Principles of Measurement Systems*, Pearson Education, 4th Edition, 2005.
2. Ernest Doebelin, *Measurement Systems*, McGraw-Hill Science, 5th Edition, 2003.

COURSE EXIT SURVEY

Feedback from the students during the class committee meeting or through email will be considered.

At the end of 15th week, the student should submit the feedback form.

COURSE POLICY

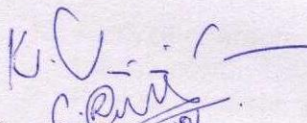
All students are expected to do their own experiments and expected to put their best effort in assessments within stipulated time. The taking of information by means of copying readings during experiment session is considered dishonest. They will be awarded zero for that experiments.

The minimum attendance requirement is 85%. In case if the student is absent/On-duty or any other reason, they have to come for extra Lab and they should maintain minimum 85% attendance. Otherwise the student has to redo the lab. The relative grading will be followed for awarding grade. The failure student can opt for Formative assessment during summer/winter vacation.

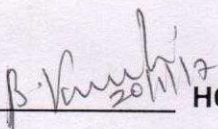
ADDITIONAL COURSE INFORMATION

Students are expected to complete the experiment in their respective lab session itself.

FOR SENATE'S CONSIDERATION


Course Faculty _____


CC-Chairperson _____


HOD