



DEPARTMENT OF CIVIL ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY
TIRUCHIRAPPALLI - 620 015, TAMIL NADU, INDIA

Phone : +91-431-2503150 (O) , +91-431-2503166 (Direct), Fax : +91-431-2500133 (O/o the Director)

COURSE PLAN (PART I)

Name of the programme and specialization	B.Tech/Civil Engineering		
Course Title	Fluid Mechanics Laboratory		
Course Code	CELR12	No. of Credits	2
Course Code of Pre-requisites	-		
Session	July / January 2020	Section (if, applicable)	A
Name of the Faculty	Mr. Samjebadurai.C	Department	Civil Engineering
E-mail	samjeba@nitt.edu	Telephone No.	9940839398
Course Coordinator(s)(if, applicable)	-		
E-mail	-	Telephone No.	
Course Type		Core	
		Elective	
		Open Elective	
	√	Laboratory	

COURSE CONTENT (Approved in Senate)

1. Determination of pipe friction
2. Calibration of flow meters - Venturimeter
3. Calibration of flow meters - Orifice meter
4. Determination of discharge coefficients for notches
5. Centrifugal pump
6. Submersible pump
7. Reciprocating pump
8. Jet pump
9. Screw pump
10. Francis Turbine
11. Pelton Turbine

COURSE LEARNING OBJECTIVES

1. To understand the flow measurement in a pipe flow
2. To determine the energy loss in pipe flow
3. To study the characteristics of turbines
4. To study the characteristics of pumps

COURSE OUTCOMES (CO)

Course Outcomes		Aligned Programme Outcomes(PO)												
After successful completion of the course, the students should be capable to :														
CO1	Measure discharge in pipes	PO	1	2	3	4	5	6	7	8	9	10	11	12
CO2	Determine the energy loss in conduits	CO1	√											
CO3	Demonstrate the characteristics curves of pumps	CO2		√		√								
CO4	Demonstrate the characteristics curves of turbines	CO3				√		√						
CO5	Carry out discharge measurements in open channel	CO4				√		√						
		CO5	√	√										

COURSE PLAN (PART II)

COURSE OVERVIEW

Performing Laboratory methods to measure discharge, energy loss and analyse the efficiency, optimum operating conditions for pumps and turbines.

COURSE TEACHING AND LEARNING ACTIVITIES

Sl.No.	Experiment	Mode of Delivery
1.	Determination of Pipe friction	Practical
2.	Determination of Discharge coefficient for V-notch	Practical
3.	Submersible pump	Practical
4.	Centrifugal Pump	Practical
5.	Reciprocating Pump	Practical

6.	Jet Pump	Practical
7.	Screw Pump	Practical
8.	Calibration of Orifice meter	Practical
9.	Calibration of Venturi meter	Practical
10.	Francis Turbine	Practical
11.	Pelton Turbine	Practical

* Group wise division is made in the beginning of the session for performing experiments and will proceed the experiments in cycles.

COURSE ASSESSMENT METHODS

Sl. No.	Mode of Assessment	Week / Date	Duration	% Weightage
1.	Assessment 1 (Continuous Assessment on each session)	Weekly	NA	60%
2.	Assessment 2 (Quiz)	During the session	NA	10%
3.	End Assessment	5 th week of April 2020	180 Minutes	30%

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

It is proposed to take feedback from the students to evaluate the execution of the course

- Direct feedback from the students by face-to-face meeting individually and as the class as a whole.
- Feedback from the students during class committee meetings
- Exit survey from the students at the end of the session

COURSE POLICY (COMPENSATION ASSESSMENT)

1. Attending all the assessments (Assessment 1 to 3) is MANDATORY for every student.
2. All the experiments should be completed and recorded in the observation note and laboratory record.
3. Compensation class (Only for Assessment 1) will be arranged at the end of the session in which students can perform the missed experiments. Students with valid reasons and prior permissions are only allowed to attend repetition class.

ATTENDANCE POLICY

The attendance will be taken in all the contact hours. Students are encouraged to attend all the classes without absence. Also, the students are encouraged to participate in various co-curricular and extracurricular activities to enrich the academic / campus life.

- a) At least 75% attendance in the course is mandatory.
- b) A maximum of 10% shall be allowed under On Duty (OD) category
- c) Students with less than 65% of attendance shall be prevented from writing the end assessment and shall be awarded 'V' grade.

ACADEMIC DISHONESTY AND PLAGIARISM

Academic Dishonesty

- a) Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty
- b) Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- c) The department disciplinary committee constituted with the faculty member, PAC Chair person, and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student found guilty,


Plagiarism


- Turing someone else work as your own without proper consent
- Providing incorrect information about the source of a quotation


ADDITIONAL COURSE INFORMATION

1. All the students are advised to check their NIT-T webmail regularly to know the updates.
2. Queries / Clarifications / Discussions (if required) may be E-mailed to me / contact me during working hours with prior intimation.

FOR APPROVAL


Mr. Samjebadurai.C
Course Faculty


Dr. Deendayal Rathod
Chairman (Class Committee)


Dr. G. Swaminathan
HoD / Civil Engineering