

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE PLAN – CELR12 FLUID MECHANICS LABORATORY

BRANCH: CIVIL ENGINEERING

SEMESTER: IV

COURSE OUTLINE TEMPLATE

Course Title	Fluid Mechanics Laboratory		
Course Code	CELR12	No. of Credits	2
Department	Civil	Faculty	Mr.V.JULIYET
Pre-requisites Course Code	None		
Course Coordinator(s) (if, applicable)			
Other Course Teacher(s)/Tutor(s) E-mail	juli@nitt.edu	Telephone No.	9943751989(M)
Course Type	<input type="checkbox"/> Core course <input type="checkbox"/> Elective course		

COURSE OBJECTIVES

- The Lab sessions would include experiments on
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
 5. To measure the discharge in a open channel flow

COURSE OUTCOMES (CO)

On completion of the course, the students will be able to:

1. Measure discharge in pipes
2. Determine the energy loss in conduits
3. Demonstrate the characteristics curves of pumps
4. Demonstrate the characteristics curves of turbines
5. Carry out discharge measurements in open channel

COURSE TEACHING AND LEARNING ACTIVITIES

Main Requirement (All Lab experiments):

- Lab Record (one sided blank)
- Observation Note
- Lab Uniform
- Black shoes

Experiment Number	Topic	Requirements
	Introduction to Lab	-
1.	Determination of pipe friction	Lab Observation
2.	Calibration of flow meters - Orifice meter	Lab Observation
3.	Determination of discharge coefficients for notches	Lab Observation
4.	Centrifugal pump	Lab Observation
5.	Submersible pump	Lab Observation
6.	Reciprocating pump	Lab Observation
7.	Jet pump	Lab Observation
8.	Screw pump	Lab Observation
9.	Francis Turbine	Lab Observation
10.	Pelton Wheel	Lab Observation

COURSE ASSESSMENT METHODS

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1.	Regular Practical Session	Each Experiment will be assessed on 10 marks and would be finally totalled to 60 marks		60
2.	End Semester – Written Exam (Objective)	Week 18	1 hour	40

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

1. Nagaratnam, S., Fluid Mechanics, Khanna Publishers, 1995.
2. Natarajan, M.K. Principles of Fluid Mechanics, Oxford & IBH Publishing Co, 1994.
3. Jagdish Lal, Hydraulics and Fluid Mechanics, Tata McGraw Hill, 2001.
4. Streeter V.L., Fluid mechanics, Tata McGraw Hill, 1998.

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, at the end of the semester to evaluate the execution of the course. It is also proposed to evaluate their interest in the subject through a questionnaire regarding the knowledge they have attained during the course.

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

Attendance

- The Closing date of attendance for the subject is Week 17 from the commencement of the Lab classes.
- 100% attendance is desirable for every student, with minimum attendance being 75%.
- Attendance during each assessment is mandatory.

Marks

- Eligibility criteria for passing:
 - All experiments should be completed and recorded in the Lab record.
 - Passing minimum - Internal Assessments + Written Exam .

ADDITIONAL COURSE INFORMATION

- The Course Coordinator is available for consultation during office hours.
- Queries, if any, can also be emailed to the Course Coordinator directly at juliyetvme@gmail.com.

FOR SENATE'S CONSIDERATION

Course Faculty Alej
(V. JULIYET)

CC-Chairperson G.M

HOD [Signature]
11/3/17