

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE PLAN – CELR11 SURVEY LABORATORY

BRANCH: CIVIL ENGINEERING

SEMESTER: III

COURSE OUTLINE TEMPLATE			
Course Title	Survey Laboratory		
Course Code	CELR11	No. of Credits	2
Department	Civil	Faculty	Dr. Nisha Radhakrishnan
Pre-requisites Course Code	None		
Course Coordinator(s) (if, applicable)			
Other Course Teacher(s)/Tutor(s) E-mail	nisha@nitt.edu	Telephone No.	9843260869 (M) 3162 (O)
Course Type	<input type="checkbox"/> Core course <input type="checkbox"/> Elective course		

COURSE OVERVIEW

To explore the use of surveying instruments in the commercial world through live field observations taken in the campus

COURSE OBJECTIVES

The Lab sessions would include experiments on

- Introduction to Chain surveying, Compass surveying in traversing and plotting
- Plane table surveying methods in determining position of points
- Levelling and Trigonometric leveling principles for determining heights
- Theodolite surveying and Tacheometric surveying in traversing
- Application of surveying instruments in plotting of a simple curve in field

COURSE OUTCOMES (CO)

Course Outcomes	Aligned Programme Outcomes (PO)
<ul style="list-style-type: none"> • Use conventional tools such as chain/tape, compass, plane table, level in the field of civil engineering applications such as structural plotting and highway profiling • Apply the procedures involved in field work and work as a surveying team • Plan a survey appropriately with the still to understand the surroundings 	

- Take accurate measurements, field booking, plotting and adjustment of errors can be understood.

COURSE TEACHING AND LEARNING ACTIVITIES

Main Requirement (All Lab experiments):

- Lab Record (one sided blank)
- Long size book for Field observations
- Lab Uniform
- Black shoes

Experiment No.	Topic	Requirements
1.	Introduction to Lab instruments	-
2.	Chain Surveying – Ranging with the eye	Pencil, Ruler, Rubber, Drawing Sheet
3.	Chain Surveying – Plotting the sides of the building	Pencil, Ruler, Rubber, Drawing Sheet
4.	Compass Surveying – Plotting and finding the area of a polygon	Pencil, Ruler, Rubber, Drawing Sheet
5.	Compass Surveying – Local attraction and Traverse adjustment	-
6.	Plane Table Surveying – Intersection/ Radiation/Traversing	Pencil, Ruler, Rubber, Drawing Sheet, Paper Pins, Cello Tape, Drawing Pins
7.	Levelling – HI method	-
8.	Levelling – Rise and Fall method	-
9.	Theodolite – Horizontal angle/Repetition/Reiteration	-
10.	Theodolite – Finding Area of Traverse	-
11.	Tacheometric Surveying – Finding Constants	-
12.	Tacheometric Surveying – Stadia method	-
13.	Trigonometric leveling – Single Plane methods/ Double plane method	-
14.	Repeat Class	-

COURSE ASSESSMENT METHODS

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1.	Every Experiment	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	20
3.	End Semester – Practical Exam	Week 18	2 hours	20

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

1. Duggal, S.K. Surveying Vol. I and II, Tata McGraw Hill, 2004.
2. Punmia, B.C. Surveying Vol.I and II, Standard Publishers, 1994.
3. Arora, K. R. Surveying Vol. I and II, Standard Book House, 1996.
3. Arora, K. R. Surveying Vol. I and II, Standard Book House, 1996.

4. Satheesh Gopi. Advanced Surveying, Pearson Education, 2007.
5. Satheesh Gopi. The Global Positioning System and Surveying using GPS, Tata McGraw, 2005.

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 + Practical Exam would be as per institute norms.

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 nisha@nitt.edu.

FOR SENATE'S CONSIDERATION

Course Faculty

Nisha

CC-Chairperson

G.M

HOD

[Signature]