

**DEPARTMENT OF CIVIL ENGINEERING**  
**NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI**

COURSE PLAN – PART I			
Course Title	SURVEY LABORATORY		
Course Code	CELR11	No. of Credits	3
Course Code of Pre-requisite subject(s)	-		
Session	July. 2018	Section (if, applicable)	B
Name of Faculty	Dr. R. Senthilkumar	Department	Civil Engineering
Email	senthilr@nitt.edu	Telephone No.	9566111484
Name of Course Coordinator(s) (if, applicable)	NIL		
E-mail	NIL	Telephone No.	NIL
Course Type	<input checked="" type="checkbox"/> Core course <input type="checkbox"/> Elective course		
<b>Syllabus (approved in BoS)</b>			
1. Chain and Compass surveying 2. Plane table surveying 3. Leveling: Fly leveling and contouring 4. Radiation, intersection-Traverse- Resection 5. Theodolite surveying 6. Single and two plane observation of trigonometric leveling 7. Determination of Tacheometric Constants 8. Tangential Tacheometry 9. Subtense Bar 10. Total station			
<b>COURSE OBJECTIVES</b>			
The Lab sessions would include experiments on 1. Introduction to Chain Surveying and Compass Surveying. 2. Plane Table Surveying – Radiation, intersection, Traverse, Resection Leveling. 3. Tacheometry and Theodolite survey 4. Trigonometric levelling to determine heights/elevations. 5. Total Station.			
<b>COURSE OUTCOMES (CO)</b>			
<b>Course Outcomes</b>		<b>Aligned Programme Outcomes (PO)</b>	
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		1 2 4 9 10 11 12	
Apply the procedures involved in field work and work as a surveying team		1 2 4 9 10 11 12	
Plan a survey appropriately with the still to understand the surroundings		1 2 4 9 10 11 12	
Take accurate measurements, field booking, plotting and adjustment of errors can be understood.		1 2 4 9 10 11 12	



**COURSE PLAN – PART II**

**COURSE OVERVIEW**

To give an overall overview of different Surveying Techniques and its applications through theoretical, practical sessions and tutorials.

**COURSE TEACHING AND LEARNING ACTIVITIES**

S.No.	Topic	Mode of Delivery
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 on/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 (shall range from 4 to 6)**

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	1 hour	20

**COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)**

It is proposed to take feedback from the students, at the end of the semester to evaluate the execution of the course.



**COURSE POLICY (preferred mode of correspondence with students, policy on attendance, compensation assessment, academic honesty and plagiarism etc.)**

**MODE OF CORRESPONDENCE (email/ phone etc):**

- Mode of Correspondence would be through phone/Email only to the Class Representatives and Vice Versa.

**ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)**

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

**MARKS**

Eligibility criteria for passing:

- All experiments should be completed and recorded in the Lab record
- Passing minimum – Internal Assessments + Written Exam + Practical Exam is 40%

**ACADEMIC DISHONESTY & PLAGIARISM**

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.

The above policy against academic dishonesty shall be applicable for all the programmes.

**ADDITIONAL INFORMATION**

- The Course Coordinator is available for consultation during office hours.
- Queries, if any, can also be emailed to the Course Coordinator directly at [senthilr@nitt.edu](mailto:senthilr@nitt.edu).

**FOR APPROVAL**

Course Faculty



CC-Chairperson



HOD

