

## NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI

Course Title	SURVEYING
Course Code	CE 205
Department of Civil Engineering	
Pre Requisite for the Course	Nil
Course Handled By	Prof.G.Swaminathan
Course Type	Core
Semester	III Semester
Section	Odd/Even

### Course Overview

The Students will be imparted awareness about the art of Surveying, its importance and training in the art of field measurements using different survey Instruments.

### Course Objectives

The student will be able to gain knowledge on Chain, Compass, Plane table and Theodolite surveying. Levelling, Engineering surveys. Skill to carry survey and to decide appropriate type of execution in construction works. Numerical solutions for carrying out surveying in civil engineering field. Advanced surveying equipment. Also training will be imparted in using Total Station

### Course Outcomes (CO)

1. Students will gain knowledge in linear, angular measurements, preparation of in-situ maps using plane Table surveying.
2. Students will be imparted knowledge of transferring points from paper to ground and vice versa
3. Training imparted in levelling and in-situ correction of erroneous instruments.
4. The students will know about Theodolite, its usage and significance. Numerical solutions for field problems. Know about geodetic observations and significance of Total Station.
5. The students will learn about GPS and advanced surveying techniques using sophisticated equipment.

## COURSE TEACHING AND LEARNING ACTIVITIES

Sl.No	Week	Topic	Mode of delivery
1.	Week 1	Principles of surveying, Chain Survey, Ranging, Direct and Indirect Ranging	Lecture mode and laboratory Demonstration
2.	Week 2	Meridian-True, Magnetic and Arbitrary-Compass –Local attraction-Correction	Lecture mode and Tutorials
3.	Week 3	Traverse and Traverse adjustments Bowditch rule and independent coordinated	Lecture Mode and Tutorials
4.	Week 4	Plane table surveying-Methods of radiation-intersection-resection	Lecture Mode and field demonstration
5.	Week 5	Two and three point problem Concept of levelling-Booking of levels Rise and fall and Height of Collimation Methods-	Lecture mode and Tutorials
6.	Week 6	Cycle Test I	Test
7.	Week 7	Theodolite-Temporary and permanent adjustment-Measurement of angles-Errors	Lecture mode and laboratory demonstration
8.	Week8	Concept of tacheometry-Stadia and Tangential Tacheometry	Lecture Mode and Tutorils
9.	Week 9	Area and volume computation-Simpson's and Trapezoidal rules-	Lecture Mode and Tutorials
10.	Week 10	Geodetic Observations-trigonometric levelling-Axis signal Correction- Reciprocal observations	Lecture mode and Tutorials
11.	Week 11	Cycle Test II	Test
12.	Week 12	Laboratory demonstration of Sophisticated Instruments like Electronic Total Station GPS Electronic Theodolite	Laboratory Demonstration
13	Week 13	Field exercise and Group project	Group project
14.	Week 14	Final End semester Examination	Examination

COURSE ASSESSMENT METHODS				
Sl.No	Mode of Assessment	Week/date	Duration	% Weightage
1.	Assignments/Tutorials	Before Cycle Test I And II	Then And There Evaluation	10
2.	Mid Semester Cycle Tests I And II	Week 6 and Week 11	Sixty Minutes	40(Two Cycle Tests of 20% each)
3.	Group Task	Week 13	30 Min per team	10
4.	End Semester Examination	Week 14	3 h	40

### Reading Material suggested

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.
4. SatheeshGopi. Advanced Surveying, Pearson Education, 2007.

### Course Exit Survey

Feedback forms will be collected from the students in the Week 12 in a sealed cover with the help of the Class representative and handed over to the competent authorities.

### Course Policy

1. Attendance during the assessment days is compulsory.75 % attendance is mandatory to attend End semester examination .It is the duty of the faculty to compensate the classes which are cancelled due to some reasons are what so ever .
2. On duty –Participation is limited to 25 % of total classes conducted-approving authority is the HoD/Civil Engineering.
3. Appellate/Redressal Authority is HoD/Civil Engineering in case of dispute/grievance.
4. The grading policy is same as the guidelines and given in B.Tech. regulations of NIT Tiruchirappalli

### Contact Information

The course handling faculty can be contacted in his room No. 26 in Civil Engineering Department, Office of the Dean (P&D) .Intercom No.3159.3023 and 3146.

His E Mail is gs @nitt.edu

For Consideration of Senate NIT Tiruchirappalli.

  
Course Faculty

(G. SWAMINATHAN)



Class Committee Chairperson

(Dr. K. BASU)



HoD/Civil Engineering