

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE PLAN – CEPE32 GEODETIC SURVEYING

BRANCH: CIVIL ENGINEERING

SEMESTER: V

| COURSE OUTLINE TEMPLATE | | | |
|--|--|---|---|
| Course Title | Geodetic Surveying | | |
| Course Code | CEPE32 | No. of Credits | 3 |
| Department | Civil | Faculty | Dr. Nisha Radhakrishnan |
| Pre-requisites Course Code | CEPC14 | | |
| E-mail | nisha@nitt.edu | Telephone No. | 9843260869 (M) 3162 (O) |
| Course Type | Elective course | | |
| COURSE OVERVIEW | | | |
| To give an overall overview of geodetic surveying and its applications through theoretical, practical sessions and several tutorials. | | | |
| COURSE OBJECTIVES | | | |
| <ul style="list-style-type: none"> To know the significance of geodetic surveying in field measurements in terms of utility and precision of data collection To learn on the principles of Triangulation, Trigonometric leveling and their procedures To get introduced to the concept of curves and curve setting To know in detail different types of errors and their adjustments To get introduced to the coordinate systems, reference plans and projections | | | |
| COURSE OUTCOMES (CO) | | | |
| Course Outcomes | | Aligned Programme Outcomes (PO) | |
| <ul style="list-style-type: none"> Apply geodetic methods such as Triangulation in different fields of civil engineering | | 1 2 4 9 10 11 12 | |
| <ul style="list-style-type: none"> Apply geodetic methods such as Trigonometric leveling in different fields of civil engineering | | 1 2 4 9 10 11 12 | |
| <ul style="list-style-type: none"> Select the correct, best suited curve and set the curve on the road | | 1 2 4 9 10 11 12 | |
| <ul style="list-style-type: none"> Identify the errors present in the field observation and to adjust the errors using suitable methods | | 1 2 4 9 10 11 12 | |
| <ul style="list-style-type: none"> Demonstrate the principles of the earth surface, its projections and different coordinates involved in map making | | 1 2 4 5 9 10 11 12 | |
| COURSE TEACHING AND LEARNING ACTIVITIES | | | |
| S.No. | Week | Topic | Mode of Delivery |
| 1. | Week 1 - 5 | <ul style="list-style-type: none"> Curve setting Tutorial 1 | <ul style="list-style-type: none"> Chalk and Board/ Open Book Problems |
| 2. | Week 5 - 7 | <ul style="list-style-type: none"> Triangulation Tutorial 2 | <ul style="list-style-type: none"> Chalk and Board/ Open Book Problems |

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|----|--------------|---|---|
| 3. | Week 8 - 11 | <ul style="list-style-type: none"> • Trigonometrical leveling • Tutorial 3 | <ul style="list-style-type: none"> • Chalk and Board/ Open Book Problems |
| 4. | Week 12 - 15 | <ul style="list-style-type: none"> • Errors – Computations • Tutorial 4 | <ul style="list-style-type: none"> • Chalk and Board/ Open Book Problems |
| 5. | Week 16 - 17 | <ul style="list-style-type: none"> • Reference Surfaces – Datums – Geoids – Coordinate systems – Map Projections | <ul style="list-style-type: none"> • PPT |

COURSE ASSESSMENT METHODS

| S.No. | Mode of Assessment | Week/Date | Duration | % Weightage |
|-------|---|--|----------|-------------|
| 1. | Cycle Test 1 | Week 9 | 1 hour | 20 |
| 2. | Cycle Test 2 | Week 15 | 1 hour | 20 |
| 3. | Tutorial 1 – 4 | To be taken during the regular Classes | | 20 |
| 4. | Retest (for Students Who have missed either Cycle Test 1 or Cycle Test 2) | Week 17 | 1 hour | 20 |
| 5. | End Semester | Week 19 | 3 hours | 40 |

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.
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.

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

Attendance

- The Closing date of attendance for the subject is Week 17.
- 100% attendance is desirable for every student, with minimum attendance being 75%.
- Attendance during each assessment is mandatory.
- Retest would only be given to those students who have missed either Cycle Test 1 or Cycle Test 2 on genuine grounds. The portions of the retest would include the portions for both Cycle Test 1 and Cycle Test 2 combined.

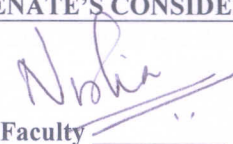
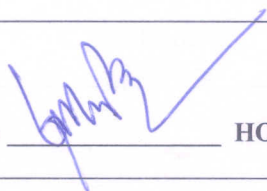
Marks

- Eligibility criteria for passing:
 - Passing minimum of Cycle Test 1+ Cycle Test 2+ Tutorials 1- 4 + Final 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 
 CC-Chairperson 
 HOD 