GPS SURVEYING

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INTENDED AUDIENCE : Diploma/Degree/Master/Doctoral students; Field surveyors; Professional persons dealing with GPS surveying.
Application based.As core course (partial) for Civil Engineering,Geo-spatial Technology etc.
As elective course (partial) for Earth Sciences,Geography etc for all domains in which GPS surveying may be applied.
May be considered for both course (UG & PG).
Part of any of the degrees: (BE/ME/BSc/MSc etc).

PRE-REQUISITES : Basics of Physics and mathematics upto 12th standard and familiarity with use of computer.

COURSE OUTLINE :

The objective of the course is to provide optimal insights into land surveying using GPS (Global Positioning System). The course starts with an introduction to land surveying leading to GPS as the state-of-art for surveying of land. Then, different aspects of GPS systems such as GPS architecture, GPS signals, GPS receivers, GPS software has been discussed followed by GPS positioning & GPS observables. Next, it provides GPS processing fundamentals consisting of pre-processing and processing steps under different processing strategies followed b y quality assessment and field procedure of GPS surveying. The course concludes with a detail demonstration of GPS field surveying followed by processing of collected data.

ABOUT INSTRUCTOR :

Prof. Jayanta Kumar Ghosh is working as Associate Professor in the Civil Engineering Department (Geomatics Engineering Group) of Indian Institute of Technology Roorkee. He is engaged in teaching, research and consultancy works in Geomatics engineering for more than 30 years. He is pioneer in introducing courses on GPS surveying in the UG & PG curriculum of Civil Engineering in India, since 1999. He has conducted many short term courses on GPS Surveying for the building professionals as early as 2002. He has more than 85 publications in the International and National journals and conferences of repute. He is member of different National and International technical associations.

COURSE PLAN :

Week 1: Introduction; GPS System

Week 2: GPS Positioning; GPS Observables

Week 3: GPS Data Processing

Week 4: GPS Field Surveying; GPS Field Data Processing