

Short-term course
on
**Introduction to GNSS
and its Applications**
(Nov 8 - Nov 19, 2021)

Organized by
**National Centre for Geodesy
IIT Kanpur**



Overview

Global Navigation Satellite System (GNSS) refers to the constellations of Earth-orbiting satellites. These satellites are continuously transmitting signals which help to determine the precise three-dimensional position of any point anywhere on the globe. There are various civilian applications of GNSS such as positioning, navigation and timing services, which are widely used in route planning, aviation, location-based services, agriculture and surveying. Apart from general civilian uses, GNSS is widely used in geodynamics research. Particularly in plate motion studies, GNSS has been one of the most relied upon geodetic sensors in the past two decades. Keeping in view the various significant applications of GNSS, this short-term course aims to expand the introductory concepts of GNSS and data processing amongst Indian academia and Industry.

Objective of the course

The objective of this short-term course is to provide an overall understanding of GNSS and to provide hands-on experience in processing GNSS data using commercial/scientific software and demonstration of the use of GNSS in surveying applications.

Conduct and structure

- The course will be conducted in an online mode.
- On weekdays, there will be two lectures of 90 minutes each in the forenoon session, followed by three hours of lab/tutorial in the afternoon.
- No classes on weekends.

Course contents

The course will broadly contain the following topics: Basic Satellite Geodesy, Introduction to GNSS, GNSS Adjustment Models for positioning, GNSS Error and Accuracy, GNSS Surveying, Introduction to Inertial Navigation (INS), INS/GNSS integration.

Course study material

Study materials related to the course such as lecture slides, video recording of lectures and open-source software will be made available.

Registration and course fee

The participants need to apply by filling up an online registration form available below. There is no registration fee for selected participants.

Link for registration:

<https://forms.gle/jK4z4ebWLMEm7KME6>

Target participants

The course is planned for students, researchers (JRF/SRF/RA/PDF), scientists, faculty members and other professionals from Government and private sectors working in the field of geospatial technology. The number of participants for the course is limited to 25. Therefore, in case of large applications, selection will be done based on the criteria decided by NCG.

Award of certificate

Certificates will be issued to the participants who attend all the lectures, labs and assessments.

Important dates

Start date of online Application : **15.10.2021**
Last date of online Application : **30.10.2021**

Contact details

Coordinator, National Centre for Geodesy
Indian Institute of Technology Kanpur
Email: ncg@iitk.ac.in
NCG Website : <https://www.iitk.ac.in/ncg/>