



Indian Institute of Technology Delhi

TEQIP-III Sponsored Short-Term Course
Applications of Probability and Statistics in Civil Engineering
IIT Delhi Sonipat Campus, Haryana 13th – 15th July 2018



About IIT Delhi

IIT Delhi is one of the oldest technological institutes in India. The institute has nearly 35 academic units that imparts knowledge on Engineering, Science, Design, Social Science, among others. IIT Delhi has been instrumental in providing solutions to the technological and societal problems through its academic and research activities. IIT Delhi has been consistently placed among top academic universities around the globe, and as per the recent QS University ranking, the institute stands at 64th in the list of Engineering and Technology domain. The institute has been expanding its infrastructure and the extended campus of IIT Delhi at Sonipat in Haryana is now functional. Situated at a distance of around 60 kms from IIT Delhi, the Innovation Centre for Education(ICE), spread over 10 acres, is being created as a modern eco-friendly 'Gurukul' to consolidate and enhance teaching-learning/pedagogical research activities and conduct the same more effectively for a greater impact on the educational landscape.

Scope of the Course

The aim of the course is to introduce the relevance of probability and statistics in a wide range of academic and industrial problems relevant to civil engineering applications. This will be achieved through lectures and hands-on sessions, which will include the basics of data analysis using open source packages.

Learning Outcomes

- ✚ Appreciate the role of probability in Civil Engineering
- ✚ Make appropriate decisions using statistical inference
- ✚ Use open source statistical tool to analyse probabilistic data
- ✚ Revisit civil engineering design problems from a probabilistic perspective
- ✚ Use statistical data analysis in relevant research problems

Course Contents

Data reduction, Basics of probability theory – random events, Joint random variables, Common probability distributions in civil engineering – discrete and continuous, Hypothesis testing, Belief updation in civil engineering problem using Bayesian theory, Concept of reliability, Applications of probability, statistics, & reliability in civil engineering problems through examples, Hands-on sessions on data analysis using R, a commonly used open source package.

Important Dates

The last date for the receipt of duly filled registration form is **30/06/2018** and the selected candidates will be intimated on **02/07/2018**.

Course Faculty

The following faculty members will deliver lecture during the course

Dr. N.M. Anoop Krishnan, Department of Civil Engineering, IIT Delhi

Dr. Manoj M., Department of Civil Engineering, IIT Delhi

Dr. Hariprasad K., Department of Chemical Engineering, IIT Delhi

Target Audience

The course is designed for faculty members in TEQIP-III institutes. Selection of 30 candidates will be done on a first-come, first-served basis after shortlisting candidates based on their background and interest in the subject.

Accommodation

Boarding and lodging will be arranged for the selected candidates, as per TEQIP-III norms, in Sonipat campus on twin-sharing basis. All rooms are air-conditioned and equipped with basic amenities. Participants who need onsite accommodation are requested to indicate the same in the application form.

Travel

TA will be provided for the participants from their hometown to IIT Delhi Sonipat Campus up to a maximum of the 3rd a/c train fare.

Organising Team

<p>Dr. Manoj M. (Course Coordinator) Asst. Professor Department of Civil Engineering Indian Institute of Technology Delhi Hauz Khas, New Delhi – 110016 Ph: 011-2659-1219 Email: manojm@civil.iitd.ac.in</p>	<p>Dr. N. M. Anoop Krishnan (Course Coordinator) Asst. Professor Department of Civil Engineering Indian Institute of Technology Delhi Hauz Khas, New Delhi – 110016 Ph: 011-2659-1223 Email: krishnan@civil.iitd.ac.in</p>
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Registration

Interested candidates are requested to fill the particulars requested in the registration form attached with the brochure. The soft copy of the **completed registration form should be sent by email** to probabilityqip2018@gmail.com with the title of the course “**TEQIP-III Application of Probability and Statistics in Civil Engineering**” as the subject. Further, the hard copy of the duly filled-in form shall be sent to:

Dr. Manoj M.
Department of Civil Engineering
Indian Institute of Technology Delhi
Hauz Khas, New Delhi – 110016;
Ph: 011-2659-1219 / 1223 (O); 9945670879 / 9945191019 (M)

For further information related to the course or for accommodation enquiries, please contact us at probabilityqip2018@gmail.com.
