

❖ Selection and Mode of Payment

Selected candidates will be intimated through Email. They have to remit the necessary course fee to the Bank as per the details given below. Outstation participants requiring accommodation and boarding facilities have to pay Rs.2000 in addition to the course fee.

Account Name	GIAN NITW
Account Number	62447453600
Bank	State Bank of India
Branch	NIT Branch (NIT Campus)
Branch Code	20149
IFSC	SBIN0020149
MICR Code	506004011
SWIFT Code	SBININBB018

***Candidates registering early will be given preference in short listing process.**

For any queries regarding registration of the course, please contact the Coordinators:

❖ Course Coordinators

Prof. T.D.Gunneswara Rao

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Dr. K. Gopi Krishna

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❖ About GIAN Courses

MHRD, Govt. of India has launched an innovative program titled 'Global Initiative of Academic Networks' (GIAN) in Higher Education, in order to garner the best international experience. As a part of this, internationally renowned Academicians and Scientists are invited to augment the country's academic resources, accelerate the pace of quality reforms and elevate India's scientific and technological capacity to global excellence.

❖ About the Institute and Warangal

National Institute of Technology, Warangal (NITW) (formerly known as RECW) is, the first among 31 NITs, established in 1959. Over the years, the Institute has established itself as a premier Institution in imparting technical education of a very high standard, leading to B.Tech, M.Sc, MCA, MBA, M.Tech and Ph.D. programmes in various specializations of Science, Management and Engineering streams. Warangal is known for its rich historical and cultural heritage. It is situated at a distance of 140 km from Hyderabad. Warangal is well connected by rail and road. National Institute of Technology, Warangal campus is 3 km away from Kazipet railway station and 12 km away from Warangal railway station.

❖ About the Civil Engineering Department

The Department of Civil Engineering offers B.Tech programme in Civil Engineering, 7 M.Tech programmes including Engineering Structures and PhD programme. The Department is a recognized QIP centre since 1978. The Department has well established and well equipped laboratories. The Department has experienced faculty engaged in teaching, research, capacity building activities and industry extension services. Faculty members represent several policy making and professional bodies. The Department has liaison with reputed industries and R&D organizations.

Master's program in Engineering Structures was introduced in the year 1967. Engineering Structures Division is one of the four divisions in the Department of Civil Engineering and presently offers M.Tech and PhD programmes. The division has well qualified, motivated and experienced faculty members.



MHRD
Govt. of India

One Week GIAN Course On

Application of Principles of Reliability and Risk Analysis to various sub-disciplines of Civil Engineering

31st December 2018 - 04th January 2019

Call for Registration and Participation

International Faculty

Prof. Chandrasekhar Putcha
California State University, Fullerton,
California, USA.

Coordinators

Prof. T. D. Gunneswara Rao
Dr. K. Gopi Krishna

Organized by

**Structural Engineering Division,
Department of Civil Engineering,
National Institute of Technology Warangal,
Telangana – 506004.**

❖ Overview

Reliability and Risk Analysis are two important tools that are used very extensively in engineering analysis. Reliability and Risk are connected as both essentially use the basic concepts of probability and statistics. The course will discuss the basic concepts of Reliability analysis and its application to various sub-disciplines of civil engineering such as – Structural Engineering, Hydraulics/Water resources Engineering, Geotechnical Engineering and Environmental Engineering. As is well known, there are two types of Analysis. One is called Deterministic Analysis which is traditional. The other one is called Probabilistic Analysis. Reliability Analysis is essentially an extension of Probabilistic Analysis. While all the values are treated to have fixed values in a deterministic analysis, they are treated as Random Variables (RV) in a Reliability Analysis. These random variables can be following Normal, Log Normal, Uniform, Beta, Weibull or any other kind of distribution. This course will discuss all these kind of probability distributions including their practical use. In addition, practical examples in each of the above mentioned four disciplines will be discussed. Relation between Reliability and Risk and corresponding functional equations will also be derived as part of this course.

This course targets undergraduate and graduate students, practicing engineers and research community who have interest in risk-based analysis and design. This course will also help students, researchers and engineers in understanding the principles of reliability and risk analysis. This course discusses all the fundamentals of reliability and statistics required for risk-based engineering analysis and design.

The course will be delivered by an expert who has been in Academia for more than 40 years involving various teaching and professional activities. The expert has published more than 150 research papers in various disciplines such as Engineering, Business, Economics, Medicine, Kinesiology, Political Science and Sociology. The expert has practical and consulting experiences in several leading companies and received research grants from companies such as Boeing, Northrop Grumman Corporation and from Federal Agencies such as – NASA, Navy, Air Force, US Army Corps of Engineers.

❖ Course details

- Part I: Basic Probability Theory; Monte Carlo simulation and various Engineering Problems.
- Part II: Functions of Single and Multiple Random variables; Role of Statistical Inferences in Engineering; Determination of Probability Distribution Models.
- Part III: Regression and Correlation Analysis; Practical Engineering Examples of Equivalent Linear Regression Risk Analysis.
- Part IV: Concepts of LRFD; Load and Resistance Normal variables; Development of Equations relating Reliability and Risk.

Number of participants for the course will be limited to fifty.

❖ International Expert:



Prof. Chandrasekhar Putcha is a Professor in the Department of Civil and Environmental Engineering, California State University, Fullerton, California, USA. His research interests are Reliability, Risk Analysis, Optimization and Mathematical Modelling.

❖ Institute Experts:



Prof. T. D. Gunneswara Rao is a Professor in the Department of Civil Engineering at NIT, Warangal. His research interests are Fracture Mechanics of Concrete Structures, Fiber Reinforced Concrete, and Sustainable Construction Materials.



Dr. K. Gopi Krishna is an Assistant Professor in the Department of Civil Engineering at NIT, Warangal. His research interests are Multi hazard performance Assessment of structures, Earthquake Engineering and Wavelet Finite Element Methods for structural dynamics problems.

❖ Who can attend?

Registration is open to:

- Executives, engineers and researchers from industries, consultancy firms and government organizations including R&D laboratories.
- Students at all levels (BTech/MSc/MTech/PhD) or Faculty from reputed academic institutions and technical universities.

❖ How to Register?

Stage -1:

Web (Portal) Register: Visit GIAN Website at the link: <http://www.gian.iitkgp.ac.in/GREGN/index> and create login User ID and Password. Fill up the blank registration form and do web registration by paying Rs 500/- online through Net Banking / Debit / Credit card. This provides him/her with life time registration to enrol in any number of the GIAN courses offered.

Stage -2:

Course Registration (Through GAIN Portal): Log in to the GIAN portal with the user ID and password created. Click on 'Course Registration' option given at the top of the registration form. Select the course titled "**Application of Principles of Reliability and Risk Analysis to various sub-disciplines of Civil Engineering**" from the list and click on 'Save' option. Confirm your registration by Clicking on 'Confirm Course'.

❖ Course Registration Fees:

Faculty and scientists	Rs. 2000
Participants from industry/ Training organizations/ consultancy firms	Rs. 4000
Students and research scholars	
➤ Without award of grade	Rs. 500
➤ With award of grade	Rs. 1000
Student participants from abroad	USD 50
Other participants from abroad	USD 100

The above fee includes all instructional materials, computer use for tutorials, free internet facility, session tea & snacks. The participants from industry / research organisations / academic institutions will be provided with twin sharing accommodation on payment basis in the Institute Visitors' Block subject to the availability.

Students from other institutes will be provided

accommodation in Student Hostels, on payment basis.