

CONTINUING EDUCATION CELL

NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR
G.E. Road, Raipur – 492010 (C.G.) Ph- (0771)2253934

No./NITRR/CEC/2022/ 166

Date: 14/03/2022

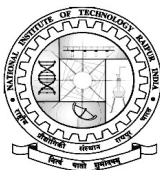
NOTICE

Continuing Education Cell, NIT Raipur is going to offer a certificate course on “Statistical Methods for Engineers, Researchers, Medical and Banking Professionals”.

Course Name	Tentative schedule	Details
“Statistical Methods for Engineers, Researchers, Medical and Banking Professionals” (<i>onlinemode</i>)	First Week of May -2022	ANNEXURE-1

Interested candidates/organizations can apply in the prescribed application form along with the course fee to the office of the undersigned. For any clarification please contact the course coordinator, Dr. Vikas Kumar Vidyarthi, Assistant Professor, Department of Civil Engineering, NIT Raipur, Email: vkvidyarthi.ce@nitrr.ac.in / Mobile: 9532810906. For course details kindly refer to **Annexure- 1**.

Dr. Subhojit Ghosh
Chairman,
CEC NIT, Raipur



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COURSE DETAILS

ANNEXURE-1

Course Name:

Certificate Course on “Statistical Methods for Engineers, Researchers, Medical and Banking Professionals”

Duration (30/40/60 hrs.): 40 hrs.

Tentative schedule:

Starting from first week of May (flexible and can be modified as per the requirement of the industry / participants)

Seats offered: 20-80

Eligibility:

Graduates/Research Scholars/Diploma of all Branches of Engineering and Science including Medical Science, Pharmacy & Veterinary; Banking and Finance professionals.

Level: Intermediate/Advanced: Intermediate

Course Fee (Rs.): 3000/- + GST

However, if the training program is arranged for one organization/industry with customized module, in that case the course fee will be Rs. 60 thousands + GST for 20 numbers of participants. The course fees will remain same (i.e., Rs. 60 thousands + GST) even if the numbers of participants for customized module are less than 20, and 3000/- + GST will be charged with each additional participant.

Batch (I-Morning & II-Evening): 05:30 PM-7:30PM (tentative)

Course Coordinator:

Dr. Vikas Kumar Vidyarthi, Assistant Professor, Department of Civil Engineering, NIT Raipur

Tentative Facilitator /Tutors:

Dr. Vikas Kumar Vidyarthi, Assistant Professor, Department of Civil Engineering, NIT Raipur; Dr. Shalabh, Department of Mathematics and Statistics, IIT Kanpur; Dr. Hemanta Medhi, Department of Civil Engineering, Tezpur University, Dr. Lucky Singh, Scientist, ICMR-National Institute of Medical Statistics; Dr. Shikha Chourasiya, Assistant Professor, WEM, CUJ Ranchi (Addition/deletion in final list of instructors depending upon availability).

Staff (Class-III): NIL

Staff (Class-IV): NIL

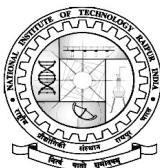
Mode of delivery (online/physical): Online only

Laboratory Name (for physical): NIL

Industry/Sector targeted:

Bhilai Steel Plant, NTPC, NHPC, RIMS, SBI, HDFC, ICICI, Chhattisgarh Hospital Medical research Center and Institute, Pt Deendayal Upadhyay Memorial Health Sciences and Ayush University of Chhattisgarh, Raipur, Shri N P A Government Ayurved College, All private medical institutes.

Email - "Dr. SubhojitGhosh"<sgosh.ele@nitrr.ac.in>, cec_assistant@nitrr.ac.in



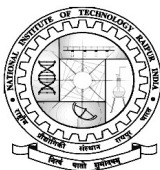
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Course Content (Syllabus):

These will be uploaded in institute website. (Detailed Syllabus of the proposed subjects are provided in Annexure I)

- **Module I: Estimation:** formulation of the problem, properties of estimates, unbiased estimation, methods of estimation – Interval estimation.
- **Module II: Reliability Estimation:** The Exponential, Gamma and Weibull models, estimation of reliability for these models with complete and censored samples.
- **Module III: Testing of Hypothesis:** Fundamental notions, Neyman – Pearson lemma, likelihood ratio tests, tests based on normality, non parametric procedures – Chi-square tests of goodness of fit, Kolmogrov – Smirnov Test, sign test, signed rank list, median test and tests for independence.
- **Module IV:** Regression analysis: Linear regression, least square estimation, generalized least squares, multiple regression, testing general linear hypothesis; Linear and multiple Correlations; Partial auto correlation. Clustering and Classification.
- **Module V: Hand-On with Statistical Software:** Solving various real field problem (Engg./Science/Medical/etc.) using R Software, Excel Solver (Multivariate Regression), NCAR Command Language (Manipulation of metadata, Configuration of visualization, Conditional statement). MATLAB functions for Statistics. Information of other Statistical Software.



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Tentative Time Table for Certificate Course on “Statistical Methods for Engineers, Researchers, Medical and Banking Professionals”

***Timing 05:30 PM - 07:30 PM (Tentative)**

Module	Day	Content
I	1	Introduction to Statistics, Use of statistics in solving real field problems, Basic statistics and data analysis
	2	Estimation: formulation of the problem, properties of estimates, unbiased estimation
	3	Methods of estimation – Interval estimation.
II	4	Reliability Estimation, The Exponential, Gamma and Weibull models
	5	Probability distribution for extreme event analysis and modeling
	6	Estimation of reliability for these models with complete and censored samples.
III	7	Testing of Hypothesis: Fundamental notions, Neyman – Pearson lemma, likelihood ratio tests
	8	Hypothesis Testing based on normality, Non parametric procedures – Chi-square tests of goodness of fit
	9	Kolmogorov – Smirnov Test, sign test, signed rank list, median test and tests for independence.
IV	10	Regression analysis: Linear regression, least square estimation, generalized least squares, Multiple regression
	11	Testing general linear hypothesis. Linear and multiple Correlations; Partial auto correlation.
	12	Clustering and Classification
V	13	Hands-on with clustering software
	14	Introduction to R Software
	15	Solving various real field Engineering problems using R Software
	16	Solving various real field Medical problems using R Software
	17	Solving various real field of other science/business problems using R Software
	18	Introduction to Excel Solver
	19	NCAR Command Language (Manipulation of metadata, Configuration of visualization, Conditional statement).
	20	MATLAB functions for Statistics. Information of other Statistical Software.

***NOTE: Time of online classes will be finalized after consulting with the participants.**



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APPLICATION FORM

Name of the Course Applied:

Name:

Father's/Husband's Name:

Date of Birth: Sex: Male ☐ Female ☐

Occupation:

Qualification:

Address:

.....

..... *E-mail ID:

Phone (with STD code): Residence: Mobile:

Aadhar Number :

Time: Tick whichever is applicable,

(A) Batch-I (Morning - 07:15 AM to 09:15 AM)

(B) Batch-II (Evening - 05:30 PM to 07:30 PM)

Fee Details:

Amount: DD No.: Date:

Name of Bank:

(Please write your name and course applied for in the back of the Demand Draft also.)

Date:

Signature of the Applicant

Note:

1. Time/Batch will be allotted as per the convenience of the applicant in general, however candidate may be asked to change the batch as per the requirement of the course.
2. The Fee Deposited for any course is non-refundable & non-transferable.
3. Information regarding the classes will be sent to through mail after registration.
4. If applicant is in Government service, they need to apply through proper channel.

For Office Use Only

Course and Time allotted:

Fee Details:

Place & Date:

Signature of CEC-Chairman

