



Online Internship Summer Training/ Refresher/STC Programme on Data Analysis using R, Excel, Python, SPSS

One month Certification course during June 20 June- 20 July, 2025

Organized by

**Department of Health Research-Multidisciplinary Research Unit
Uttar Pradesh University of Medical Sciences, Saifai, Etawah, UP**

(As per UP Government Act No 15 of 2016 to provide for establishment of a Medical Sciences University)

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Digvijai Nath Post Graduate College, Gorakhpur, UP

(Estd.25 Aug 1969 - (Affiliated To D.D.U. Gorakhpur University Gorakhpur(U.P.) | B++ with C.G.P.A.2.84)

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Science Tech Institute, Lucknow, UP, India



About Uttar Pradesh University of Medical Sciences: The Uttar Pradesh University of Medical Sciences, is a medical college, hospital, and medical research institution in Saifai, Etawah, U.P., India., running with full-fledged Medical College, Dental College (postgraduate), Paramedical College, Nursing College, Pharmacy College, Multi-Specialty 850 bedded hospital, 150 bedded trauma and burn center and 500 bedded Super Specialty hospital. The Medical University is transforming in order to support clinical research and offer better patient care.

About Department of Health Research-Multidisciplinary Research Unit: Established under aegis of DHR, MoHFW, Govt. of India at Uttar Pradesh University of Medical Sciences, Saifai, Etawah (206130). The Unit is to perform cutting-edge research in the field of health sciences, with a special emphasis on patient care in non-communicable diseases, and provide a central instrumentation facility and research environment for faculties and SR/JR PG students to choose and carry out their top research priorities on their own premises.

Digvijai Nath Post Graduate College, Gorakhpur: Digvijai Nath Post Graduate College, Gorakhpur was established on 25th August, 1969 by the managing committee constituted under Maharana Pratap Shiksha Parishad, Gorakhpur. It is situated in civil lines, the heart of Gorakhpur city in eastern Uttar Pradesh. Days are not far when the college shall be able to realize the vision and the grand mission of the great soul 'Brahmleen Mahanth Digvijai Nath ji Maharaj', whose name decorates the identity of the College. His Holiness 'Brahmleen Digvijai Nathji Maharaj, former Head Priest of world fame Shree Guru Goraksh nath Temple, Gorakhpur was the founder of the college. He was a pioneer of educational renaissance in Eastern U.P. It was none other than himself who established Maha Rana Pratap Shiksha Parishad, Gorakhpur in 1932 to spread the light of knowledge and awareness among the people of Eastern U.P.

Science-Tech Institute(Run By: MKS Educational Society Lucknow)

The Science-Tech is one of the premier Institutes of Lucknow dedicated to organize various academic activities like Conferences, FDP, seminars, workshops and Training programme and Certificates Course in collaboration with many National & International organizations and Institute have own Publications House and Journals to be publish various fields of books, Research papers and Magazine. The Institute is run by Manraj Kuwar Singh Educational Society, Lucknow. The Society is working for the development of deprived socio-economic students by providing them quality education.

About the Internship Summer Training/Refresher/STC Programme

Training is the process of learning a skill and it enables the trainee to attain the skills that are needed for a job. “Summer training” is a very common term among students pursuing degrees. Summer training is very important for bridging the gap between the industry and the academic curriculum.

Training helps you know about the implementation techniques of concept learnt in classes. Learning and implementation are two completely different things. Learning comes from reading about a concept while implementation is putting whatever you have learnt to practical use.

The main objective of conducting an orientation programme is to transform a teacher into a learning and creative teacher. It is possible only when the ASCs identify the relevant contents and methodology. The UGC/MCI has provided broad guidelines for the themes to be covered in orientation programmes. Programmes(OP) and Refresher Courses (RC) for the overall development of the teachers and profession. It mentions several reasons for Understanding Educational Culture, Networking, etc. which motivate the teachers to attend the programmes, and on the other side, it lists out the benefits been given to parts of the society i.e. students, teachers, and the educational institution.

. Objective

The course will explain the fundamental concepts of advance statistical data Analysis techniques. It will be delivered through video lectures and reading materials.

Methodology

The methodology of the course will comprise of:

- Online lecture
- Participatory discussion
- Demonstrations
- Problem solving (exercises and data analysis in each sessions).
- Assignment

Duration &Time

One month/4 weeks Date: **20 June - 20 July, 2025, Time: 7:00 PM to 8:00 PM.** (Saturday &Sunday will be closed in every week)

Nature of Participants

Internship Summer Training :The Students of MBBS & MD, MPT & BPT B. Pharm. & M.Pharm, B. Tech & M. Tech. , BCA & MCA, BBA & MBA, B.Sc.& M. Sc., B. Com. & M. Com. LLB &LLM,, BA & MA and (and UG& PG of any steam, and Research Scholars.

Refresher/STC Programme: Faculties and Residents from Medical, Science, Engineering, Arts, Humanities, Social Science, Agriculture, Law, Commerce, Pharmacy, Fine Arts, Education/Special Education Etc.

Topics Covered of R	Topics cover of Python	Topics covered of SPSS
<ul style="list-style-type: none"> ❖ Introduction of R ❖ Installation of R and R studio ❖ R as a calculator ❖ Data Structure: Vectors, Matrices, Arrays, Data Frames, Factors & lists. 	<ul style="list-style-type: none"> •Introduction to Python • Installing Python, •Installing & loading libraries 	<ul style="list-style-type: none"> ❖ Descriptive Statistics ❖ Graphical representation of Data ❖ Testing of Normality ❖ Testing of Homogeneity Case Studies with Hands on SPSS
Basic Data Management <ul style="list-style-type: none"> ❖ Data input: Entering data from the Keyboard ❖ Importing data from Excel, SPSS,SAS, STATA ❖ Creating new variable ❖ Recoding variables ❖ Renaming variables ❖ Missing values ❖ Sorting data 	<ul style="list-style-type: none"> •Basics of Python • Using libraries Num Py, Matplot Lib, Pandas • Test of Normality • Creating Graphs 	Parametric Tests <ul style="list-style-type: none"> ❖ One sample t-test ❖ Independent t-test ❖ Paired t-test ❖ ANOVA ❖ Repeated measures ANOVA Case Studies with Hands on SPSS
<ul style="list-style-type: none"> ❖ Descriptive Statistics using R ❖ Graphical representation in R 	Data Types in Python <ul style="list-style-type: none"> • List, Tuple, Dictionary, and Set in Python • Python if else (Conditional statements) • Loops in Python (while and for) 	Non Parametric Tests <ul style="list-style-type: none"> ❖ Mann Whitney U-test ❖ Wilcoxon Rank Signed test ❖ Kruskal Wallis Test ❖ Friedman ANOVA ❖ Chi square test Case Studies with Hands on SPSS
Statistical Inference : Parametric Tests <ul style="list-style-type: none"> ❖ T-test ❖ Paired t-test ❖ Analysis of Variance (ANOVA) 	User Input in Python <ul style="list-style-type: none"> • Functions in Python • Mutable object as default function argument • Python Function Call: Call-by-Value or Call-by-Reference? 	<ul style="list-style-type: none"> ❖ Bivariate Regression Analysis ❖ Logistic Regression Analysis ❖ Multinomial Logistic Regression Analysis Case Studies with Hands on SPSS
Statistical Inference : Non Parametric Tests <ul style="list-style-type: none"> ❖ The Wilcoxon Signed Rank Test ❖ Mann Whitney U-Test ❖ Kruskal-Wallis Test ❖ Chi-square Test 	Python Syntax	<ul style="list-style-type: none"> ❖ Exploratory Factor Analysis ❖ Interpretation of Exploratory Factor Analysis Case Studies with Hands on SPSS
Linear Regression Analysis <ul style="list-style-type: none"> ❖ Simple Linear Regression ❖ Multiple Linear Regression 	Variables & Data Types	<ul style="list-style-type: none"> ❖ Cluster Analysis ❖ Interpretation of Cluster Analysis Case Studies with Hands on SPSS
Generalized Linear Models <ul style="list-style-type: none"> ❖ Logistic Regression ❖ Poisson Regression 	Operators	Discriminant Analysis <ul style="list-style-type: none"> ❖ Interpretation of Discriminant Analysis Case Studies with Hands on SPSS

Highlights of the Training/Orientation Program -

- 1. Registered participants will get certificates mentioned with Credit Hour & Score.**
2. Study material in the form of ppt and video recording of all sessions will be provided to all registered participants.
3. **Training/Refresher/STC Program** by Subject Experts from and other reputed Institute & Universities
4. **Training/Refresher/STC Program** will be on the Zoom meeting platform.

For further queries, please mail us at:

sciencetech487@gmail.com

REGISTRATION & PAYMENT DETAILS

Details of Registration Fees:

- 1. For Indian Participants : INR 600/- (Non-Refundable)**
- 2. For Foreigner : USD(\$) 10/- (Non-Refundable)**

For registration & payment please click on the given link:

https://sciencetechinstitute.com/upums-saifai_online-internship-summer-training-orientation-programme/

After successful registration, the participants will receive a confirmation via email. Please keep checking the spam folder of the email as the bulk email sent may end up in the spam folder. An official group has been made for communication with the participants on "Whatsapp." The link to join the official group will be provided in the confirmation mail.

About the Trainer

Dr. Anup Kumar is, Associate Professor, Department of Biostatistics, & Health Informatics, SGPGIMS, Lucknow has completed his Ph.D. from Banaras Hindu University, Varanasi in the field of Mathematical Modeling of Human Fertility in 2012. Currently his area of interest is Stochastic Modelling, Big Data Analysis, Text Mining and Biostatistics. He has published more than 20 research articles in reputed international and national journals. He has delivered more than 25 talks on applied statistics at various national level workshops. Working software for data analysis are R & SPSS.



Dr. Borsha Neog obtained her B.Sc. from Jagganath Barooah College, Jorhat, Assam. She has completed her M.Sc. & MPhil in Statistics from Dibrugarh University, Dibrugarh. Currently she is serving as an Assistant Professor, department of Agricultural statistics, Assam Agricultural University, Jorhat. She has participated in many national and international level workshops & conferences as well as presented her research work in national & international conferences. She has invited as a resource person in national level workshop. Her research interests focus on forecasting, machine learning and time series analysis.



Mr. Saurabh Agarwal is a graduate and post graduate engineer from IIT Kanpur and IIT Delhi. At present he is associated with HBTU, Kanpur. He is consultant to IBM and UNESCO for Business Analytics. He has expertise in Data Mining, Data Analysis, Business Analytics, Structural Equation Modelling, Multivariate Analysis and works on platforms like R, SPSS, AMOS, Modeler, IBM Watson Analytics.



Dr. M. Ramakrishnan Assistant Professor, P.G and Research Department of Mathematics, Ramakrishna Mission Vivekananda College, Mylapore, Chennai. Dr. M. Ramakrishnan has done his Ph.D in Mathematics-Statistics from the University of Madras. He has twenty six years of teaching Experience in Mathematics. His specializations are Mathematical Statistics, Ordinary Differential Equations. His Research area is Survival Analysis. He has expertise in handling Softwares SPSS, STATA, R Programming, WINBUGS, EXCEL and SCILAB. He has published Research Papers in National and International Journals and Presented Papers in many National and International Conferences in the field of Survival Analysis throughout India. He has conducted several R courses in all over India.



Dr. S. K. Yadav is currently working as Associate Professor at Department of Statistics, Baba saheb Bhimrao Ambedkar University (A Central University), Lucknow. He did his M.Sc. and Ph.D. from Department of Statistics, University of Lucknow. He has teaching and research experience of more than 10 years in the field of Statistics. He has published more than 100 research papers in various national and international journals. He has delivered many invited talks in the National and International Conferences. His areas of research include Sampling theory, Regression Analysis and Operations Research.



Dr. Ranjit Kumar Paul is Senior Scientist at IASRI, New Delhi. He has published many research papers in national and international journals. He has published two books. He received the Young Scientist Award in Social Science for the biennium 2015-16 by National Academy of Agricultural Sciences (NAAS), he Received ICAR Lal Bahadur Shastri Outstanding Young Scientist Award in Social Sciences for 2016.



Dr. Gayatri Vishwakarma is an experienced Biostatistician having 14+ years of post-PhD work experience in academics and research. Dr. Gayatri is currently working with ISIC as Head-Biostatistics. She worked as Biostatistician with Department of Research at Rajiv Gandhi Cancer Institute, New Delhi. She worked as Visiting Scientist at University of Texas Health Science Center, Tyler TX, USA. She also worked as Monitoring & Evaluation Specialist in Woodward Charitable Foundation, Ethiopia.



Dr. Manoj Kumar, is working as an Assistant Professor in Centre for Economic Studies and Planning (CESP), Jawaharlal Nehru University, New Delhi. He is teaching statistics, Health Economics, Biostatistics, Econometrics, Research Methodology papers as well as software's like SPSS, SAS, R, AMOS in university. He has various project related to Clinical Research, Dental, Physiotherapy and Social Sciences at university as well as for other organization, to his credits. He has good publication. He was former Biostatistician for prestigious Clinical Research organization like ClinRx Research Pvt. Ltd., Fortis Clinical Research, Invetiv (GSK) etc... at present.



Dr. Amit Kumar did his Doctor of Philosophy (Ph. D) from All India Institute of Medical Science, India. Currently he is serving as an Associate Professor and Head of Department of Laboratory Medicine Rajendra Institute of Medical Sciences, Ranchi, Jharkhand, India. He has participated in many National and International level workshops & conferences as well as presented his research work in National & International conferences. He has invited as a resource person in National level workshop. His research interests focus on forecasting, Regression analysis



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Dr. Sushil Kumar Shukla
(Nodal Officer MRU)
Professor in Statistics
U P University of Medical
Sciences, Saifai Etawah,
U. P.
Mob: 79831 61093

Organizing Secretary



Prof. (Dr.) Parikshit Singh
Professor Dept. of Botany
Digvijay Nath P.G College
Gorakhpur, UP, India

Co-Convener



Dr. Komal Singh
Department of Food Science
Babasaheb Bhimrao Ambedkar
University, Lucknow

Course Coordinator



Dr. S.K. Singh
Science-Tech Institute
MKSES Educational Society
Lucknow, UP, India
MOb. No. 8299547952

For more details call us at +91 8299547952 , 79831 61093
or Email : sciencetech487@gmail.com, mruupums@gmail.com