

### A NEW ERA IN EDUCATION



Meghnad Desai Academy of Economics

## **CERTIFICATE COURSE IN Introduction to R Programming (By MDAE)**

### FOR STUDENTS AND FACULTY



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### ABOUT THE HSNC UNIVERSITY

The Hyderabad (Sind) National Collegiate (HSNC) Board is one of the most prominent educational Boards of Maharashtra that has set up 17 educational institutions in and around Mumbai. In the year 2019, the HSNC Board completed 70 years of its educational journey and finally achieved the dream of its Founding Fathers - the establishment of a new State Cluster University - the Hyderabad Sind National Collegiate University (HSNC University).

The HSNC University has been approved by RUSA and the Govt. of Maharashtra and is the first State Cluster University to be set up in the Government – Private Management Body partnership with the Hon. Governor of Maharashtra as its Chancellor and eminent industrialist, Dr Niranjan Hiranandani as its first Provost.

The HSNC University comprises of renowned South Mumbai colleges like H.R College of Commerce & Economics as its Lead college and K.C College of Arts, Science & Commerce and Bombay Teachers' Training College as its constituent colleges.

HSNC University will build partnerships with industry and have new curriculum aligned with industry 4.0. The aim will be to not only learn from the requirements of the market and have industry collaborators willing to orient students towards the same, but also to ensure internships and the best placements for its graduating students.

This multi-faculty University aims to set new paradigms of education. It wishes to harness the energy and enthusiasm of the young, dynamic population of India and guide it towards the path of learning, knowledge, research, innovation, service to society and entrepreneurship.

This University recognizes the vast potential of Science Communication in the knowledge economy and the lack of specialized educational curriculum and learning for students aspiring for a professional future in the Innovation, Technology and Science Enterprises and the expanding media. Hence, the KC college has designed a best-in-class course in science communication in the sunrise sectors of Knowledge and Innovation economy.



### **OVERVIEW OF INTRO TO R PROGRAMMING COURSE**

Dear Learners,

R is a programming language and free software environment for statistical computing and graphics supported by the R Foundation for Statistical Computing. The R language is widely used among statisticians and data miners for developing statistical software and data analysis.

This course will introduce beginners to the best practices of coding and data analysis in the R programming language. It is your first step towards a career in data science or data analysis.

With a blend of academic and practical modules, we will encourage you to develop your abilities for using R programming.

The academic framework consists of modules on Introduction to R console and editor, idea of packages in R, Basic mathematical and statistical operations- Calculating measures of central tendency and dispersion, Importing data from an excel sheet into R and exporting data from R to excel, Writing functions, if-else statements and generating loops, Introducing the basic plot function- scatter plots, lines, steps, box plots.



#### CERTIFICATE COURSE – INTRODUCTION TO R PROGRAMMING BY MDAE (INTERDISCIPLINARY) FOR ALL STUDENTS

#### **KNOWLEDGE PARTNERS**

The Meghnad Desai Academy of Economics (MDAE)

#### RESOURCE PERSONS : SCIENTISTS / ACADEMIC SCHOLARS / RESEARCHERS / MEDIA PROFESSIONALS

Dr. Sandhya Krishnan (Assistant Professor, MDAE & Ph.D. from the University of Amsterdam and an MA in Economics from the University of Mumbai).

**Dr. Ishita Ghoshal (Assistant Professor, Fergusson College & Ph.D. in Economics from the Gokhale Institute of Politics and Economics).** 

#### COURSE OBJECTIVES:

- To learn how to program in R
- To learn how to perform data analysis in R

#### COURSE OUTCOME:

- Write your own programs in R
- Maneuver and visualize structured data
- Perform essential statistical operations and interpret the results

#### Mode: Online

Modules: 10 sessionsEligibility: Minimum 12th or equivalent examination passed in any fieldDuration: 10 sessions | 2 hours/ session & 10 hours of self-learning, assignment and industry project

**Examples of Modules included:** Introduction to R console and editor, idea of packages in R, Basic mathematical and statistical operations- Calculating measures of central tendency and dispersion, Importing data from an excel sheet into R and exporting data from R to excel, Writing functions, if-else statements and generating loops, Introducing the basic plot function- scatter plots, lines, steps, box plots.



#### **Content for Introduction to R Programming Course:**

S. No	Course Content of sessions	Sessions (2 Hours)
1		1
1	• Introduction to R console and editor, idea of packages in R	1
	• Types of data - integers, characters, numeric, logical, factor, dates, etc.	
	Types of objects: lists, vectors, matrices, data-frames, etc.	
2	• Creating and working with simple vectors	1
	<ul> <li>Merging vectors into a single data set</li> </ul>	
3	<ul> <li>Basic mathematical and statistical operations - Calculating measures of central</li> </ul>	1
	tendency and dispersion	
	<ul> <li>Importing data from an excel sheet into R and exporting data from R to excel</li> </ul>	
	Handling missing values	
4	Writing functions, if-else statements	1
5	Generating loops	1
6	• Introducing the basic plot function- scatter plots, lines, steps, box plots	1
	<ul> <li>Adding parameters to the basic plot function - creating legends, adding</li> </ul>	
	background colors, grid lines, viewing multiple graphs in a single pane, etc.	
7		1
	Bar plots, histograms, pie charts     Oujutilas, Paraentilas, O.O. plots	
	<ul> <li>Quintiles, Percentiles, Q-Q plots</li> <li>Probability - counting, generating random variables, discrete and continuous</li> </ul>	
	<ul> <li>Probability - counting, generating random variables, discrete and continuous probability functions</li> </ul>	
8	Linear regression	1
9	Linear regression and its diagnostic checks and plots	1
10	ANOVA	1

- Classes starting on 30th July 2021 (Every Friday and Saturday: 5 7 pm).
- Use Coupon code KC1000 to enroll for Rs 1990.

For all HSNC University		For all other Students
Undergraduate &	Click here for Registration	and Professionals
Postgraduate Students		

**Rs** 1990

///bit.ly/3i8nwce

Fees Rs. 2990

Date of Commencement on **30<sup>th</sup> July 2021**, Registration Open till **30 July 2021** 

Period and schedule of conduct of the course: 10 sessions (2 hours each session) & 10 hours self-learning, assignment, project with Breath AI







### MDAE in collaboration with KC College presents

# Certificate Course on Introduction to R Programming

Your first step towards a career in data science

### **30 Hours Live & Industry Project with Breath AI**

Course Fees | ₹1990

Course details: 30th July - 28th August, 2021 Fri, Sat : 5-7 pm

Instructors:



**Dr. Sandhya Krishnan:** Assistant Professor, MDAE & Ph.D. from the University of Amsterdam.



Use Coupon code KC1000

to enroll for Rs 1990.

#### Dr. Ishita Ghoshal:

Assistant Professor, Fergusson College & Ph.D. in Economics from the Gokhale Institute of Politics and Economics.

Contact Us: +91-8169087841 Or head to: https://bit.ly/3i8nwce

\*Discount ending soon

