



29th July 2021

**Agreement between Sophia College, Mumbai and Meghnad Desai Academy of Economics (MDAE)
for Online Certificate Program: Introduction to R Programming**

To,

Sophia College, Mumbai

Meghnad Desai Academy of Economics (MDAE) is excited to collaborate with Sophia College, Mumbai for the purpose of jointly offering online certificate program (Introduction to R Programming) to students.

Agreement Details:

1. Course Duration: 30 hours (22 hours teaching and 8 hours: assignment and project)

2. Course Structure: 11 teaching sessions of 2 hours each

3. Course Syllabus: Syllabus is mentioned in the annexure at the last

4. Method of Evaluation:

- Attendance requirements: 90% minimum
- Assignment: 1 Pre-evaluation, 1 post evaluation
- Project: Case study and live project with industry

Certificate will be issued to only those candidates who will meet attendance requirements and completed the assignments and projects.

4. Benefits/ significance of the course:

- For students:
 - Skill and professional development of the student
 - Certificate for completion of the course
 - Connecting with industries for placement
 - Expert guidance
 - Interview tips session
 - Resume editing session
- For college:
 - Improvement in NAAC grade and other rankings

World Trade Centre (Mumbai), 12th Floor, Centre 1, Cuffe Parade. Mumbai - 400005

Tel: 022-22151321 Email: info@meghnaddesaiacademy.org

A Spring Ivy Educational Services LLP Initiative



5. Certification:

As MDAE and Sophia College will be jointly offering these courses -

- The certificate will comprise the logo and signature of both the institutes. Attached are sample certificates of courses that we have launched with our partners.



6. Fee structure and agreement details:

- Course will be offered at a fees of Rs 2950 (Including GST) to students.
- Minimum number of students from Sophia College: 40.
- Revenue share: 25% of all revenue realised through Sophia College Students will be shared 10 days within start of the course.
- Fees will be collected by MDAE and shared with Sophia College immediately after the program and MDAE will be responsible for paying GST of the whole program.

What will the agreement entail?

Responsibilities of MDAE:

- Design and delivery of the content of the entire program for all students (one of the course below)
Course: 30 hours
(22 hours classroom teaching, 8 hours of assignments and live project)
- Sourcing and on-boarding of faculty.
- Providing the online delivery infrastructure (Zoom, EZ Talks).
- Designing and distribution of e-certificates.

World Trade Centre (Mumbai), 12th Floor, Centre 1, Cuffe Parade. Mumbai - 400005

Tel: 022-22151321 Email: info@meghnaddesaiacademy.org

A Spring Ivy Educational Services LLP Initiative



Responsibilities of Sophia College:

- Distribute the course to Sophia College students

7. About MDAE

Meghnad Desai Academy of Economics (MDAE) is a post-graduate academy started by some of India's leading economists and financial professionals. MDAE was established in the year 2015 with the objective of training students to take up roles as market economists, data scientists, bankers, consultants and policy experts in the real world. Our board comprises Lord Meghnad Desai (Life Peer, House of Lords), Dr. Ajit Ranade (Chief economist, Birla Group), Tushar Poddar (Macro Strategist, Wellington Management), Niranjan Rajadhyaksha (Research Director, IDFC Institute), PD Singh (MD, JP Morgan) and Mangal Goswami (Deputy Director, IMF). The focus of the curriculum is to develop quantitative, problem solving and analytics skills required for today's jobs.

Over the past 5 years, we have graduated over 130 students, who have found tremendous success in the corporate world. Students have been hired in the analytics space (Mu Sigma, Fractal Analytics, Think Analytics, Edelweiss Tokio), in Finance (Morgan Stanley, Deutsche Bank, RBS, JP Morgan), in consulting (Deloitte, Praxis, EY, JLL) and public policy (IDFC Institute, RBI, Gateway house).

We are indeed excited to potentially partner with you to jointly deliver these courses and we look forward to positively hearing back.

For MDAE

Puneet Jain

Director, Short-term Courses, MDAE

For Sophia College

Dr. Ananda Amritmahal,

Principal, Sophia College, Mumbai

World Trade Centre (Mumbai), 12th Floor, Centre 1, Cuffe Parade. Mumbai - 400005

Tel: 022-22151321 Email: info@meghnaddesaiacademy.org

A Spring Ivy Educational Services LLP Initiative



Annexure: Course Details:

A. Course: Data Analytics- An Introduction to R Programming

1. Course Name: Data Analytics- An Introduction to R Programming

2. Number of students keen to join: To be shared by Sophia College (Minimum: 40)

3. Tentative course timeline: Start on 18th August (Every Wednesday and Friday: 4:30-6:30 pm)

4. Course Duration: 30 hours (22 hours teaching and 10 hours: assignment and project)

5. Course Objective: This course will introduce beginners to the best practices of coding and data analysis in the R programming language.

6. Course Structure:

- Session 1– Introduction to R console and editor, idea of packages in R, Types of data- integers, characters, numeric, logical, factor, dates, etc. Types of objects: lists, vectors, matrices, data-frames, etc.
- Session 2– Creating and working with simple vectors, Merging vectors into a single data set, Basic mathematical and statistical operations- Calculating measures of central tendency and dispersion.
- Session 3– Importing data from an excel sheet into R and exporting data from R to excel
- Session 4– Writing functions, if-else statements and generating loops
- Session 5– Introducing the basic plot function- scatter plots, lines, steps, box plots, Adding parameters to the basic plot function- creating legends, adding background colors, grid lines, viewing multiple graphs
- Session 6– Bar plots, histograms, pie charts, Quintiles, Percentiles, Q-Q plots
- Session 7– Probability- counting, generating random variables, discrete
- Session 8 – Continuous probability
- Session 9 – Linear regression
- Session 10 – Linear regression and its diagnostic checks and plots
- Session 11 – ANOVA

7. Course Learning Outcomes:

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

World Trade Centre (Mumbai), 12th Floor, Centre 1, Cuffe Parade. Mumbai – 400005

Tel: 022-22151321 Email: info@meghnaddesaiacademy.org

A Spring Ivy Educational Services LLP Initiative



8. Method of Evaluation:

- Attendance requirements: 90% minimum
- Assignment: 1 Pre-evaluation, 1 post evaluation
- Project: Case study and live project with industry

Certificate will be issued to only those candidates who will meet attendance requirements and completed the assignments and projects.

9. Faculty name and details:

1. Dr. Sandhya Krishnan: Assistant Professor, MDAE & Ph.D from University of Amsterdam, MA in Economics from University of Mumbai. Teaching courses in the areas of applied econometrics and development economics.

2. Dr. Ishita Ghoshal: Assistant Professor, Fergusson College, Pune & Ph.D (Gokhale Institute of Politics & Economics, Pune), MA Economics & BA Economics. Teaching courses in the areas of Macroeconomics, International Economics, Applied Econometrics.

World Trade Centre (Mumbai), 12th Floor, Centre 1, Cuffe Parade. Mumbai – 400005

Tel: 022-22151321 Email: info@meghnaddesaiacademy.org

A Spring Ivy Educational Services LLP Initiative