**Applied Data Science with R**

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| **Course Details** | |
| Instructor Name | Zahid Asghar |
| Email Address | [g.zahid@gmail.com](mailto:g.zahid@gmail.com) |
| Phone Number |  |
| Days & Timings |  |
| Duration (sessions/weeks) | 5 weeks |
| Starting Date | Mid-August |
| Course Type | Modular/Integrated. Modular courses allow participants to opt for one or more modules. In integrated courses, participants cannot pick and choose modules they want to take. |
| Mode | Online |
| Proposed fee | Please specify the fee per module if you choose a modular course type. |

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| **Course Description** |
| The R language plays a critical role in data analysis, machine learning, quarto documentation and a common programming language when working in the field of data science & analytics. This course will introduce you to R language fundamentals with a goal to learn R to use it for a problem at hand. This is not a course on R coding. You will learn how to work data types, techniques for manipulation, and how to implement fundamental programming tasks.  This course emphasizes learning by doing as data science is not something to learn about but to do about. You will learn to write a project in Quarto in Posit to produce data-driven insights.  No prior knowledge of R, or programming is required. |

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| **Who Should Attend?** |
| Anyone working with data, analytics and machine learning should join this course for improving one’s productivity, career growth and increasing earning opportunities through free-lancing |

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| **Need and Market Demand for the Course** |
| Learning R is one of the most important computer skills for researchers, free-lancers, data scientists, data analytics , machine learners, data scrappers among many others. |

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| **Learning Outcomes**  Manipulate numeric and textual data types using tidyverse in RStudio.  Read, write, and save data files from SPSS, STATA, Excel, csv, SAS and scrape web pages using R.  Define and manipulate data structures, including vectors, factors, lists, and data frames.  Use of 5 verbs : select, mutate, summarise, filter and arrange to deal with 80% data wrangling  Dealing with dirty excel and other data formats  Data wrangling, visualization and basic regression analysis |
| Define at least four learning outcomes of participants after they take your course. |

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| **Trainer Profile** |
| https://zahedasghar.netlify.app |

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| **FAQs** |
| 1. **Can I enroll for just one module** |
| Yes. This course is introductory level . No prior knowledge of R, or programming is required. |
| 1. **Is this course online?** |
| Yes, this is a 100% online course. |
| 1. **Why should I care about this course?** |
| **This course will enable you to start your data analytics journey or will enhance your skills if you are already working with data.** |
| 1. **What background knowledge is necessary?** |
| **No prerequisites are required.** |
| 1. **Who should join this program?** |
| **Anyone who deals with data :e.g medical doctors, social scientists, engineers, business scientists, economists** |
| 1. **Will I get a certificate on completion?** |
| Yes, but there are a few conditions. You must complete all the assignments, have at least 75% attendance, and have scored reasonably well on your quizzes. This is just for us to ensure that you can grasp the fundamentals of \_\_\_\_ before we certify you. |

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| **Overview of Modules** | | | |
| **Module #** | **Module Name** | **No. of Sessions** | **Brief Description** |
| 1 | Introduction to R, Rstudio, Rstudio Cloud, R-packages, Libraries, reading and cleaning data | Two sessions | Main objective is to learn R environment, data formats, and how to start working with data |
| 2 | Learning 5 verbs of data   1. Select 2. Mutate 3. Filter 4. Summarize 5. Arrange, slice | Two sessions with data from Alif Ailan, Labour Force Survey and built in R data sets | Learning Data Wrangling, cleaning |
| 3 | Joining/Merging Data Sets  Data summary by groups  Awesome report tables | Two sessions | Data handling |
| 4 | Ggplot2 to create awesome graphs like economist,Wall Street Journal Theme, BBC plts | Two Sessions | Ggplot2 basics, annotating graphs, making sense of data |
| 5 | Fundamentals of modeling in R | Two sessions | Basic regression analysis, having tables of various models in nice tabular format with one click |

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| **Module 1: {{Enter Module Title}}** | | | | |
| **Session #** | **Topic** | **Assigned Readings** | **Learning Outcomes** | **Assessment Tools** |
| 1 |  |  | What will students have learnt at the end of this session? | What assessment tools (quizzes, assignments, presentations etc.) would you use to test what the students have learnt? |
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| **Module 2: {{Enter Module Title}}** | | | | |
| **Session #** | **Topic** | **Assigned Readings** | **Learning Outcomes** | **Assessment Tools** |
| 1 |  |  | What will students have learnt at the end of this session? | What assessment tools (quizzes, assignments, presentations etc.) would you use to test what the students have learnt? |
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| **Grading Breakup** |
| Define all the grading instruments and how they will be used to measure the grade in this course. |

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| **Learning Resources** |
| List all the required readings for this course and other learning resources. |