**Data Analysis in R**

**Instructor**

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**Course Description**

This is a course for students and researchers who have data or starting to gather data in their research work. The course deals on how to handle, manage, analyze and visualize data in health and biomedical research.

**Course Objectives**

1. To answer research questions using data.

2. To learn basic concepts in data wrangling, exploratory data analysis, statistical analysis, reproducible research, and data communication for publication.

3. To write codes involving real life datasets using the R language.

**Course Format**

Classes will be conducted online via Google Meet. Lectures with hands-on exercises and assignments. Mondays, 10:00-12:00 PM.

**Course Schedule**

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| **Week** | **Date** | **Topic** |
| 1 | 07 Dec 2020 | Introduction to Data Analysis |
| 2 | 14 Dec 2020 | From Variables to Data Frames |
| 3 | 21 Dec 2020 | Control Flow |
| 4 | 18 Jan 2021 | Importing Data |
| 5 | 25 Jan 2021 | Tidying Data |
| 6 | 01 Feb 2021 | Merging Data |
| 7 | 08 Feb 2021 | Exploratory Data Analysis |
| 8 | 15 Feb 2021 | Data Transformation: Strings |
| 9 | 22 Feb 2021 | Data Transformation: Factors and Dates |
| 10 | 01 Mar 2021 | Statistical Inference |
| 11 | 08 Mar 2021 | Statistical Modeling I |
| 12 | 15 Mar 2021 | Statistical Modeling II |
| 13 | 22 Mar 2021 | Data Visualization |
| 14 | 29 Mar 2021 | Data Communication |