## Guidelines for Project

**The purpose of this project** is to show your understanding of the materials covered in this course and ability of apply them for analysis of a real dataset. Generally, you are expected to perform analysis using appropriate methods/models on **ONE** of two data sets given in another document.

Your data analysis is somewhat open-ended. You are required to

- Describe the **purpose of the study** and propose the **study problems** that you are going to investigate in the project.
- **Get familiar with the dataset by** describing the data using descriptive statistics, summary tables or visualizing data for continuous (or categorical) variables of interest; Clean data by removing possible missing values.
- **Analysis of data**
  - To resolve your proposed study problems, which methods/ models are used, how the analysis proceeds, the results of the analysis.
  - If you are doing a hypothesis test, state clearly what the null hypothesis $H_0$ and the alternative $H_1$, testing method used, and justify your testing result. If you are doing modeling, describe the reason of selecting that model, justifying model assumptions and interpreting modeling results.
  - Tables including key computing outputs and meaningful graphs should be used to present your findings.

You are required to propose **your own study problems** (or **hypotheses**) that are worthwhile based on the background and purpose of the project data.

**Write up a report**

- Summarize all your analyses into a short report at most **5** pages including an introduction, main body (analysis of data) and conclusion (address how your study problems are resolved).
- Key R codes and relevant computer outputs you used may be included in an appendix, which does not count towards the page limit. **Keep your report short and to the point**.

**Project Evaluation**

- **Oral presentation (10 marks):** Each group will give a presentation (around **5-8 minutes**) during the last lecture on **Fri, 22 Oct 2021** . I will provide my comments and suggestions on your projects after your presentation.
- **Project report (30 marks):** Submit a softcopy **(PDF version)** of your report under Assignments on the NTULearn coursesite by **deadline: Tuesday, 23 Oct 2021.**

The project will be graded based on **appropriateness** of your study questions and analyses, **variety of methods/models** applied and especially on the **clarity and reasonableness** of the conclusions (and/or comparisons among conclusions from different methods) which you reach.

Members in the same group will be given the same grade for this project though I reserve the right to assign different grades to different team members, in case of egregiously unequal contributions.