ECON 337: R Programming for Social Sciences
Spring 2022

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Classroom: Online
Time: Friday, 10:00-12:50

Course Description:

The course covers practical issues in statistical analysis which includes programming in R, reading data into R, accessing R packages, writing R functions, debugging, and organizing and commenting R code. Topics in statistical data analysis will provide working examples. In addition, you will work with real data to investigate real economic questions.

Learning Goals:

Upon successful completion of the course, the learner is expected to be able to:

1. Understand basic concepts such as data type and index and use them in their work
2. Demonstrate use of basic functions
3. Conceptualize and create loops to solve different types of problems
4. Create their own customized functions
5. Construct tables and figures for descriptive statistics
6. Learn to understand new data sets and functions by themselves
7. Develop general data-handling and presentation skills that they can use in their courses or the workplace.

Expected Prior Knowledge:

Basic statistics and matrix algebra.

Teaching System and Weekly Study Plan

The Flipped Classroom method will be applied in this course. Each week, you should follow the below pattern:

- Read/watch pre-class material on **Datacamp**
- Solve pre-class assignment on **Datacamp**
- Attend the online lecture and solve **In-class Exercises.**
- Solve the Post-class assignment if there is any.

Announcements, instructions, videos and assignments (basically everything related to the course) will be distributed via the course page in Blackboard on a weekly basis. Every

Friday at 19:00, the folder of the upcoming week will be available.

Policies:

You are expected to prepare for the lecture via assigned Datacamp lectures. You are responsible to follow the announcements and course material both on Datacamp and Blackboard system.

All the class material will be posted on Blackboard or on Datacamp or emailed to your MEF account.

1. Cheating and plagiarism will not be tolerated. See YOK Regulation for further information.
2. Late submissions will be graded as 0.
3. Missing midterm exam: Faculty regulations.
4. Missing final exam: Faculty regulations.

Grading:

The course will be graded according to the following requirements:

- Pre-lecture assignments 20%
- In-class assignments 20%
- Quizzes 30%
- Term Project 30%

Group assignments and Term Project

No credits will be given for late submissions. Plan ahead and finish the project before the given deadline.
Please let me know about the non-responding group members at the beginning of the task. Bear in mind that solving conflicts and problems within the group is your responsibility and part of the project. I expect professional and responsible behavior from each group member. Do your best within the group and get along well with your group members.
At the end of each task, each of you will provide a peer evaluation of your group members. You will give a letter grade to each of your group members, which will be kept confidential. Here are the definitions of letter grades.

- A: 80-100% effort. Took a lot of initiative and responsibility. Spent a lot of time in preparing the poster and the presentation.
- B: 50-80% effort. Spent serious time on the poster and the presentation. Took responsibility. Missed only a few meetings. Completed most of the assigned tasks.
- C: 20-50% effort. Did not come to most of the meetings. Missed deadlines. Just showed up in some meetings and did not contribute much to the project.

- D/F: 0-20% effort. Did not come to meetings, did not reply to e-mails. Did not contribute to the project at all.

C's and D's from your group members will reduce your project grade. The average of your peer evaluations will determine your project grade. In particular, the maximum grade given to project will be multiplied by your average peer evaluation grade to calculate your individual grade. Coefficients for each letter grade is as follows: A=1, B=1, C=0.5, D/F=0. Therefore, your peer evaluation grade will reduce the Project grade if you have C's and D/F's in your peer evaluation report.

Required/Recommended Readings:

Datacamp Courses:
https://www.datacamp.com/courses/free-introduction-to-r
https://www.datacamp.com/courses/intermediate-r
https://www.datacamp.com/courses/intermediate-r-practice
https://learn.datacamp.com/courses/introduction-to-the-tidyverse
https://app.datacamp.com/learn/courses/reshaping-data-with-tidyr
https://app.datacamp.com/learn/courses/reporting-with-rmarkdown

Course Outline:

The tentative schedule is provided below

Date	Week	Topic
Feb.11	1	Introduction
Feb.18	2	Basics, vectors, matrices
Feb.25	3	Factors, data frames, lists
Mar.04	4	Review and Part 1 Quiz
Mar.11	5	Conditionals
Mar.18	6	While/For loops
Mar.25	7	Functions
Apr.01	8	Apply family
Apr.08	9	Review
Apr.15	10	Part 2 Quiz
Apr.22	11	Data wrangling, data visualization
Apr.29	12	Grouping, summarizing
May.13	13	Tidy Data
May.20	14	Mark down and Part 3 Quiz
	15	
	16	Term Project Submission

The above schedule and other information in the syllabus are subject to change upon notice by the instructor.