Spring 2023 Computation Camp

Instructor: Yikai ZHAO

Our intensive courses introduce how to code in MATLAB and Python as a beginner. Simultaneously, to transfer freely from one language to another, we will show how to solve the same problem in different programming languages. For example, how to load tables and merge them using Python, R, and Stata, separately; how to run matrix using MATLAB and Python separately; how to estimate OLS regression using Stata and R. MATLAB and Python are our main languages to learn, while experience in R or Stata would be beneficial.

Syllabus (tentative)

[1] Introduction: M Script (MATLAB); Jupyter Notebook (Python); Connect MATLAB and Python

[2] Basic Knowledge I: Data Type; Arrays and Matrices

[3] Basic Knowledge II: Arrays and Matrices: if, while, for; Define Functions

[4] Basic Knowledge III: Data Processing Method (Python, R, and Stata): load files, write files, merge tables

[5] Basic Knowledge IV: Data Processing Method (Python, R, and Stata): outliers, missing values, grouping statistics

[6] Visualization

[7] Optimization Method

[8] Statistical Analysis

[9] Presentation [Final Homework]

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
February (2023)	12	13	14	15	16 [1]	17 [2]	18
	19	20 [3]	21 [4]	22 [5]	23 (homework)	24 (homework)	25
	26	27 [6]	28 [7]	1 [8]	2 [9]	3	4
Class hours	Afternoon: 14:00-17:00 (Class) 17:00-18:00 (Q&A)						

Textbooks used:

• Brian R Hunt, Ronald L Lipsman, and Jonathan M Rosenberg. A guide to MATLAB: for beginners and experienced users. Cambridge university press, 2014.

• Mario J Miranda and Paul L Fackler. Applied computational economics and finance. MIT Press, 2004.

• David Beazley and Brian K Jones. Python Cookbook: Recipes for Mastering Python 3. ” O’Reilly Media, Inc.”, 2013.

Prerequisites:

• Students are required to install both MATLAB (our university has a student license) and Jupyter Notebook (free);

• Each student needs to bring his/her laptop (a wiring board is appreciated since the class might not have enough sockets);

• Students are expected to stay through the course, including the presentation.

Spring 2023 Math Camp

Instructor: Quang-Thanh Tran

This course reviews the basics of mathematic skills needed for Economic Analysis. We are going to review algebra, and calculus, and how to apply such knowledge in solving economic problems such as optimization. (I don't cover matrix algebra in this course).

Each session will be split into the lecture part and the exercise (problem-solving) part, with a lunch break in between. Students are expected to participate in all sessions.

Syllabus (tentative)

- [1] Review of Algebra
- [2] Solving Equations
- [3] One Variable Calculus
- [4] Application of One Variable Calculus
- [5] Chain Rule
- [6] Exponents and Log
- [7] Calculus of Several Variables
- [8] Unconstrained Optimization
- [9] Constrained Opt. I
- [10] Constrained Opt. II
- [11] Review of Integration
- [12] Economic Application
- [13] Difference Equations
- [14] Some Growth Models
- [15] Small Test

Outline

	Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
MARCH (2023)	6 [1]	7 [2]	8 [3]	9 [4]	10 [5]
	13 [7]	14 [8]	15 [9]	16 [10]	17 [11]
	20 [12]	21 [13]	22 [14]	23 [15]	
Class hours	Morning: 9:30 – 12:00 (problem solving)				
	Afternoon: 13:30 – 15:00 (lecture)				

Textbooks used:

- Simon, Carl P and Lawrence Blume (1994). Mathematics for economists. Norton NewYork.
- Sydsæter,Knut andPeter JHammond (2008). Essential mathematics for economic analysis.
- Sydsæter, Knut et al. (2008). Further mathematics for economic analysis. Pearson education.

Spring 2023 Qualitative Camp: Thematic Analysis

Instructor: Rashed Al Jayousi, Feng Youxin

Thematic analysis is a method of analyzing qualitative data, such as interview transcripts, open-ended survey responses, or focus group transcripts, in order to identify and understand the themes that emerge from the data. It is a flexible and widely used method of analysis that allows researchers to identify patterns and themes within their data, and to interpret the meanings and implications of those themes for their research question or study.

In this course, you will learn how to conduct a thematic analysis, from start to finish using multiple qualitative software like MAXQDA 2022 and ATLAS.ti 22. We will cover the theoretical foundations of thematic analysis and the practical steps involved in conducting a thematic analysis, including developing a research question, selecting and collecting data, coding and organizing the data, and interpreting and reporting the results. We will also discuss the strengths and limitations of thematic analysis and ethical considerations in conducting qualitative research.

By the end of this course, you will have the skills and knowledge to conduct a thematic analysis of your own, and to critically evaluate the use of thematic analysis in published research.

Each session will be split into the lecture and exercise parts, with a lunch break in between. Students are expected to participate in all sessions.

Syllabus (tentative)

- [1] Thematic Analysis and Research design
- [2] Coding with MAXQDA 2022 & ATLAS.ti 22
- [3] Data Theming and Analysis with MAXQDA 2022 & ATLAS.ti 22
- [4] Thematic Mapping and Data Visualization
- [5] Practical applications of thematic analysis using MAXQDA 2022 and ATLAS.ti 22

Outline

	Monday	Tuesday	Wednesday	Thursday	Friday
MARCH	26	27	28	29	30
(2023)	[1]	[2]	[3]	[4]	[5]
Class hours	Morning: 10:00 – 12:00 (lecture)				
	Afternoon: 13:30 – 15:00 (problem solving)				

Textbooks and papers used:

- Atlas guide: https://doc.atlasti.com/ManualWin.v22/print.html
- Bryman, A., Bell, E. (2011). Business Research Methods 3e. United Kingdom: OUP Oxford.
- Cassell, C., Cunliffe, A. L., & Grandy, G. (2018). The sage handbook of qualitative business and management research methods. SAGE Publications Ltd, https://dx.doi.org/10.4135/9781526430236
- Maguire, Moira & Delahunt, Brid. (2017). Doing a Thematic Analysis: A Practical, Step-by-Step Guide. 9.
- MAXQDA2022 Manual: https://www.maxqda.com/download/manuals/MAX2022-Online-Manual-Complete-EN.pdf
- Virginia Braun & Victoria Clarke (2006) Using thematic analysis in psychology, Qualitative Research in Psychology, 3:2, 77-101, DOI: 10.1191/1478088706qp063oa