



FORMAN CHRISTIAN COLLEGE

(A CHARTERED UNIVERSITY)

Department of Economics (Baccalaureate Program)

Econ 302: Research Methods and Computer Applications

Syllabus / Course Outline

Course Code: ECON 302	Course Type: Core Course Prerequisite: Econ 300	Course Credits: 03
Class Timings: 2:00 - 3:15 hrs. Tuesday and Thursday	Section: B Room: E214	Student Meeting Hours/ Office Hours: 10:00am to 12:00 Noon Wednesday & Friday
Instructor Name: Dr Muhammad Naveed Tahir		
Instructor Contact Details Email: naveedtahir@fcollege.edu.pk Office Room : E 007		
Course Description: Pre-requisite: Econ 300 This course is designed to learn about different methods and methodologies of research used in economics and how to apply them. The course will cover the topics of data collection methods, research design, sampling, report writing and use of econometric softwares.		
LEARNING OBJECTIVES & OUTCOMES <u>Learning Objectives:</u> The goal of this course is to provide students with rigorous research skills including hands on Stata software techniques for a better understanding of evolution in Economic research and to prepare them for research related jobs in Pakistan. Further, this course aims to provide a forum that helps students to formulate economic hypotheses, test them using econometric rigour and communicate the results orally and in writing..		
<u>Learning Outcomes:</u> At the completion of this course, students will		
<ol style="list-style-type: none"> 1. Develop basic understanding of how to do economic research 2. Develop understanding of surveys, questionnaire and sampling design 		

3. Get a grip on how to access/use a variety of data sources used in economic research and enter data in Stata sheet to estimate economic models.
4. Conduct data manipulation and summarization to do descriptive statistics in Stata
5. Deduct the nature of problem in research modelling, its consequences and remedial measures
6. Replicate research methodology of published research papers.
7. Conduct literature review of previous published researches in academic writing style.
8. Learn writing references in APA style using APA citation guide.
9. Write a good quality original economics research paper.

Note1: The Final paper will be a research paper that should be 10-12 pages of text (APA format). The paper will report on original economic research that you perform over the course of the semester. You will have to present your research idea/ research proposal in front of the class and a group of economics faculty members before final decision of your topic.

The final paper will consist of the following sections: (I) An introduction that motivates the research topic/question (II) A review of the scholarly literature relevant to your topic/question (III) A description of economic model and hypotheses to be tested (IV) A description of data and sources (V) A presentation of statistical results (using graphs, summary statistics, correlation tables etc) (VI) A conclusion summarizing your findings, policy implications, and unresolved issues for future research.

Note2: Final exam will be comprehensive.

Study Materials

Primary focus:

Greenlaw, Steven A. *Doing Economics: A guide to understanding and carrying out economic research*.

University of Mary Washington: Houghton Mifflin Company 2006. ISBN: 0-618-379835

Wooldridge, Jeffrey M. *Econometrics*. Michigan State University: Cengage Learning 2009.

ISBN: 81-315-0960-5

Adkins, Lee and Hill Carter. *Using Stata for Principles of Econometrics, third edition*: Maloy, Inc. 2008

ISBN: 978- 0-470-18546-9

Secondary focus:

Acock, Alan. *A Gentle Introduction to Stata, Fifth Edition*. Oregon State University: Stata Press 2016. ISBN:

978-1-59718-185-3

Helpful websites:

<https://www.stata.com/>

<https://stats.idre.ucla.edu/stata/>

Course contents, Learning material & Activities schedule (TENTATIVE)

Week	Topics / Title & Activities	Reading Material
1	Research: Introductory Session: What is Research? Creation of knowledge and evaluating arguments in research. Most common type of research done by undergraduate students.	Ch1: Greenlaw
2	Research: Overview of the research process in Economics; 6 steps of the research process. What is economic writing, steps and style	Ch2 and 5 Greenlaw
3	Critical Reading of published empirical research. Finding a research topic by reading published research. Creating a valid research design; confounding variables; causal validity. [Start discussing research ideas]	Ch6 : Greenlaw

4	<p>Stata: Introducing Stata: Starting Stata; opening display; opening Stata inbuilt data files; the variables window; opening data editor; summarizing and describing data. The Stata help system; saving work in Stata; Using and viewing a log file; translating log file into a text file; Using do file in Stata; Executing do file;</p>	Ch1: Adkins and Hill; Sections 1.1-1.17
5	<p>Creating and managing variables: generating variables in Stata. Dropping or renaming a variable and labelling variables in Stata using command prompt. Using arithmetic operators and Stata math functions. Ch1: Adkins and Hill; Sections 1.1-1.17 Using Stata graphics (Bar chart, histogram scatter diagram and line graph). Using Stata density functions; cumulative distribution functions; using and displaying scalars (example of standard normal cdf, t-distribution cdf); computing percentile of the standard normal distribution. [Quiz 1]</p>	Ch1: Adkins and Hill; Sections 1.1-1.17
6	<p>Research: Introduction to surveys; steps and life cycle of a survey; census versus sample surveys; survey frame and survey errors.</p>	Handouts
7	<p>Research: Data collection methods: self enumeration, interviewer assisted methods. Sampling techniques: simple random sample; stratified, cluster, multistage and snowball sampling techniques. Questionnaire design: Review of questionnaires HIES, PSLM, MICS; Open versus closed questionnaires; guidelines for drafting a good questionnaire. [mid exam]</p>	Handouts
8	<p>Stata: Types of data (cross-section, time series, panel) Setting data in Stata. Qualitative data analysis; creating dummy/ categorical variables in Stata. Merging and appending datasets in Stata. Review of national and international databases used for secondary data sources in Economic research and opening them in Stata. Putting together your dataset and data manipulation.</p>	Ch: 7 Adkins and Hill Ch: 8 & 9 Greenlaw
9	<p>Stata: Introduction to simple linear regression in Stata. Interval estimation and hypothesis testing in Stata. Multiple linear regression models. Prediction, goodness of fit and modelling issues. Correlation and R². Effects of scaling and transforming the data. Linear-log model. Analyzing the residuals (normality test) ; Chi square distribution critical values (Use UCLA regression basics' handouts)</p>	Ch2, 3, 4, 5 & 6: Adkins and Hill; Wooldridge for reference
10	<p>Stata: Testing and correcting for hetroskedasticity, autocorrelation, omitted variable bias in Stata. [Quiz 2]</p>	Ch 8, 9, 10, 11 and 15: Adkins and Hill
11	<p>Research: Conducting literature review; writing styles and guidelines; APA reference style.</p>	Ch3 and 4 Greenlaw + Handouts
12	<p>Presentation of initial research ideas (worth 15% of your grade)</p>	

13	Research: Communicating the results of a research project. Empirical papers as examples in class	Ch 12 Greenlaw + Handouts
14	Revision of the Skills attained	

Course Evaluation:

Grading will be based on:

Assignments	10%
Quizzes	10%
Presentation of initial research ideas	15%
Mid -Term Exam.	20%
Final paper.	20%
Final Exam	25%
Total	100%

Grade	Point Value	Numerical Value	Meaning
A	4.00	93-100	Superior
A-	3.70	90-92	
B+	3.30	87-89	Good
B	3.00	83-86	
B-	2.70	80-82	
C+	2.30	77-79	Satisfactory
C	2.00	73-76	
C-	1.70	70-72	
D+	1.30	67-69	Passing
D	1.00	60-66	
F	0.00	59 or below	Failing

WHAT SHOULD YOU EXPECT FROM ME?

Being a student you have a right to ask questions about whatever I teach in the class. I ensure you that every concept I will teach you will be taught with reference to real life examples, you may ask about the relevance and practical use of any topic, content or even formula and in return same will be expected from you. ***In this course, you are expected to understand, analyze, present, write and speak about every topic we will study. Expect all above things from me during classes and I will expect the same during exams.***

CLASSROOM MISCONDUCT, PLAGIARISM AND DISHONESTY

Dear students, Forman Christian College expects you to meet the highest ethical standards and observe and practice the core values in your life. Academic standards prohibit:

- Concealing notes during examinations
- Collusions between students in examination
- Copying the work of other student(s) with or without that student's knowledge during exam or outside of class
- Plagiarism: The definition for plagiarism includes copying of any kind of work without giving credit to the source of the information, i.e. representing another's work or ideas as one's own. For example, word-for-word copying from published material, "copy and paste" from the internet or other electronic sources, and paraphrasing other's ideas without giving proper citation to the quoted or paraphrased work. In addition, self-plagiarism is also prohibited (a student using his/her previously written paper to meet the requirements for another class)
- Unauthorized cooperation on individually assigned work
- Any other act of academic dishonesty
- Students are responsible for others' cheating, i.e. students should not allow others to copy off their papers

Please remember that breach of academic standards and integrity will be reported to Vice Rector' office which may results in the following censures:

First offence: Fail assignment or exam

Second offence: Fail course

Third offence: Suspension from the University for at least One Semester

Depending on severity of the situation, such as impersonation in an exam, the AIC may recommend an even more stringent punishment.

STUDENT CONDUCT & OTHER ISSUES:

If any student faces any issues or has any concerns regarding the classroom climate and interactions, please feel free to contact VR office glorialib@fccollege.edu.pk

CHANGES TO THE SYLLABUS:

This syllabus was designed to convey course information and requirements as accurately as possible. It is important to note however that it **may** be subject to change during the course depending on the needs of the class and other situational factors. Such changes would be for your benefit and you will be notified of them as soon as possible.

For further details about students support services and policy documents please see the links given below.

Student Support Services

[Student Counseling Services](#)

[Writing Center](#)

[Mercy Health Center](#)

Other Useful Policy Documents:

[Sexual Harassment Policy](#)

[Anti-Corruption Policy](#)

[Academic integrity](#)

[Plagiarism Policy](#)

[Academic Calendar](#)

Wish you a Good Learning Experience!