**** The Islamia University of Bahawalpur

**DEPARTMENT OF ECONOMICS**

**Course Plan**

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| Instructor | Dr. Muhammad Atif Nawaz | Email: atif.nawaz@iub.edu.pk | |
| Course Title | Applied Economics | Program | M.Sc. Economics |
| Course Code | ECON-20403 | Semester | 4th |

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| **Methods of Teaching:** Student-Directed Teaching, Hands-on practice sessions in Lab | | | | |
|  | **Reference Book** | | | |
| **1** | Asteriou, D. & Hall, S.G., (2015). Applied Econometrics: A Modern Approach  Latest available edition. | | |
| **Additional Readings** | | | |
| **2** | Greene, W.H., (2012) Econometric Analysis, Seventh (or latest) Edition, Pearson. | | |
| **3** | Wooldridge, Jeffrey. 2009 Introductory Econometrics: A Modern Approach, 4th | | |
| **Grading** | Mid- Exam (30%) + Final Exam (50%) + Problem Session/Assignments/Attendance/Quiz (20%) | | | |
| **Problem Session** | Preferably in class | | | |
| **SEQUENCE OF TOPICS TO BE COVERED** | | | | |
| Lecture Week | Lecture Dates | | Topics (outline of main topics and sub topics) | Tutorial |
| **WEEK 1** | 24th Feb to  28th Feb | | Introduction to Applied Econometrics  The Stages of Econometric Work | **Tutorial** |
| **WEEK 2** | 2nd Mar to  6th Mar | | Types of Economic Data  Basic Data Handling (all types of data) using MS Excel & EViews | **Lab** |
| **WEEK 3** | 9th Mar to  13th Mar | | Descriptive Data Analysis  Averages, Growth, Trends, Correlations | **Lab** |
| **WEEK 4** | 16th Mar to  20th Mar | | Classical Linear Regression Modelling – Assumptions and violation of assumptions | **Lab** |
| **WEEK 5** | 23rd Mar to  27th Mar | | Univariate Time Series Modelling: Autoregressive (AR) and Moving Average (MA) Processes | **Lab** |
| **WEEK 6** | 30th Mar to  3rd April | | Univariate Time Series Modelling: Autoregressive Moving Average (ARMA) Processes and Autoregressive Integrated Moving Average (ARIMA) Process | **Lab** |
| **WEEK 7** | 6th April  to  10th April | | Modelling Time Varying Volatility: Autoregressive Conditional Heteroscedastic (ARCH) Modelling | **Lab** |
| **WEEK 8** | 13th April to  17th April | | Modelling Time Varying Volatility: Generalized Autoregressive Conditional Heteroscedastic (GARCH) Modelling.  Further GARCH Family variants | **Lab** |
| **WEEK 9** 20th April to 24th April **Mid Term Exam** | | | | |
| **WEEK 10** | 27th April to  1st May | | Stationary and Non-Stationary time series: Testing unit roots  Testing for Cointegration | **Lab** |
| **WEEK 11** | 4th May to  8th May | | Vector Autoregressive (VAR) Modelling  Vector Error Correction Mechanism (VECM) Modelling | **Lab** |
| **WEEK 12** | 11th May to  15th May | | Applications of VAR Modelling: Impulse Response Functions (IRFs), Variance Decomposition Analysis (VDA), Granger Causality Analysis | **Lab** |
| **WEEK 13** | 18th May to  22nd May | | Introduction to Panel Data Analysis: Static and Dynamic Panels  Traditional Panel Data Analysis | **Lab** |
| **WEEK 14** | 25th May to  29th May | | Pooled Ordinary Least Squares (POLS), Fixed Effect (FE), Random Effect (RE), Hausman Test, Breusch Pagan Lagrange Multiplier BPLM Test, Seemingly Unrelated Regression | **Lab** |
| **WEEK 15** | 1st June to  5th June | | Non-Stationary Panel Data Analysis  Stationarity Testing in Panel Data (various approaches)  Testing for Cointegration (various approaches) | **Lab** |
| **WEEK 16** | 8th June to  12th June | | Fully Modified Ordinary Least Squares (FMOLS)  Dynamic Ordinary Least Squares (DOLS)  Mean Group (MG) & Pooled Mean Group (PMG) Estimators | **Lab** |
| **WEEK 17** | 15th June to  19th June | | Simultaneous Equation Modelling  Regressions involving Qualitative Response Variables | **Lab** |
| **WEEK 18** 22nd June to 26th June **Final Term Exam** | | | | |

**Student Evaluation criteria:**

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| Attendance | 05% |
| Assignments in place of Mid term | 30% |
| Surprise Test/Sudden Test, Quizzes | 05% |
| Class Participation/Presentations | 10% |
| Final Term paper | 50% |
| **Total** | **100%** |