

## (163-SCI-17-03) - STATISTICS - ECONOMETRICS AND MATHEMATICAL ECONOMICS

### Significance of the Program

MSc Statistics - Econometrics and Mathematical Economics is a technically rigorous program designed to meet the needs of those who have a strong quantitative background wishing to study economics. Using economic data and applying mathematical and statistical tools, it provides empirical validity of abstract economic theory. However, application of econometrics is not confined in the domain of economics; rather widespread application of econometrics is possible in other social science and pure science domains also. After successful completion of the course, students would be able to formulate econometric model to analyze data and then would be able to establish any cause-effect relationship in their preferred areas of interest like economics, finance, management, engineering and science. An expertise in econometrics increases the job prospect of the students significantly.

### Career Options

In today's increasingly complicated international business world, a strong preparation in the fundamentals of both mathematical economics and econometrics is crucial to success. This program is designed to prepare a student to go directly into the business world with skills that are in high demand. Student may place as Economist/Quantitative research analyst/Market research analyst/Academics/ Research Analyst / Quantitative Analyst etc.

| Outputs | Outcomes                                                                                                                                                                                     |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | <ul style="list-style-type: none"><li>• Critically evaluate and apply the theories and techniques of economics</li></ul>                                                                     |
|         | <ul style="list-style-type: none"><li>• Demonstrate the theoretical and conceptual aspects of economic theory along with econometric applications</li></ul>                                  |
|         | <ul style="list-style-type: none"><li>• Enhance their lifelong learning, employing a range of statistical and econometric skills to socially relevant economic issues and policies</li></ul> |
|         | <ul style="list-style-type: none"><li>• Enhance their ability to evaluate, analyze and synthesize economic data with computer applications</li></ul>                                         |
|         | <ul style="list-style-type: none"><li>• Understand and appreciate the challenges of empirical modeling in Economics and Business</li></ul>                                                   |

### Major Course Outline

- Micro and Macro Economics and its applications

- Mathematical Methods for Economic Analysis
- Basic Statistics and Sampling Theory
- Probability Theory and Distributions
- Inferential Statistics
- Fundamentals of Econometrics
- Financial Markets
- Financial Time Series Analysis
- Market Research
- Analysis of Economic data Using Computer Software
- Data Envelopment Analysis
- Behavioral Economics
- Development Economics,