



# Gujarat National Law University

## Center for Law & Economics



**Two Days Workshop  
on Applied Statistics**

**using**

**'R' Programming language for Legal Studies**

**(14<sup>th</sup> & 15<sup>th</sup> March, 2020)**

## About the Course

This workshop is designed to offer an understanding on Advanced Applied Statistics for Law students to analyze summarize numerical and categorical data obtained from surveys, experiments, etc. The topics included are about different data types, measures of location, variability, shape, association between variables & predictions. The participants are expected to learn the fundamental concepts of estimation, confidence intervals, hypothesis testing which can be applied for appropriate tests like population mean, proportion, variance and difference, independence and goodness to fit.

R is a programming language and free software environment for statistical computing and graphics supported by the R Foundation for Statistical Computing. These programs are used by market researchers, health researchers, survey companies, government entities, academic researchers, marketing organizations, data miners and many more.

## Aim

To equip the participants with the tools of Applied Statistics 'R' language for Legal Studies, with which they will be able to carry out advanced and detailed research activities. This workshop aims at providing the participants with an ability to use empirical data and analyze them subsequently to give them a fruitful conclusion to their research project.

## Benefits

1. It will enable the participants to understand the importance of empirical data in legal research.
2. It will enable the participants to relate their understanding of economics and analyze laws regarding efficiency by using tools of Econometrics/ Applied Statistics.
3. It will enable the participants to appreciate the quantitative data at hand in terms of its varied use.
4. It will empower the participants to put on their skills in this interdisciplinary area to research inputs which will help them in publications and thus add scholarship in Law and Economics, from an Indian perspective.

## Dates

- 14<sup>th</sup> & 15<sup>th</sup> March, 2020.

## Who may participate?

Under Graduate & Post Graduate students pursuing (Law, Social Science, Commerce, Management and Science), Research Scholars, Professionals and Academics.

## Fee for participants

**GNLU Participants- 1000/-**

**External Participants- 1500/-**

*\*Accommodation will only be provided on payment basis depending upon the availability of the same*

*\*\*The fee covers Breakfast and Lunch. Dinner will not be provided to participants*

*\*\*\*Kindly bring your own personal Laptop for the workshop*

[Click Here for Payment](#)

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# Provisional Class Schedule

Date	Time	Topic	Resource Person	
<b>14th March 2020</b>	9:30 AM To 11:30 AM	<b>Types of Data and Scale of Measurements</b> <ul style="list-style-type: none"> <li>➤ Primary and Secondary Data</li> <li>➤ Cross Section, Time Series, Panel Data</li> <li>➤ Cardinal and Ordinal Data which includes Ratio, Interval, Nominal and Ordinal Scale</li> <li>➤ Questionnaire Preparation and Introduction of IBM SPSS Statistics</li> <li>➤ Sample questionnaire preparation</li> <li>➤ Creating file, define a variable, entering data, modified data etc.</li> </ul>	Dr. Dhaval Maheta & Dr. Hitesh Parmar	
	11:30 AM To 11:45 AM	<b>Tea Break</b>		
	11:45 AM To 1:00 PM	<b>Frequency Distribution and Charts</b> <ul style="list-style-type: none"> <li>➤ Frequency distribution</li> <li>➤ Pie chart</li> <li>➤ Bar chart</li> <li>➤ Chart editing</li> </ul>	Dr. Dhaval Maheta & Dr. Hitesh Parmar	
	1:00 PM To 2:00 PM	<b>Lunch Break</b>		
	2:00 PM To 3:15 PM	<b>Descriptive Statistics &amp; Measures of Central Tendency</b> <ul style="list-style-type: none"> <li>➤ Mean (Arithmetic Mean, Geometric Mean, Harmonic Mean, Combined Mean/ Group Mean, Weighted Mean, Trimmed Mean), Median, Mode</li> </ul>	Dr. Dhaval Maheta & Dr. Hitesh Parmar	
	3:15 PM To 3:30 PM	<b>Tea Break</b>		
	3:30 PM To 5:30 PM	<b>Descriptive Statistics &amp; Measures of dispersions</b> <ul style="list-style-type: none"> <li>➤ Maximum, Minimum, Range, Mean Deviation, Standard Deviation, Coefficient of Variation, Standard Error of the mean, Skewness, Kurtosis etc.</li> </ul> <b>Multiple Response Analysis</b> <ul style="list-style-type: none"> <li>➤ Multiple Response Frequency</li> <li>➤ Multiple Response Cross-tabulation</li> <li>➤ Interpretation output in APA format</li> </ul>	Dr. Dhaval Maheta & Dr. Hitesh Parmar	
<b>15th March 2020</b>	9:30 AM To 11:00 AM	<b>Parametric Tests</b> <ul style="list-style-type: none"> <li>➤ One sample t-test</li> <li>➤ Independent Sample t-test</li> <li>➤ Paired / Related Sample t-test</li> <li>➤ One Way ANOVA,</li> <li>➤ ANCOVA</li> <li>➤ Interpretation output in APA format</li> </ul>	Dr. Dhaval Maheta & Dr. Hitesh Parmar	
	11:00 AM To 11:15 AM	<b>Tea Break</b>		
	11:15 AM To 12:00 AM	<b>Generalized linear model (GLM)</b> Interpretation output in APA format	Dr. Dhaval Maheta & Dr. Hitesh Parmar	
	12:00 AM To 1:00 PM	<b>Correlation Analysis</b> <ul style="list-style-type: none"> <li>➤ Assumptions along with testing of Normality</li> <li>➤ Pearson Technique</li> <li>➤ Spearman Technique</li> <li>➤ Kendall's Tau 'b'</li> <li>➤ Interpretation output in APA format</li> </ul>		
	1:00 PM To 2:00 PM	<b>Lunch Break</b>		

2:00 PM To 3:15 PM	<b>Analysis of Association</b> <ul style="list-style-type: none"> <li>➤ Chi-square test</li> <li>➤ Phi &amp; Craemer's V Coefficient</li> <li>➤ Contingency Coefficient</li> <li>➤ Interpretation output in APA format</li> </ul>	Dr. Dhaval Maheta & Dr. Hitesh Parmar
3:15 PM To 3:45 PM	<b>Snacks Break</b>	
3:45 PM To 4:15 PM	<b>Regression Analysis (Basic)</b> <ul style="list-style-type: none"> <li>➤ Assumptions for the Regression</li> <li>➤ Linear Trend, Multiple &amp; Logistic Regression Analysis</li> <li>➤ Interpretation output in APA format</li> </ul>	Dr. Dhaval Maheta & Dr. Hitesh Parmar
4:15 PM To 5:15 PM	<b>Application in Legal Empirical Study with case study on Debt Recovery Legislation</b>	Dr. HiteshKumar Thakkar
5:15 PM To 5:30 PM	<b>Activity</b>	

## Resource Persons

### **Dr. Dhaval Maheta**

Assistant Professor  
Department of Business and Industrial Management,  
Veer Narmad South Gujarat University, Surat

### **Dr. Hitesh Parmar**

Assistant Professor  
Department of Business Management (MBA)  
Veer Narmad South Gujarat University, Surat

## Organizing Committee

### **Convenor:**

Dr. Hiteshkumar Thakkar,  
Assistant Professor of Economics, GNLU

### **Co-convenor:**

Dr. A. Marisport  
Assistant Professor of Law, GNLU.

### **Administrative Support:**

Mr. Liladhar Patil  
Jr. Clerk, GNLU  
[lpatil@gnlu.ac.in](mailto:lpatil@gnlu.ac.in)

### **Coordinator:**

Mr. Prashant Kumar Tiwari,  
Teaching and Research Associate (Law), GNLU.

### **Student Coordinator:**

Mr. Hatim Hussain  
9601027860

For any further clarification you can contact @ 7982288273  
or drop a mail @ [cle@gnlu.ac.in](mailto:cle@gnlu.ac.in), [ptiwari@gnlu.ac.in](mailto:ptiwari@gnlu.ac.in)



## **CENTRE FOR LAW & ECONOMICS**

### **Gujarat National Law University**

Attalika Avenue, Knowledge Corridor, Koba (Sub P. O.), Gandhinagar - 382426 (Gujarat),  
INDIA. Phone No. : +91-79-23276611/23276612 Fax No. : +917878186624, +91-79-23276613  
Email: [cle@gnlu.ac.in](mailto:cle@gnlu.ac.in) Website: [www.gnlu.ac.in/glec.php](http://www.gnlu.ac.in/glec.php)