

4.3. Program Requirements

4.3.1. Compulsory Courses

4.3.1.1. Basic and Applied Sciences (EBA)

EBA 3201 Advanced Statistics

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laboratory	
EBA 2203	3	6	2	2	0	3

COURSE AIM

- Use statistical methodology and tools in the problem-solving process.
- Compute and interpret descriptive statistics using numerical and graphical techniques.
- Understand the basic concepts of probability, random variables, probability distribution, and joint probability distribution.
- Compute point estimation of parameters, explain sampling distributions, and understand the central limit theorem.

COURSE WEEKLY CONTENTS

- 1 Sampling and probability (Random sampling- Probability calculations and combinatory)
- 2 Distributions (Discrete- Continuous)
- 3 Introduction to R
- 4 Statistics and graphical display for single data (Histograms- Q-Q plots- Boxplots)
- 5 Statistics and graphical display for grouped data (Histograms- boxplots- Stripcharts)
- 6 Generating tables and Marginal tables and relative frequency
- 7 Correlation
- 8 Correlation (Pearson –Spearman) and Simple linear regression
- 9 Prediction and confidence bands
- 10 One-sample T- test
- 11 Two-sample T-test
- 12 The paired T-test
- 13 The paired T-test
- 14 Wilcoxon signed-rank test
- 15 Chi-square test – Goodness of fit

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	←		3 0	MARKS		→	30
8 to 12	←		2 0	MARKS		→	20
1 to 15	←		1 0	MARKS		→	10
16 or 17	40	Final					40

REFERENCES

Textbook Michael J. Crawley, Statistics: An Introduction using R, Wiley.