University of Nicosia

Course Syllabus

Course Code	Course Title	ECTS Credits
MATH-326	Linear Models I	6
Prerequisites	**Department**	**Semester**
MATH-225, MATH-280	Computer Science	Fall/ Spring
Type of Course	**Field**	**Language of Instruction**
Required	Mathematics	English
Level of Course	**Lecturer(s)**	**Year of Study**
1st Cycle	Dr Andreas Makrides	3rd
Mode of Delivery	**Work Placement**	**Corequisites**
Face to face	N/A	None

Course Objectives:

The main objectives of the course are to:
- Provide the students with in-depth knowledge of the simple linear regression model.
- Familiarize the students with the normal error regression model.
- Provide the students with in-depth knowledge of inferences in regression analysis.
- Familiarize the students with the analysis of variance approach to regression analysis.
- Provide the students with the knowledge of regression diagnostics.
- Familiarize the students with the matrix approach to regression models.
- Expose the students to real-life application examples/problems in simple linear models.
- Acquaint the students with computer software in regression analysis

Learning Outcomes:

After completion of the course students are expected to be able to:
- Develop the simple linear regression model.
- Execute inferences in regression analysis.
- Develop valid designs of linear models.

- Develop the skills to apply regression diagnostics.
- Employ techniques, skills and modern statistical tools required to solve real-life problems in Regression Analysis.

Course Content:

- The simple linear regression model.
- The normal error regression model.
- Inferences in regression models.
- The analysis of variance approach to regression models.
- Regression diagnostics.
- Matrix approach to simple linear regression analysis.

Learning Activities and Teaching Methods:

Lectures, Handouts, Assignments and In-class Exercises.

Assessment Methods:

Final Examination, Midterm Examinations, Assignments and Participation

Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
M. Kutner, C. Nachtsheim, J. Neter, W. Li	Applied Linear Statistical Models	McGraw-Hill/Irwin	2004	978-0073108742

Recommended Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Linear Statistical Models: An Applied Approach	B.L. Bowerman, R. O'Connell	Duxbury Press	2000	978-0534380182
Applied Regression Analysis and Generalized Linear Models	J. Fox	Sage Publications	2016	978-1452205663