DEREE COLLEGE SYLLABUS FOR: MA 2021 APPLIED STATISTICS	
(Updated Spring 2021)	**UK LEVEL 4** **UK CREDITS: 15** **US CREDITS: 3/1/3**

PREREQUISITES:	None
CATALOG DESCRIPTION:	A comprehensive introduction of statistics for business and economics. Descriptive and inferential statistics, regression analysis and analysis of variance (ANOVA).
RATIONALE:	This course provides the elementary foundations in statistics as a prerequisite for understanding empirical work in business and economics. The students learn to summarize and describe data, construct confidence intervals, and perform basic tests of hypotheses as well as simple regression and ANOVA analyses.
LEARNING OUTCOMES:	As a result of taking this course, the student should be able to: 1. Apply and interpret descriptive statistics. 2. Formulate, identify and apply inferential statistics. 3. Analyse the association of variables using regression and ANOVA analyses. 4. Conduct empirical work using statistical software and interpret results.
METHOD OF TEACHING AND LEARNING:	In congruence with the learning and teaching strategy of the college, the following tools are used: ➢ Classes consist of lectures, question-answer periods, homework solution and practice sessions through software that enhance understanding the material through real world empirical problems and self- testing assignments. ➢ Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions and go over lecture material. ➢ Use of Blackboard, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources.

ASSESSMENT:	**Summative:**		
	First Assessment: Midterm examination	**40%**	Numerical problems/ questions using statistical outputs and figures/interpretation of results
	Second Assessment: Portfolio of projects (individual work)	**10%**	Statistical analysis using software/ interpretation of results (240-260 words)
	Final Assessment: Final examination	**50%**	Numerical problems/ questions using statistical outputs and figures/interpretation of results

Formative:		
Practice sets of problems assigned through Blackboard	**0%**	Numerical problems/ questions using statistical outputs and figures/interpretation of results

The formative practice sets aim to prepare students for the examinations and ensure that students are actively engaged during the term.

The first assessment tests Learning Outcomes 1 and 2.
The second assessment tests Learning Outcomes 1, 2, 3 and 4.
The final assessment tests Learning Outcomes 1, 2, 3 and 4.

The final grade for this module will be determined by averaging all summative assessment grades, based on the predetermined weights for each assessment. If students pass the comprehensive assessment that tests all Learning Outcomes for this module and the average grade for the module is 40 or higher, students are not required to resit any failed assessments. Students are required to resit failed assessments in this module.

INDICATIVE READING:	**REQUIRED READING:** Neil A. Weiss, *Introductory Statistics*, 10th Global edition 2017, Pearson Education Limited **RECOMMENDED READING:** Huck, S.W. (2017). *Reading Statistics and Research* (6th Ed.) London, UK: Pearson Education. Landers, R.N. (2013). *A Step by Step Introduction to Statistics for Business.* London, UK: Sage Publications. Pallant, J. (2016). *SPSS Survival Guide: A Step by Step Guide to Data Analysis Using IBM SPSS* (6th Ed.). New York, NY: Mc Graw Hill Education. **FURTHER READING:** Aljandali, A.M. (2016). *Quantitative Analysis and IBM SPSS Statistics: A Guide for Business and Finance.* Berlin, DE: Springer Anderson, D.R., Sweeney, D. J. & Williams, T.A. (2011). *Statistics for Business and Economics* (11th Ed.). Mason, OH: Southern-Western, Cengage Learning. Burns, R.B & Burns, R.A. (2008). *Business Research Methods and Statistics.* London, UK: Sage Publications. Field A. (2017). *Discovering statistics with SPSS* (5th Ed.) London,

	UK: Sage Publications. George, D. & Mallery, G (2016). *IBM SPSS Statistics 23 Step by Step: A Simple Guide and Reference* (14th Ed.). New York, NY: Routledge. Hinton, P.R. (2014). *Statistics Explained* (3rd Ed.). Statistics Explained. New York, NY: Routledge. Leech, N. L., Barrett, K. C. & Morgan, G. A. (2008). *SPSS for Intermediate Statistics* (3rd Ed). New York, USA: Taylor & Francis Group.
INDICATIVE MATERIAL:	**REQUIRED MATERIAL: N/A** **RECOMMENDED MATERIAL** Journal of Applied Statistics Journal of Business and Economics Statistics Journal of the American Statistical Association Journal of the Royal Statistical Society Series A (Statistics in Society) Journal of the Royal Statistical Society Series B (Methodology) Journal of the Royal Statistical Society Series C (Applied Statistics) Oxford Bulletin of Economics and Statistics Review of Economics and Statistics
COMMUNICATION REQUIREMENTS:	Assignments presented in Word. Professional English and use of appropriate academic conventions as applicable in oral and written communication.
SOFTWARE REQUIREMENTS:	Blackboard LMS Software associated with the course textbook's digital learning resources Excel and/or other appropriate statistical software (eg. SPSS, STATA, R)
WWW RESOURCES:	https://researchguides.library.tufts.edu/c.php?g=249155&p=1658888 https://www.discoveringstatistics.com/ www.apa.org www.wadsworth.com http://www.psychwww.com/resource/apacrib.htm http://www.wooster.edu/psychology/apa---crib.html http://owl.english.purdue.edu/workshops/hypertext/apa/index.html
INDICATIVE CONTENT:	1. Introduction to statistics and random variables 2. Descriptive statistics 3. Probability theory 4. Normal distribution 5. Sampling distribution and Central Limit Theorem

	6. Confidence intervals for the mean 7. Hypothesis testing 8. Chi-square test for independence 9. Linear regression 10. Inferential methods in linear regression 11. One-Way Analysis of Variance