

## DEREE COLLEGE SYLLABUS FOR: MA 2021 APPLIED STATISTICS

3/1/3

UK LEVEL 4  
UK CREDITS: 15

(Updated Fall 2025)

<b>PREREQUISITES:</b>	None																				
<b>CATALOG DESCRIPTION:</b>	A comprehensive introduction of statistics for business and economics. Descriptive and inferential statistics, regression analysis and analysis of variance (ANOVA).																				
<b>RATIONALE:</b>	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.																				
<b>LEARNING OUTCOMES:</b>	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.																				
<b>METHOD OF TEACHING AND LEARNING:</b>	In congruence with the teaching and learning strategy of the college, the following tools are used: <ul style="list-style-type: none"><li>• Lectures and class discussions.</li><li>• Homework assignments.</li><li>• Office hours held by the instructor to provide further assistance to students.</li><li>• Use of library facilities for further study and preparation for the exams.</li><li>• Use of the Blackboard course management platform to further support communication, by posting lecture notes, assignment instruction, timely announcements, formative quizzes and online submission of assignments.</li></ul>																				
<b>ASSESSMENT:</b>	<table><tr><td colspan="3"><b>Summative:</b></td></tr><tr><td>First Assessment: Midterm examination</td><td><b>40%</b></td><td>Numerical problems/ questions using statistical outputs and figures/interpretation of results</td></tr><tr><td>Second Assessment: Portfolio of projects (individual work)</td><td><b>10%</b></td><td>Statistical analysis using software/ interpretation of results</td></tr><tr><td>Final Assessment: Final examination</td><td><b>50%</b></td><td>Numerical problems/ questions using statistical outputs and figures/interpretation of results</td></tr><tr><td colspan="3"><b>Formative:</b></td></tr><tr><td>Practice sets of problems assigned through Blackboard</td><td><b>0%</b></td><td>Numerical problems/ questions using statistical outputs and figures/interpretation of results</td></tr></table>			<b>Summative:</b>			First Assessment: Midterm examination	<b>40%</b>	Numerical problems/ questions using statistical outputs and figures/interpretation of results	Second Assessment: Portfolio of projects (individual work)	<b>10%</b>	Statistical analysis using software/ interpretation of results	Final Assessment: Final examination	<b>50%</b>	Numerical problems/ questions using statistical outputs and figures/interpretation of results	<b>Formative:</b>			Practice sets of problems assigned through Blackboard	<b>0%</b>	Numerical problems/ questions using statistical outputs and figures/interpretation of results
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	<p>The formative practice sets aim to prepare students for the examinations and ensure that students are actively engaged during the term.</p> <p>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.</p> <p>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.</p>
<b>INDICATIVE READING:</b>	<p><b>REQUIRED READING:</b></p> <p>Anderson, Sweeney, Williams, et al. <i>Statistics for Business and Economics</i>, Latest Edition, Cengage Learning EMEA.</p> <p><b>RECOMMENDED READING:</b></p> <p>Neil A. Weiss, <i>Introductory Statistics</i>, 10th Global edition 2017, Pearson Education Limited</p> <p>Huck, S.W. (2017). <i>Reading Statistics and Research</i> (6<sup>th</sup> Ed.) London, UK: Pearson Education.</p> <p>Landers, R.N. (2013). <i>A Step by Step Introduction to Statistics for Business</i>. London, UK: Sage Publications.</p> <p>Pallant, J. (2016). <i>SPSS Survival Guide: A Step by Step Guide to Data Analysis Using IBM SPSS</i> (6th Ed.). New York, NY: Mc Graw Hill Education.</p> <p><b>FURTHER READING:</b></p> <p>Aljandali, A.M. (2016). <i>Quantitative Analysis and IBM SPSS Statistics: A Guide for Business and Finance</i>. Berlin, DE: Springer</p> <p>Anderson, D.R., Sweeney, D. J. &amp; Williams, T.A. (2011). <i>Statistics for Business and Economics</i> (11th Ed.). Mason, OH: Southern-Western, Cengage Learning.</p> <p>Burns, R.B &amp; Burns, R.A. (2008). <i>Business Research Methods and Statistics</i>. London, UK: Sage Publications.</p> <p>Field A. (2017). <i>Discovering statistics with SPSS</i> (5th Ed.) London, UK: Sage Publications.</p> <p>George, D. &amp; Mallery, G (2016). <i>IBM SPSS Statistics 23 Step by Step: A Simple Guide and Reference</i> (14th Ed.). New York, NY: Routledge.</p> <p>Hinton, P.R. (2014). <i>Statistics Explained</i> (3rd Ed.). Statistics Explained. New York, NY: Routledge.</p> <p>Leech, N. L., Barrett, K. C. &amp; Morgan, G. A. (2008). <i>SPSS for</i></p>

	<i>Intermediate Statistics</i> (3rd Ed). New York, USA: Taylor & Francis Group.
<b>INDICATIVE MATERIAL:</b>	<b>REQUIRED MATERIAL: N/A</b>  <b>RECOMMENDED MATERIAL</b> 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
<b>COMMUNICATION REQUIREMENTS:</b>	Assignments presented in Word. Professional English and use of appropriate academic conventions as applicable in oral and written communication.
<b>SOFTWARE REQUIREMENTS:</b>	Blackboard LMS Software associated with the course textbook's digital learning resources Excel and/or other appropriate statistical software (eg. SPSS, STATA, R)
<b>WWW RESOURCES:</b>	<a href="https://researchguides.library.tufts.edu/c.php?g=249155&amp;p=1658888">https://researchguides.library.tufts.edu/c.php?g=249155&amp;p=1658888</a> <a href="https://www.discoveringstatistics.com/">https://www.discoveringstatistics.com/</a> <a href="http://www.apa.org">www.apa.org</a> <a href="http://www.wadsworth.com">www.wadsworth.com</a> <a href="http://www.psychwww.com/resource/apacrib.htm">http://www.psychwww.com/resource/apacrib.htm</a> <a href="http://www.wooster.edu/psychology/apa---crib.html">http://www.wooster.edu/psychology/apa---crib.html</a> <a href="http://owl.english.purdue.edu/workshops/hypertext/apa/index.html">http://owl.english.purdue.edu/workshops/hypertext/apa/index.html</a>
<b>INDICATIVE CONTENT:</b>	<ol style="list-style-type: none"> <li>1. Introduction to statistics and random variables</li> <li>2. Descriptive statistics</li> <li>3. Probability theory</li> <li>4. Normal distribution</li> <li>5. Sampling distribution and Central Limit Theorem</li> <li>6. Confidence intervals for the mean</li> <li>7. Hypothesis testing</li> <li>8. Chi-square test for independence</li> <li>9. Linear regression</li> <li>10. Inferential methods in linear regression</li> <li>11. One-Way Analysis of Variance</li> </ol>