

<b>Module code</b>	SM-4337		
<b>Module Title</b>	Applied Statistics		
<b>Degree/Diploma</b>	Bachelor of Science (Mathematics)		
<b>Type of Module</b>	Major Option		
<b>Modular Credits</b>	4	<b>Total student Workload</b>	10 hours/week
		<b>Contact hours</b>	4 hours/week
<b>Prerequisite</b>	SM-2205 Intermediate Statistics		
<b>Anti-requisite</b>	None		
<b>Aims</b>			
<p>This module aims to enhance the practical use of statistical techniques for 'real world' multivariate applied projects. On completing this module the student should be able to undertake advanced applied statistical analysis where, for complex multivariate data sets, the student is required to determine the research questions are being asked, select appropriate multivariate techniques, identify limitations, effectively use statistics software and summarise and report the results of the process.</p>			
<b>Learning Outcomes</b>			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order :	40%	- understand the basic principles of descriptive and inferential statistical methods	
Middle order :	40%	- analyse univariate and multivariate data sets	
Higher order:	20%	- interpret the results of analyses, and make an appropriate report for an effective communication - work independently and in a team	
<b>Module Contents</b>			
<ul style="list-style-type: none"> <li>- Multivariate data: Exploratory data analysis, missing data, SPSS.</li> <li>- Advanced Regression: Multiple regression, logistic regression, multinomial regression.</li> <li>- Data Reduction: Factor Analysis (FA), Principle Component Analysis (PCA).</li> <li>- Multivariate Analysis of Variance and Multivariate Analysis of Covariance.</li> <li>- Longitudinal data analysis.</li> <li>- Communication with non-statistical researchers. Reporting applied statistics results.</li> </ul>			
<b>Assessment</b>	Formative assessment	Tutorial and feedback.	
	Summative assessment	Examination: 60% Coursework: 40% - 1 assignment (30%) - 1 class test (10%)	