

INTEGRATION OF SAS IN MASTER OF STATISTICS PROGRAM

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The Centre for Statistical Studies, Faculty of Information Technology and Quantitative Sciences, Universiti Teknologi MARA Malaysia, which was established in 1976, is devoted to educating professionals on the application of statistics in science, finance, marketing, government, education and industrial management, among others. It has established its name as the forerunner in the training of graduates in statistics at the diploma and the first degree levels in the country. In January 2008, it scored another achievement when it introduced the Master of Statistics (MS) program. There are twelve students in the current batch, which would increase two-folds to twenty-five in the coming July Semester.

In recent years, the demand for SAS has been on an increasing trend in Malaysia, especially in the banking/financial sector, and particularly in the areas of risk management and business intelligence. Realizing the high demand for trained graduates in SAS, the MS program was designed with this perspective in mind. During the ongoing first semester, SAS is incorporated into two courses: Categorical Data Analysis and Application of Data Mining, which are conducted entirely using SAS solutions. Even though it is their first exposure to the SAS software, the students are able to go through the basics of SAS programming in just a few sessions. For the Categorical Data Analysis course, they learn how to write simple syntax for data steps, and perform statistical analysis for categorical data outcomes such as logistic and Poisson regressions. All their homework involves real data analysis and report writing.

For the Application of Data Mining course, students learn the SEMMA (Sample, Explore, Modify, Model, Assess) methodology developed by SAS. They also learn typical statistical methods in data mining, including association rule mining, clustering, regression, decision trees, and neural network. The learning process is greatly enhanced

by the use of the powerful data mining tool, SAS Enterprise Miner™. Students are required to carry out a substantial project involving an extensive analysis of real data and present it in a written report.

SAS is also the major software used in Statistical Computing course and Applied Statistical Modeling course offered in Semester 2 of this MS program. In Statistical Computing, students are expected to acquire the SAS programming skills to help them develop specific applications. The Applied Statistical Modeling course covers general linear models and multivariate methods, and the application of these methods using SAS. Depending on the prerogative of the lecturers, there are other elective courses in which SAS solutions may be incorporated. Among the courses are Statistical Analysis in Bioinformatics, Time Series and Forecasting, Biostatistics, and Marketing Models. With the integration of SAS solutions in the MS syllabus, the graduates are expected to be well-equipped to join the competitive work force.