Testimonies

“The Applied Statistics major is the choice major for anyone who has a passion for Mathematics. It solidifies the comprehension of the core Economics courses by allowing one to analyze and discover the technical aspects behind many economics theories. It will be an important major to have, and especially useful if one were to consider moving on to graduate school.”

Kwek Zi En Moses, BSc (Econ), second major in Applied Statistics, Graduation Year 2009

“A second major in Applied Statistics helps me to have a better grasp of my first major in Economics as I learn how to quantify what I learn in Economic theory. For example, regression models are useful in testing out whether real life data supports the hypothesis given by economic theory. Once I saw the application of statistics to real life scenarios, statistics becomes fun and enjoyable.”

Chan Ying Xian, BSc (Econ), second major in Applied Statistics, Graduation Year 2010

“The Applied Statistics major is an option for those who have an inclination towards Mathematics. It trains our analytical skills and helps us understand the concepts behind many economic and financial theories. My statistical background has helped me in my other modules, as well as in internships and I believe it will help me in my future.”

Tan Wee Ling, BSc (Econ), second major in Applied Statistics, Enrollment Year 2009

“The skills I learnt in Applied Statistics courses proved invaluable to me in my internships. As the courses complemented and built on my Economics major courses, the skills I learnt gave me an added advantage over my peers. In fact, skills learnt in the Applied Statistics major can be applied in a wide variety of jobs.”

Leung Weiwen, BSc (Econ), Quantitative Economics Track and second major in Applied Statistics, Enrollment Year 2009
Overview and Goals

In the modern society, statistics is about almost everything, from opinion polls to culling gene sequencing information for cancer research, to improving internet search and online advertising. Indeed, it is now difficult to single out a discipline or field in the social sciences or business areas which are not related to statistics in one way or another. More recently, the explosion of digital data calls for expertise to use, analyze and make sense of the data. Therefore, understanding the core ideas of statistics and probability modeling is crucial for anyone to function effectively and efficiently in the modern day work place.

The second major in Applied Statistics (APS) builds upon a firm foundation in statistical theory to develop applications related to the collection, analysis and interpretation of data for the best decision marking under uncertainty. Students in the APS major will be equipped with quantitative skills (including the use of statistical software) and knowledge on the identification of appropriate techniques, competent execution of analysis and correct interpretation of results. The APS major covers a wide range of fundamental statistical concepts and techniques, such as estimation, hypothesis testing, regression analysis, stochastic modeling, time series analysis, classification methods, survey, forecasting, data mining, etc. These tools can be effectively applied to different business areas, e.g. finance, economics, risk management, actuarial sciences, marketing research, production and operations.

While an aptitude for mathematical thinking is important, it is not necessary for students to have a strong mathematical background to enjoy and benefit from this major.

Structure & Curriculum

To fulfill the requirements of the second major in APS, students must complete the following courses:

Core Category (2 compulsory courses):
- Introductory Statistics (STAT101) or Introduction to Statistical Theory (STAT151)
- Probability Theory and Applications (STAT201)

Methodology Category (select any 3 courses):
- Survey Methods (STAT204)
- Computational Statistics (STAT205)
- Applied Stochastic Models (STAT306)
- Applied Regression Methods (STAT312)
- Statistical Methods for Actuarial Analysis (STAT314)
- Intermediate Mathematics for Economics (ECON205)
- Economic Forecasting (ECON233)
- Other approved courses

Application Category (select any 3 courses):
- Applied Econometrics (ECON107)
- Intermediate Econometrics (ECON207)
- Financial Econometrics (ECON221)
- Life Contingent Risks (STAT310)
- Risk Theory and Loss Models (STAT311)
- Quantitative Risk Analysis (STAT313)
- Marketing Research (MKTG103)
- Investment and Financial Data Analysis (QF302)
- Other approved courses

STAT101 and STAT151 are foundation courses that give students an overview of the subject. STAT101 is designed for students from non-mathematical disciplines while STAT151 is designed for students with some Calculus background.