

SRL 3640 Independent Project (3,0,3)

Prerequisite: SRL 3630 Research Methods

The purpose of the Independent Project is to allow students to apply knowledge accumulated from the programme to pursue a small-scale research on a specific topic of their interest under the guidance of an appointed faculty member.

SRL 3650 Sports for Persons with Special Needs (3,1,2) (C)

This course aims to provide students with knowledge to demonstrate, organize and teach/coach a variety of alternate sports—such as floor hockey, floorball, goalball, bocchia and gatebal—for persons with special needs.

SRL 3660 Planning and Leading Water Activities (3,2,1) (E)

Prerequisite: RCS 0215 Physical Education (Swimming) or equivalent

This course aims to provide students with knowledge related to designing, planning and leading a variety of water (pool) activities for persons with special needs. Students will be provided with opportunities to apply knowledge to practical situations.

STAT 1131 Statistical Methods and Theory I (3,3,1) (E)

Prerequisite: A-Level Pure Mathematics, A-Level/AS-Level Applied Mathematics or AS-Level Mathematics and Statistics

This course deals with the statistical methods and theory. The emphasis is on what, how, when and why certain statistical methods can and cannot be applied. Topics include exploratory data analysis, estimation, hypothesis testing, analysis of variance, simple linear regression and nonparametric methods. Students are required to solve a variety of problems by using calculators and statistical packages such as SAS, MINITAB, SPSS, S-PLUS or R.

STAT 1132 Statistical Methods and Theory II (3,3,1) (E)

Prerequisite: STAT 1131 Statistical Methods and Theory I

This course deals with the elementary probability theory and the mathematical foundation of some commonly used statistical methods. First the rigorous mathematical frame of the probability theory based upon the concepts of random variables and probability distributions are introduced. The general procedures of statistical inference, such as parameter estimation, hypothesis test, analysis of variance are demonstrated with detailed discussion about their mathematical features. Students are required to comprehend the most commonly used probability distributions and their relations. Central Limit Theorem and related statistical application should be well understood. Several optimal schemes for the estimation accuracy and the hypothesis test power form another important part of the course.

STAT 1210 Probability and Statistics for Computer Science (3,3,1) (E)

Antirequisite: STAT 1620 Computer-aided Statistics

Prerequisite: MATH 1000 Supplementary Mathematics (Calculus and Linear Algebra) or Grade D or above in AL Pure Mathematics

This course aims to provide an understanding of the basic concepts in probability and statistical analysis, and focuses on applied probability and statistics. Students will learn the fundamental concepts of random variables, the basic concepts and techniques of parameter estimation and hypothesis testing. After taking this course, students will be able to apply the concepts to real-life IT/engineering applications and use popular statistics packages, such as SAS, SPSS, S-Plus, R or MATLAB, to perform simple and sophisticated analysis.

STAT 1620 Computer-aided Statistics (3,3,0) (E)

Antirequisite: BUS 1200 Statistics for Business, STAT 1210 Probability and Statistics or STAT 1131 Statistical Methods and Theory I

This course deals with the statistical analysis using commercial

grade computer software. It provides statistical concepts and methods so that the students learn how to make correct statistical inference by using appropriate methods. This course is NOT for students whose programmes are offered by the Department of Mathematics.

STAT 1650 Statistics and Our Society (3,3,0)

Prerequisite: HKCEE Mathematics

Issues of data and chance permeate everyday life in the news, advertisements, medical and business communications. This course focuses on developing the statistical thinking needed to gain insight from this information in order to make informed decisions. This course will take a conceptual, rather than a computational approach to learning statistics.

STAT 2110 Regression Analysis (3,3,0) (E)

Prerequisite: STAT 1131-2 Statistical Methods and Theory I & II and MATH 1120 Linear Algebra

This course aims to provide an understanding of the classical and modern regression analysis and techniques which are widely adopted in various areas such as business, finance, biology and medicine. There have been great developments in the past decades such as nonlinear regression, robust regression, nonparametric regression etc. With the help of a statistical package such as SAS, Matlab or R, students can analyse multivariate data by modern regression techniques without any difficulty.

STAT 2120 Categorical Data Analysis (3,3,0) (E)

Prerequisite: STAT 1620 Computer-aided Statistics or STAT 2110 Regression Analysis

To equip students with statistical methods for analysing categorical data arisen from qualitative response variables which cannot be handled by methods dealing with quantitative response, such as regression and ANOVA. Some computing software, such as SAS, S-PLUS, R or MATLAB, will be used to implement the methods.

STAT 2710 Design and Analysis of Surveys (3,3,0) (E)

Prerequisite: STAT 1131 Statistical Methods and Theory I or STAT 1620 Computer-aided Statistics

To provide students with a good understanding of survey operations, survey sampling methods and the corresponding analyses of data. Important points in questionnaire design will also be addressed in the course. Students will form teams to do course projects. On completion of the course, students should be able to design, carry out, and write reports based on a professional survey.

STAT 2810 Design and Analysis of Experiments (3,3,0) (E)

Prerequisite: STAT 2110 Regression Analysis

To provide an understanding of various kinds of experimental designs involving factorial and uniform designs as well as design for computer experiments. The experimental design has a long history and has been widely used in industry, agriculture, quality control, natural sciences and computer experiments. They can be applied to survey design as well. Therefore, they are useful in business and social sciences. The statistical package, SAS and UD4.0 will be used to support the lecture.

STAT 3710 Multivariate Analysis and Data Mining (3,3,0) (E)

Prerequisite: STAT 2110 Regression Analysis

To provide an understanding of the classical multivariate analysis and modern techniques in data mining. Very often, observations in the social, life and natural sciences are multidimensional or very high dimensional. This kind of data sets can be analysed by techniques in multivariate analysis and/or data mining. With the help of statistical package, such as Matlab, students will learn how to treat real multivariate problems.

STAT 3820 Life Insurance and Life Contingencies (3,2,1) (E)

Prerequisite: (1) BUS 1150 Mathematics for Business and BUS 1160 Statistics for Business, or (2) STAT 1131-2 Statistical Methods and Theory I & II

To introduce the theory of life insurance and life contingencies with application to insurance problems. Students will learn some of the major issue in the field of actuaries.

STAT 3830 Times Series and Forecasting (3,3,0) (E)

Prerequisite: STAT 2110 Regression Analysis

The course aims at providing students with an understanding of the statistical methods for time series data whose order of observation is crucially important in depicting the background dynamics of the related social, economical, and/or scientific phenomena. The students will learn to use various time series models and techniques such as exponential smoothing, ARIMA, etc. to model and make forecasts. Corresponding programming techniques to facilitate these practices will also be introduced within the platforms of MATLAB. Case studies will be provided to make the students acquainted with the elementary techniques.

STAT 3840 Survival Analysis (3,3,0) (E)

Prerequisite: STAT 1131-2 Statistical Methods and Theory I & II, STAT 2110 Regression Analysis and STAT 2120 Categorical Data Analysis

This course aims to provide students with a good understanding of techniques for the analysis of survival data, including methods for estimating survival probabilities, comparing survival probabilities across two or more groups, and assessing the effect of covariates on survival. The emphasis will be on practical skills for data analysis using statistical software packages. Students will form groups to do projects involving the analysis of real data.

STAT 3930 Asymptotics in Statistics (3,3,0) (E)

Prerequisite: Year II standing or above or consent of instructor
To provide senior students with advanced statistics, especially some modern knowledge so that students can have a good preparation for research.

STAT 3980 Special Topics in Statistics (3,3,0) (E)

Prerequisite: Year II standing or above or consent of instructor
This course exposes students to selected current trends in edge-cutting research areas in (bio)statistics. The topics will vary according to the expertise and interests of staff and visitors.

STAT 7010 Modern Experimental Designs (3,3,0)

Prerequisite: Postgraduate standing or consent of instructor
This course serves postgraduate students from different disciplines. The theory and method of experimental design will be introduced. Applications of the methods to students' research are emphasized.

STAT 7020 Monte Carlo and Quasi-Monte Carlo Methods (3,3,0)

Prerequisite: Postgraduate standing or consent of instructor
Monte Carlo and quasi-Monte Carlo methods are valuable tools for solving multidimensional integration, optimization, and other problems. This course covers the generation of (pseudo-) random numbers and quasi-random numbers. Theoretical and practical aspects of Monte Carlo and quasi-Monte Carlo methods for different classes of problems are also explained.

STAT 7030 Special Topics in Statistics (3,3,0)

Prerequisite: Postgraduate standing or consent of instructor
This course exposes postgraduate students to selected current research areas in statistics. The topics will vary according to the expertise and interests of staff and visitors.

STAT 7040 Generalized Multivariate Analysis (3,3,0)

Prerequisite: Postgraduate standing or consent of instructor
This course provides a comprehensive theory and methods of modern multivariate analysis in non-normal population and in large number of variables. The course stresses the theory of elliptical distributions also.

STAT 7050 Asymptotics in Statistics (3,3,0)

Prerequisite: Postgraduate standing or consent of instructor
Asymptotic theory in statistics is very important as for vast majority of statistics it is not possible, especially in nonparametric settings, to derive sampling distributions and limiting distributions are then of great help in statistical inference and estimation. Thus, this course equips students with a sound asymptotic theory and some new re-sampling methods to approximate sampling distributions.

TRA 1110 Translation Knowledge (1): Principles and Methods (3,3,0) (E)

This is an introduction to the basic approaches to, and problems in, translating. Various aspects of the art and profession of translating will be highlighted and discussed. Students will acquire knowledge and skills for translating and multi-lingual work. This course is open to Translation majors only.

TRA 1120 Introduction to Translation (3,3,*)

Translating is an excellent way to try life in another language. This course aims to give students hands-on experience and a chance to find out more about translating. Through a range of different learning activities, students will be introduced to basic translation concepts and approaches to develop their ability to translate a variety of texts between Chinese and English. Different aspects of translation as both art and profession will be discussed to enable students to identify problems in translating, develop appropriate strategies, reflect critically on their strategies, and enhance their awareness of the dynamics of communication across languages.

TRA 1141-2 Practical Translation I & II (3,3,0) (E)

These are practice-oriented courses. Students are required to translate simple texts from English into Chinese and from Chinese into English. These texts are taken from a variety of sources including newspapers, magazines, legal and government documents, stage scripts and film subtitles, literary works and others. Each piece of work will be marked, and the corrections and comments used as basis for class discussion. Students are also encouraged to reflect on their translation experience in relation to translation theories with the help of the instructor. This course is open to Translation majors only.

TRA 1150 Translation Knowledge (3): Contrastive Language Studies: English and Chinese (3,3,0) (E)

This course enables students to appreciate language differences and similarities between English and Chinese. It discusses English-Chinese contrasts in grammar and lexicon. Upon completing the course, students will be able to perform contrastive analyses, and demonstrate enhanced competence and skills in coping with language problems in translation.

TRA 1160 Translation Knowledge (4): Research for Translation Studies (3,3,0) (E)

This course is designed to introduce students to different methodologies commonly used in the study of translation. It helps students design and conduct research and report on their research findings. Various rhetorical structures will be introduced so students would learn how to make critical and creative use of different genres for their own research. Students will be equipped with both the content knowledge regarding research methods pertinent to translation studies and also the linguistic tools to express themselves in a scholarly manner. Above all, students will learn to develop independent critical thinking. This course is open to Translation majors only.

TRA 1170 Translation Knowledge (2): Linguistics for Translators (3,3,0) (E)

This course provides students with basic knowledge of linguistics. Emphasis is put on those aspects of linguistics that are closely