

Course code:	SSC217
Course title:	Statistics for Social Sciences
No. of credits/ term:	3
Lecture:	Two hours per week
Tutorial:	One hour per week
Instructor:	Lis Ku Room SO312; Phone 2616 7283; Email: Lisku@Ln.edu.hk

Aims

This course is designed to assist students in achieving an overview of statistics and an understanding of its relevance in social research and in everyday life. The course will cover descriptive statistics, inferential statistics on a single sample or two samples, as well as bivariate and multivariate analysis (simple linear regressions and multiple regressions).

Learning outcomes

At the end of the course, you will be able to:

Knowledge:

K1 use statistics to describe and analyze issues in economic, political and social life;

K2 critically evaluate claims made by those who use statistics as their tools;

Skills:

S1 analyze statistical relationships on one or two samples, and between two or more variables;

S2 interpret numbers and charts back in their original contexts of economic, political and social life;

S3 gain basic competence in using Statistical Package for the Social Sciences (SPSS) to tackle statistical problems;

S4 gain instrumental competence to carry out quantitatively-oriented senior projects, if applicable; and

Values:

V1 appreciate the spirit of social sciences as fact-based disciplines; and

V2 appreciate the relevance of statistics as a useful research tool for social scientists.

Assessment of learning outcomes

20% Tutorial participation and exercises

20% Midterm test

20% Assignment

40% Final Exam

Tutorial participation and exercises (20%) (Learning outcomes: K1, K2, S1, S2, S3)

20% of your final grade will be given according to your tutorial attendance, participation and finishing exercises. It is important that you do the weekly tutorial exercises and keep up with the course. If you are stuck with unresolved problems, you are welcome to fetch me during tutorials or after lectures.

Assignment (20%) (Learning outcomes; K1, S1, S2, S3)

You will be asked to perform statistical techniques learned in the course to solve problems, compile SPSS output, and provide text-based descriptions and interpretations. There will be optional tutorial session in which you can work on the assignment with the presence of the instructor.

You may discuss with classmates and learn from each other, but **DO NOT COPY**. Make sure you understand the materials you submit, and be able to explain the methods employed. Plagiarism is a serious offence that will not be tolerated. Do not worry too much if your methods are different from your friends' – sometimes there are many ways to solve a problem.

Midterm Test (20%) (Learning outcomes; S1, S2, & S3)

Final Exam (40%) (Learning outcomes: K1, K2, S1, S2, & S3)

Textbook

Joseph F. Healey (2009). *Statistics: A tool for Social Research* (8th edition), Belmont: Wadsworth
Cengage

References

George Mallery (2006). *SPSS for Windows Step by Step: A Simple Guide and Reference* (6th edition), Boston: Allyn and Bacon

Jane Fielding and Nigel Gilbert (2000). *Understanding Social Statistics*, London: Sage

McClave, J.G Benson and T Sincich (1998). *Statistics for Business and Economics*, 9th ed., New Jersey: Peason Prentice Hall

Course materials

1. Lecture powerpoints, tutorial handouts and dataset files are downloadable from WebCT.
2. Tutorial handouts are distributed on class.
3. You can find the textbook in the University bookstore. It is fine if you are using the previous

version; only minor differences exist between the 7th and 8th editions.

SPSS software

Our classroom computers, student labs, and the Chiang Chen Multimedia Lab of the Main Library are installed with the SPSS software. Towards the later stage of the course, you are going to use SPSS frequently. You can do your tutorial exercises and SPSS assignment in any one of the labs.

Don't miss your Test and Exam!

Supplementary tests and exams will only be arranged under exceptional circumstances. If you experience an emergency condition, you have to inform the instructor and the Programme Office as soon as possible. Usually late notices 24 hours after the test/exam will not be accepted.

Indicative Contents

1. Review of elementary statistics
 - The meanings and uses of statistics
 - Univariate statistical analysis
 - Central tendency, dispersion and normal distribution
2. Inferences based on a single sample
 - The elements of a test of hypothesis
 - Large sample test of hypothesis about a population mean
 - Small sample test of hypothesis about a population mean
 - Large sample test of hypothesis about a population proportion
3. Inferences based on two samples
 - Comparing two population means
 - Comparing two population proportions
4. Bivariate statistical analysis
 - Association between two nominal variables
 - Association between two ordinal variables
5. Simple linear regression
 - Fitting the model: the Least Squares approach
 - Estimating and interpreting the beta parameter
 - The coefficient of correlation
6. Multiple regression
 - Multiple regression models
 - Beta parameters
 - Coefficients of determination

SSC 217 Course Schedule (Autumn 2008)

Lecture	Date	Reference	Contents	Tutorial	Date	Contents
L1	3 Sep	Ch. 1, 2 & 3	Introduction Revision: Descriptive Statistics	No tutorial		
L2	10 Sep	Ch. 4, 5 & 6	Revision: Central tendency & dispersion Revision: Normal Distribution	T1	12 Sep (SO202)	<u>SPSS session</u> Data types; Data view / variable view Exploring a single variable
L3	17 Sep	Ch. 7 & 8	Revision: 1-Sample Hypothesis Test Z (large samples) and t (small samples) Type 1 & Type 2 errors	T2	19 Sep (SO109/222)	<u>Classroom session</u> Contexts of Hypothesis Testing Type 1 & Type 2 errors
L4	24 Sep	Ch. 9	Hypothesis Testing: 2-Sample Case (Means and proportions)	OT1 (optional session)	26 Sep (SO109/222)	<u>Revision Classroom session</u> Using Z table & t table Z(critical) & Z(obtained)
	1 Oct		--- National Day ---	T3	3 Oct (SO109/222)	<u>Classroom session</u> Z, sigma and P: 2-sample cases
Test	8 Oct NAB319	Ch. 2 ~ 9	20% Test	T4	10 Oct (SO202)	<u>SPSS session</u> Producing SPSS output files Histogram, tree diagram, boxplot, scatter plot
L5	15 Oct	Ch. 1, 12	Using statistics in SocSci research Bivariate Association (introduction) Causation and Correlation	T5	17 Oct (SO109/222)	<u>Classroom session</u> Explaining graphics and numbers in words Bivariate association
L6	22 Oct	Ch. 13	Bivariate Association (nominal) Phi, Cramer's V, Lambda	T6	24 Oct (SO202)	<u>SPSS session</u> Using Crosstab
L7	29 Oct	Ch. 14	Bivariate Association (ordinal) Gamma, Spearman's Rho	T7	31 Oct (SO202)	<u>SPSS session</u> Using Recode
L8	5 Nov	Ch. 15	Bivariate Association (interval-scale): Scattergram & Linear Regression Correlation coefficient (Pearson's <i>r</i>)	T8	7 Nov (SO202)	<u>SPSS session</u> Simple Regressions & Correlation coefficient
L9	12 Nov	Ch. 10 & 11	ANOVA and Chi Square 20% Assignment. Due: 24 Nov 4pm	OT2	14 Nov (SO202)	<u>Lab Q/A session</u>
	19 Nov		--- No Lecture ---		21 Nov	--- No Tutorial ---
L10	26 Nov	Ch.16 + supp.	Multiple regression models	T9	28 Nov (SO202)	<u>SPSS session</u> Multiple regressions & Beta parameters
L11	3 Dec	Ch.17 + supp.	Beta parameters	OT3	5 Dec (SO202)	<u>Lab Q/A session</u>