

HANYANG UNIVERSITY

2019 HISS Syllabus

(Basic Business Statistics)

Professor:	Jong-Min Kim
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Home Univ.:	University of Minnesota at Morris
Dept.:	Statistics

Description: Scope, nature, tools, language, and interpretation of business statistics. Descriptive statistics; graphical and numerical representation of information; measures of location, dispersion, position, and dependence; exploratory data analysis. Elementary probability theory, discrete and continuous probability models. Inferential statistics point and interval estimation, tests of statistical hypotheses, regression analysis; and use of statistical computer packages (Excel, R).

Objective:Learn basic statistics concepts and practice how to apply the learned statistics
knowledge to real business data.Textbook:Statistics for Management and Economics, Abbreviated 7th edition,
Thomson 2007, by Keller.Preparations:Pre-knowledge: Basic College Algebra.

Materials: Regular Calculator needed.

Credits	3 Credits		Contact Hours	45 Hours
Schedule:	Week 1	Chapter 1: What is St	tatistics?	
		1.1. Key Statistical Concepts.		
		1.2. Statistical Applications in Business.		
		1.3. Statistics and the Computer.		

Hanyang International Summer School

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	Chanter 2: Craphical Descriptive Techniques I
	Chapter 2. Graphical Descriptive lechniques I.
	2.1. Types of Data and Information.
	2.2. Describing a Set of Nominal Data.
	2.3. Describing the Relationship between Two Nominal Variables and Comparing Two or
	More Nominal Data Sets.
	Chapter 3: Graphical Descriptive Techniques II.
	3.1. Graphical Techniques to Describe a Set of Interval Data.
	3.2. Describing Time-Series Data.2
	3.3. Describing the Relationship between Two Interval Variables.
	3.4. Art and Science of Graphical Presentations.
	Chapter 4: Numerical Descriptive Techniques.
	4.1. Measures of Central Location.
	4.2. Measures of Variability.
	4.3. Measures of Relative Standing and Box Plots.
	4.4. Measures of Linear Relationship.
	Chapter 5: Data Collection and Sampling.
	5.1. Methods of Collecting Data.
	5.2. Sampling
	5.3. Sampling Plans.
	5.4. Sampling and Nonsampling Errors.
Week 2	Chapter 6: Probability.
	6.1. Assigning Probability to Events.
	6.2. Joint, Marginal, and Conditional Probability.
	6.3. Probability Rules and Trees.
	6.4. Bayes' Law.
	6.5. Identifying the Correct Method.



	Chapter 7: Random Variables and Discrete Probability Distributions.
	7.1. Random Variables and Probability Distributions.
	7.2. Bivariate Distributions.
	7.3. (Optional) APPLICATIONS IN FINANCE: Investment Portfolio Diversification and Asset Allocation.
	7.4. Binomial Distribution.
	7.5. Poisson Distribution.
	Chapter 8: Continuous Probability Distributions.
	8.1. Probability Density Functions.
	8.2. Normal Distribution.
	8.3. (Optional) Exponential Distribution.
	8.4. Other Continuous Distributions.
	Chapter 9: Sampling Distributions.
	9.1. Sampling Distribution of the Mean.
	9.2. Sampling Distribution of a Proportion.
	9.3. Sampling Distribution of the Difference between Two Means.
	9.4. From Here to Inference.
	Chapter 10: Introduction to Estimation.
	10.1. Concepts of Estimation.
	10.2. Estimating the Population Mean when the Population Standard Deviation is Known.
	10.3. Selecting the Sample Size.
Week	Chapter 11: Introduction to Hypothesis Testing.
3	11.1. Concepts of Hypothesis Testing.
	11.2. Testing the Population Mean when the Population Standard Deviation is Known.
	11.3. Calculating the Probability of a Type II Error.
	Chapter 12: Inference about One Population.



	12.1. Inference about a population Mean when the Standard Deviation is Unknown.
	12.2. Inference about a Population Variance.
	12.3. Inference about a Population Proportion.
	Chapter 13: Inference about Two Populations.
	13.1. Inference about the Difference between Two Means: Independent samples.
	13.2. Observational and Experimental Data.
	13.3. Inference about the Difference between Two Means: Matched Pairs Experiment.
	13.4. Inference about the Ratio of Two Variances.
Week 1	13.5. Inference about the Difference between Two Population Proportions.
WCCK 4	Chapter 14: Analysis of Variance.
	14.1. One Way Analysis of Variance.
	14.2. Multiple Comparisons.
	14.3. Analysis of Variance Experimental Designs.
	14.4. Randomized Blocks (Two Way) Analysis of Variance.
	14.5. Two-Factor Analysis of Variance.

Evaluation(%)	Midterm	Final	Attendance	Assignments	Participation	Etc.
	25	50	10	5	10	