TQF. 3 Course Specification

Course Code: IIB 2208

Course Title: Business Statistics

Credits : 3(2-2-5)

Semester/Academic Year : 1/ 2015

Students : Bachelor of Business Administration Program in International Business

Lecturers : Asst.Prof. Dr. Krongthong Khairiree

Assoc.Prof. Terada Pinyo

International College, Suan Sunandha Rajabhat University

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Section 1 General Information

1. **Code and Course Title:** IIB2208 Business Statistics
2. **Credits:** 3(2-2-5)

3. Curriculum and Course Category :

IIB 2208 Business Statistics is a General Education Course of Bachelor of Business Administration Program in International Business, at International College, Suan Sunandha Rajabhat University (SSRU).

4. Lecturers: Asst.Prof. Dr. Krongthong Khairiree

Assoc.Prof. Terada Pinyo

5. Year / Semester

Graduate Student Year 2 / Semester 1/2015

6. Prerequisite Course

None

7. Co-requisite Course :

None

8. Learning Location

International College, Suan Sunandha Rajabhat University,
Nakorn Patom Education Center

9. Last Date for Preparing and Revising this Course:

July 20, 2015

Section 2 Objectives and Purposes

1. Course Objectives

At the end of this course, the students will be able to perform in the following areas of performance:

1) Describe statistical methodology, descriptive statistics, and inferential statistics;
2) Determine the sample unit, data descriptions and presentation in a business environment;
3) Apply basic probability concepts and probability distributions as an aid to business decision making;
4) Use sample information to draw conclusions about properties of populations from which samples are drawn; and
5) Apply knowledge on correlation and regression with the real life problems.

2. Purposes for Developing / Revising Course (content / learning process / assessment / etc.)

Section 3 Course Structure

3.1 Course Outline

Statistical methodology, descriptive statistics, inferential statistics and nonparametric Quantitative and qualitative analysis, probability concepts and probability distributions, sampling method, interval estimation and hypothesis testing, correlation and regression analysis.

3.2 Time Length per Semester (Lecture – hours / Practice – hours / Self Study – hours)

Lecture	**Practice/ Field Work/Internship**	**Self Study**	Remedial Class
32 hours	32	80 hours	6 (if any)

3.3 Time Length per Week for Individual Academic Consulting and Guidance

At least 5 hours / week

Section 4 Developing Student's Learning Outcomes

Learning Standards/Outcomes	Learning Activities	Learning Assessment
1. Ethics and Morals (1) To have personal responsibility, corporate responsibility and moral reasoning (2) Can adjust to work as a team both as leader or follower and work effectively with others;	• Lecture and group discussion • Student-centered: Problem-Based learning and Cooperative learning approaches • Data presentation using computer software program such as Excel, SPSS, and Fathom • Self-study and E-learning through Moodle	Feedback from group discussion and Group assessment.
2. Knowledge (1) descriptive statistics and inferential statistics; (2) computer software program such as Excel, SPSS, and Fathom; (3) research-based learning, and problem-based learning in business using real life problems; (4) statistics software program	(1) Apply descriptive statistics and inferential statistics concept in international business; (2) Learn both independently and cooperatively; (3) Learn new skills and apply learning to new and unexpected situations.	(1) Classroom interaction (2) Group report and presentation
3. Cognitive Skills (1) Be able to analyze data and data presentation effectively; (2) Able to apply descriptive statistics and inferential statistics concept in international business; and (3) Able to apply problem-based learning in statistics and real life problem.	(1) Use research-based learning and internet-based learning to construct cognitive skills in business statistics. (2) use problem-based learning in statistics and real life problem; (3) students write reports, and other forms of work and able to present their findings from discussion / searching information.	(1) Individual portfolio (2) Term papers (3) Group report presentation

Learning Standards/Outcomes	Learning Activities	Learning Assessment
4. Interpersonal Skills and Responsibilities (1) effective problem-solvers, capable of applying critical and creative thinking to a range of problems. (2) Have responsibility for assignment : select ideas in business statistics from different theoretical perspectives; (3) Can adjust to work in team both as leader or follower and work effectively with others; (4) able to use software in statistics effectively.	(1) Find, acquire, evaluate, manage and use relevant information in a range of media. (2) Use research-based learning and internet-based learning on business statistics; and (3) apply cooperative learning method and Problem-Based Learning (PBL) in business statistics.	(1) Project work (2) Group report and presentation.
5. Numerical Analysis, Communication and Information Technology Skills (1) Have statistical and mathematical skills in business statistics and have developed competencies in information literacy; (2) Able to interpret the statistics findings in oral and written presentations. (3) Present well-reasoned arguments using technology as appropriate	(1) Demonstrate oral, written, numerical and data presentation; (2) Use research-based learning and internet-based learning; (3) Use statistics software such as Excel, Fathom and SPSS to analyse data in business statistics.	(1) Individual portfolio (2) Project work assignment report (3) Group report and presentation

Section 5 Lesson Plan and Assessment

1. Lesson Plan

Week	Topic/Outline	Hours	Learning Activities and Medias
1	• Course Outline • Pretest • Statistics methods • Statistics and Data Collection	2 2	• Lecture and group discussion • Student-centered: Problem Solving and Cooperative learning • Individual assessment

2	• Data presentation
	  ○ Histogram, frequency polygons and frequency Curve
	  ○ Bar chart, Line graph, and Pie chart
	  ○ Stem-and-leaf Plot
	• Data presentation using computer software program
		2
		
		2
			• Student-centered: Problem Solving and Cooperative learning
			• Using mathematics software program
			• Hands on activities
			• Data presentation using computer software program such as Excel, SPSS, and Fathom

3	• Population and Sample • Data and data collection • Introduction to Descriptive Statistics • Measure of Central Tendency • Stem and leaf Plot, Box Plot • Data presentation using computer software program	2 2	• Lecture and group discussion • Student-centered: Problem-Based learning and Cooperative learning approaches • Data presentation using computer software program such as Excel, SPSS, and Fathom • Self-study and E-learning through Moodle
4	• Measurement of dispersions: • Standard deviation • Variance • Summation notation • Data analysis using computer software program	2 2	• Lecture and group discussion • Problem Solving and Cooperative learning • Using mathematics software program: Fathom/SPSS • Self-study through Moodle
5	Measurement of dispersions: • Scatter diagram • Coefficient of correlation • Project Work Assignment • Data analysis using computer software program	2 2	• Problem Solving and Cooperative learning • Using mathematics software program: Fathom/SPSS Self-study and E-learning through Moodle

Week	Topic/Outline	Hours	Learning Activities and Medias
6	• Linear Regression • Data collection • Using Fathom or Excel for Regression	2 2	• Problem Solving and Cooperative learning • Using mathematics software program: Fathom/SPSS • Self-study and E-learning through Moodle
7	• **Mid-Term Test** • Project Work assignment: o Statistics and Data Collection o Data analysis using software program	2 2	• Paper and pencil Test • Student-centered: Problem-Based learning and Cooperative learning • Using mathematics software program: Fathom/SPSS
8	• Probability and Tree diagram • Conditional probability • **Project Work Assignments & Activities**	2 2	• Student-centered: Problem-Based learning and Cooperative learning • Self-study and E-learning through Moodle
9	• Probability Distribution and Random variable • Normal Distribution • The Standard Normal Distribution • Data analysis using software program	2 2	• Lecture and group discussion • Student-centered: Problem-Based learning and Cooperative learning approaches • Self-study and E-learning through Moodle
10	• Introduction to Inferential Statistics • Sampling method, • Sample size	2 2	• Lecture and group discussion • Student-centered: Problem-Based learning and Cooperative learning approaches • Self-study and E-learning through Moodle
11	• Confidence Interval • Estimation-1 • Data analysis using software program	2 2	• Lecture and group discussion • Student-centered: Problem-Based learning and Cooperative learning Using mathematics software program: Fathom/SPSS • Self-study and E-learning through Moodle
12	• Hypothesis Testing -1 • Students' Project Work Assignments & Activities	2 2	• Lecture and group discussion • Student-centered: Problem-Based learning and Cooperative learning • Using mathematics software program: Fathom/SPSS • Self-study and E-learning through Moodle.

Week	Topic/Outline	Hours	Learning Activities and Medias
13	• Hypothesis Testing -2 • Students' Project Work Assignments & Activities	2 2	• Lecture and group discussion • Student-centered: Problem-Based learning and Cooperative learning • Using mathematics software program: Fathom/SPSS • Self-study and E-learning through Moodle Lecture and group discussion
14	• Non-parametric -1 • Students' Project Work Assignments & Activities	2 2	• Student-centered: Problem-Based learning and Cooperative learning • Self-study and E-learning through Moodle
15	• Non-parametric -2 • Students' Project Work Assignments & Activities	2 2	• Student-centered: Problem-Based learning and Cooperative learning • Self-study and E-learning through Moodle
16	• Mark up classes • Problem-Based Learning and data collection • Students' Project Work Assignments & Activities	2 2	• Student-centered: Problem-Based learning and Cooperative learning • Using mathematics software program: Fathom/SPSS • Self-study and E-learning through Moodle Lecture and group discussion
17	**Final Examination and submission Project Assignment**	2 2	

2. Learning Assessment Plan

Learning Outcomes	Assessment Activities	Time Schedule (Week)	Proportion for Assessment (%)
1. Ethics and Morals To have ethic behavior (personal responsibility , corporate responsibility) and moral reasoning.	1. Individual portfolio 2. Group discussion	Through out semester	5 %
2. Knowledge (1) posses knowledge on descriptive statistics and inferential statistics; (2) using computer software program such as Excel, SPSS, and Fathom; (3) conducting problem-based learning in business using real life problems;	1. Project work and Term papers 2. Project work designed using computer software program such as Excel, SPSS, and Fathom; 3. Group report presentation	Through out semester	40 %
3. Cognitive Skills (1) Able to apply descriptive statistics and inferential statistics concept in international business; and (2) To create project work assignment on Business Statistics using software program.	1. Project work and Term papers 2. Project work designed 3. Group report presentation	Through out semester	40 %
4. Interpersonal Skills and Responsibilities (1) Have responsibility for work assignment : Design project work in business statistics using software (2) Positive interdependence, accountability and posses social skills	1. Checklists 2. Observation 3. Interviews	Through out semester	5 %

5. Numerical Analysis, Communication and Information Technology Skills (1) Have statistics skills to analyse and solve problems in business (2) Able to create data presentation using software and self learning through E-learning and Moodle. (3) Can use correct language in oral and written presentations. (4) Can use computer and IT to search for new knowledge through various search engines.	1. Project work and Term papers 2. Project work designed using computer software program 3. Group report presentation 4. Individual portfolio	Through out semester	10 %

Section 6 Learning and Teaching Resources

1. Textbook and Main Documents

1. TextBook:
   Aczel, A.D., Sounderpandian, J. (2006) *Complete Business Statistics* 6 Ed. Boston: McGraw Hill Inc.
   Kohler, H. (2002) *Statistics for Business and Economics*. USA: Thomson Learning, Inc.
   Newbold, P.Carson, W.L. & Thorne, B. (2007). *Statistics for Business and Economics* 6 Ed. NJ: Pearson Education, Inc.
2. Handout & lecture notes

Conditions:

1. Project Assignments, Activities and Attendance 50 %
2. Midterm Test 20%
3. Final Examination 30%

2. Important Documents for Extra Study

Clements, C. (2007). Exploring Statistics with Fathom. Emeryville CA: Key Curriculum Press.

3. Suggestion Information (Printing Materials/Website/CD/Others)

Keywords for searching:

Asian Technology Conference in Mathematics (ATCM) Proceeding

Website:

http://www.keycurriculum.com/resources/fathom-resources/getting-started-with-fathom

http://atcm.mathandtech.org

http://atcm.mathandtech.org/EP2012/pages/organizers.html

Section 7 Course Evaluation and Revising

1. Strategies for Course Evaluation by Students

Using survey questions to collect information from the students' opinions to improve the course and enhance the curriculum. Examples of questions:

(1) Content objectives were made clear to the students.
(2) The content was organized around the objectives.
(3) Content was sufficiently integrated.
(4) Content was sufficiently integrated with the rest of the first year curriculum.
(5) The instructional materials used were effectively.
(6) The learning methods appropriate assessed the students' understanding of the content.
(7) Overall, Students are satisfied with the quality of this course.

2. Strategies for Course Evaluation by Lecturer

2.1 Lecturer observes the class and discuss the results as follow:

(1) The lecturer is well prepared for class sessions.
(2) The lecturer answers questions carefully and completely.
(3) The lecturer uses examples to make the materials easy to understand.
(4) The lecturer stimulated interest in the course.
(5) The lecturer made the course material interesting.
(6) The lecturer is knowledgeable about the topics presented in this course.
(7) The lecturer treats students respectfully.
(8) The lecturer is fair in dealing with students.
(9) The lecturer makes students feel comfortable about asking question.
(10) Course assignment are interesting and stimulating.
(11) The lecturer's use of technology enhanced learning in the classroom.

2.2 The Director /Head of program construct assessment items to evaluate four dimensions of lecturer's competencies : teaching skills, organization and presentation of materials, management of the learning environment, and teaching attitudes.

3. Teaching Revision

Lecturer revises teaching/learning process based on the results from the students' survey questions , and the lecturer's observation;

4. Feedback for Achievement Standards

International College Administrator Committee monitor to assessment process and Grading.

5. Methodology and Planning for Course Review and Improvement

(1) Revise and develop course structure and process every two years.

(2) Assign different lecturers teach this course to enhance students' performance.