ATTACHMENT 2 (e)

Course Specifications

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

STT-102 INTRODUCTION TO STATISTICS

Course Specifications
(CS)

Course Specifications

Institution Al Yamamah University	Date of Report 3rd November 2013
College/Department College of computer and information Systems (CCIS)	

A. Course Identification and General Information

1. Course title and code: STT-102 Introduction to Statistics
2. Credit hours 3
3. Program(s) in which the course is offered.
(If general elective available in many programs indicate this rather than list programs)
College of computer and information systems (CCIS), College of Business Administration (COBA)
4. Name of faculty member responsible for the course Ms. Shameem Tahseen
Ms. Lama Hnienah
Dr. Lakhdar Ragoub
Mr. Ahmed Share
5. Level/year at which this course is offered The first academic year
6. Pre-requisites for this course (if any) MTH001/MTH-101
7. Co-requisites for this course (if any) None
8. Location if not on main campus The course is offered at the Main Campus of the College
9. Mode of Instruction (mark all that apply)

a. Traditional classroom	Yes	What percentage?	100%
b. Blended (traditional and online)	No	What percentage?	0%
c. e-learning	No	What percentage?	0%
d. Correspondence	No	What percentage?	0%
f. Other (Lab)	No	What percentage?	0%

Comments: Students apply the concepts in Business and IT and solve it using EXCEL and SPSS

B Objectives

1. What is the main purpose for this course? This course is concerned with providing students with an understanding and ability to apply: (1) Statistics, Data, and Statistical Thinking, (2) Methods for Describing sets of Data, (3)Probability, (4) Random Variables and Probability Distributions, (5) Inferences based on a single Sample estimation with confidence intervals. The methods to be covered are selected for their relevance knowledge and skills required for Business and IT requirements.
2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field). Reduce emphasis on formal theory of statistics and increase emphasis on applications.

C. Course Description (Note: General description in the form to be used for the Bulletin or handbook should be attached)

Students will learn the science of statistics, types of data, graphical methods and numerical methods of describing data, probabilities, normal, binomial, poission distributions, sampling distribution and central limit theorem, large and small sample confidence intervals for mean and proportions and determining the sample size.

1 Topics to be Covered

Topic	No of Weeks	Contact hours
1.1 The Science of Statistics 1.2 Types of Statistical Applications in Business 1.5 Types of Data	1	3
2.1 Describing Qualitative Data 2.2 Graphical Methods for describing quantitative data 2.4 Numerical Methods of Central Tendency 2.5 Numerical Methods of Variability 2.6 Interpreting the Standard Deviation 2.7 Numerical Methods of Relative Standing 2.8 Methods for Detecting Outlier	5	15
3.1 Events, Sample Spaces And Probability 3.2 Unions and Intersections 3.3 Complementary Events 3.4 The Additive Rule and Mutually Exclusive Events 3.5 Conditional Probability 3.6 The Multiplicative Rule and Independent Events	3	9

4.1 Two Types of Random Variables 4.2 Probability Distribution for Discrete Random Variables 4.3 The Binomial Theorem 4.4 The Poisson Distribution 4.7 The Normal Distribution 4.11 The Sampling Distribution of $\bar{x}$ and the Central Limit theorem	3	9
5.1 Identifying the Target Parameter 5.2 Large-Sample Confidence Interval for a Population Mean 5.3 Small-Sample Confidence Interval for a Population Mean 5.4 Large-Sample Confidence Interval for a Population Proportion 5.5 Determining the Sample Size	3	9

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	45	-		-	-	45
Credit	3	-	-	-	-	3

3. Additional private study/learning hours expected for students per week. 4 hours

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Course Learning Outcomes, Assessment Methods, and Teaching Strategy work together and are aligned. They are joined together as one, coherent, unity that collectively articulate a consistent agreement between student learning, assessment, and teaching.

The ***National Qualification Framework*** provides five learning domains. Course learning outcomes are required. Normally a course has should not exceed eight learning outcomes which align with one or more of the five learning domains. Some courses have one or more program learning outcomes integrated into the course learning outcomes to demonstrate program learning outcome alignment. The program learning outcome matrix map identifies which program learning outcomes are incorporated into specific courses.

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. **Fourth**, if any program learning outcomes are included in the course learning outcomes, place the @ symbol next to it.

Every course is not required to include learning outcomes from each domain.

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge** On successful completion of the program students will be able to		
1.1	Describe types of data, qualitative and quantitative. List, define and analyze graphical methods and numerical methods of describing data.	Formal Lecture Group discussion Use of websites Use of excel /spss through out	HW assignment Quizzes Mid-term and final exams Class participation
1.2	Calculate Probabilities, describe additive and multiplicative rules, define conditional probabilities, state dependent and independent events	Lecture Group discussion Use of websites	HW assignment Quizzes Exams Class participation
1.3	Apply Probability distribution of discrete random variable. Use Normal, Binomial and Poisson distributions Describe and apply the sampling distribution and central limit theorem Calculate large and small confidence intervals for mean and proportions	Lecture Group discussion Use of websites	HW assignment Quizzes Exams Class participation Oral presentations
2.0	**Cognitive Skills** On successful completion of the program students will be able to		
2.1	Explain, apply and interpret standard deviation. Apply various distributions	Formal Lecture Group discussion	HW assignment Quizzes Exams Class participation
2.2	Identify target parameters and apply appropriate Z and t tests and confidence intervals	Formal Lecture Group discussion	HW assignment Quizzes Exams Class participation
3.0	**Interpersonal Skills & Responsibility** On successful completion of the program students will be able to		
3.1	Demonstrate logical skills in Statistics as well as the ability to show the skills needed to solve, justify successfully the statistical problems associated with the main subjects of this course.	Formal Lecture Group discussion Use of IT	HW assignment Quizzes Exams Class participation
3.2	Demonstrate their ability to effective working individually and in groups and exercise professional work ethics.	Activity	projects
4.0	**Communication, Information Technology, Numerical** On successful completion of the program students will be able to		
4.1	Demonstrate their effective working in groups and exercise leadership when required	Use of IT Group discussion Use of websites	Written exams Project Presentations
4.2	Show responsible and professional relationship in their work environment	Use of IT Group discussion	Written exams Project Presentations
5.0	**Psychomotor**		
5.1	NA	NA	NA

5.2			

Suggested Guidelines for Learning Outcome Verb, Assessment, and Teaching

NQF Learning Domains	Suggested Verbs
Knowledge	list, name, record, define, label, outline, state, describe, recall, memorize, reproduce, recognize, record, tell, write
Cognitive Skills	estimate, explain, summarize, write, compare, contrast, diagram, subdivide, differentiate, criticize, calculate, analyze, compose, develop, create, prepare, reconstruct, reorganize, summarize, explain, predict, justify, rate, evaluate, plan, design, measure, judge, justify, interpret, appraise
Interpersonal Skills & Responsibility	demonstrate, judge, choose, illustrate, modify, show, use, appraise, evaluate, justify, analyze, question, and write
Communication, Information Technology, Numerical	demonstrate, calculate, illustrate, interpret, research, question, operate, appraise, evaluate, assess, and criticize
Psychomotor	demonstrate, show, illustrate, perform, dramatize, employ, manipulate, operate, prepare, produce, draw, diagram, examine, construct, assemble, experiment, and reconstruct

Suggested ***verbs not to use*** when writing measurable and assessable learning outcomes are as follows:

Consider	Maximize	Continue	Review	Ensure	Enlarge	Understand
Maintain	Reflect	Examine	Strengthen	Explore	Encourage	Deepen

Some of these verbs can be used if tied to specific actions or quantification.

Suggested assessment methods and teaching strategies are:

According to research and best practices, multiple and continuous assessment methods are required to verify student learning. Current trends incorporate a wide range of rubric assessment tools; including web-based student performance systems that apply rubrics, benchmarks, KPIs, and analysis. Rubrics are especially helpful for qualitative evaluation. Differentiated assessment strategies include: exams, portfolios, long and short essays, log books, analytical reports, individual and group presentations, posters, journals, case studies, lab manuals, video analysis, group reports, lab reports, debates, speeches, learning logs, peer evaluations, self-evaluations, videos, graphs, dramatic performances, tables, demonstrations, graphic organizers, discussion forums, interviews, learning contracts, antidotal notes, artwork, KWL charts, and concept mapping.

Differentiated teaching strategies should be selected to align with the curriculum taught, the needs of students, and the intended learning outcomes. Teaching methods include: lecture, debate, small group work, whole group and small group discussion, research activities, lab demonstrations, projects, debates, role playing, case studies, guest speakers, memorization, humor, individual presentation, brainstorming, and a wide variety of hands-on student learning activities.

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Quiz-1	4th	10%
2	Mid-Term Exam	8th	20%
3	Quiz-2	12th	10%
4	Homework assignments	3,6,8,10,12, 14	5%
5	projects	12th	5%
6	participation	All weeks	10%
7	Final Exam	16th	40%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week) In addition to class lectures time, the faculty reserve an hour weekly for the academic advising, and around 5 to 6 office hours weekly for student consultation with respect to her/his academics.

E. Learning Resources

1. List Required Textbooks McClave, Statistics for Business and Economics, 11th ed. Prentice- Hall 2008.
3. List Essential References Materials (Journals, Reports, etc.) 1) Introduction To Probability and Statistics, By William Mendenhall, Robert J. Beaver, Barbara M. Beaver, 12th ed., Published by Thomson Brooks/Cole." 2) Business Statistics: A Decision Making Approach, by David F. Groebner, Published 2007 Pearson/Prentice Hall. 3) Business Statistics in Practice, by Bruce L Bowerman, Richard T O'Connell, J B Orris, Published by McGraw-Hill 2007.
3. List Recommended Textbooks and Reference Material (Journals, Reports, etc) Latest Statistical Data Bases on the websites.
4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.) http://LMS.alyamamah.edu.sa/
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software. EXCEL, SPSS programs

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture rooms

2. Computing resources (AV, data show, Smart Board, software, etc.) Excel, SPSS, data show
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) NA

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching At the end of the course/during the course, students receive a feedback forms that covers all aspects relating to their learning experience. These forms will then be collected and analyzed by the Academic Advising and Counseling Department. Next, the Academic Advising and Counseling Department will conduct a meeting with the concerned faculty to discuss the students' feedback outcomes.
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor Peer review visits are normally conducted among faculties wherever possible during academic year. During the lecture time Chair (Head)/ Dean of the department visits the classroom. At the end of each visit, faculties are usually set together to discuss related issues.
3 Processes for Improvement of Teaching • Educational philosophy at YU is based on continuous development and accordingly pedagogical methodologies are reviewed, discussed, developed and best teaching practices are adopted as per the requirements of modern education. • Feedbacks from students using different types of survey are shown and discussed with faculty members to improve the teaching. • Specialized workshops and seminars are conducted throughout academic year to address specific teaching strategies and improvements.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) • Samples of students' assignments and exams are collected every semester and reviewed from time to time as per MOHE standards. • Peer review and discussion with course coordinator. There should be a strong liaison with teacher from some external university/institute in order to exchange ideas related to marking/ evaluating quizzes and assignments.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. Feedback mechanisms and evaluations are discussed in meetings as per instructions of VP Academic Affairs Office and the entire process is planned accordingly, also keeping in view developments suggested by Quality Centre and QAC.

Faculty or Teaching Staff: ___Ms. Shameem Tahseen

Signature: _____ Date Report Completed: 3rd November 2013

Received by: _____ Dean/Department Head

Signature: _____ Date: _____