

Course Syllabi

Course Title and Code	STAT100 - Statistics
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➤ **Course Identification and General Information:**

Department	Unit of Science	Course Level	Level 1
Contact Hours	1 theory classes per week of 120 minutes 1 practical per week of 60 minutes	Credit Hours	3 (2+1)
Web Address	http://www.desatqu.org/		

➤ **Course Instructor/Coordinator's Name:** **Dr. A. S. Saad**

➤ **Textbook Title, Author, and Year:**

- [Introductory Statistics, 8/E edition, Prem S. Mann, Wiely, 2013.](#)

➤ **Other Supplemental Materials:**

- [Elementary Statistics, 8/E, Allan Bluman, 2011, McGraw-Hill.](#)
- [Probability and Statistics for Engineering and Sciences, 8/E, Jay L. Devore, 2011.](#)

➤ **Specific Course Information:**

- **Catalog Description:** Organizing and Graphing data, Measures of Central Tendency for Ungrouped and grouped data, Measures of Dispersion for Ungrouped Data, Probability: Experiment, Outcome and Sample Space, Random variables, Probability Distribution of Discrete Random Variable, Continuous Probability Distribution and Normal Probability Distribution, Continuous Probability Distribution and Normal Probability Distribution.
- **Pre-requisites:** None.
- **Co-Requisites:** None.
- **Required, Elective, or Selected Elective:** Required.

➤ **Specific Goals for the Course:** Summary of the main learning outcomes for enrolled students.

- The objective of the course is to prepare students for freshman statistics courses taught in English by emphasizing on basic concepts of statistics.
- The students are expected to comprehend the material of this course to improve their computational skills in basic statistics.
- They are also expected to demonstrate their writing ability in Mathematics and statistics with logical steps.
- The medium of instruction is strictly English from the first day of teaching.

➤ **Program Outcomes Addressed by the Course:**

This course provides the following outcomes with the following relationship:

Preparatory Year Program Outcome	Relationship to Course
1. The course contributes to the development of student skills in English writing, reading and conversation.	High
2. The course contributes to the development of student skills in computer and its application in learning process	Medium
3. The course helps to develop the skill of the students in the learning process.	High
4. The course strengthens ties education collaborative learning (peer-to-peer and other appropriate sources).	Medium
5. The course fosters the development of student skills in creative thinking, innovative and positive.	high
6. The course instills the principles and positive communication within groups (enjoy the team spirit).	Medium
7. The course contributes to the development of student skills in methods of constructive dialogue.	Medium
8. The course fosters the development of student skills in making decisions.	high
9. The course helps to develop the skill of the students in problem solving.	high
10. The course helps to develop the skill of students on constructive criticism.	Low
11. The course helps to develop the skill of students in compliance and accounting.	Medium
12. The course helps to develop the skill of students in interaction with the University environment and for undergraduate study.	High
13. The course helps to develop the skill of students in interaction with the environment and the needs and attitudes of the community and science.	High
14. The course helps to develop the skill of students on effective interaction on student activities.	Medium
15. The course helps to develop student skills in the effective interaction in volunteer work.	Low
16. The course helps to develop student skills in effective leadership.	Medium
17. The course helps to develop student skills in linking information to realistic applications.	High
18. The course helps to develop the skill of students on work ethic.	Medium
19. The course helps to develop student skills in estimating functional responsibility toward national growth.	high
20. The course helps to develop student skills in assessing the scientific career path chosen.	high

➤ **Brief List of Topics to be Covered:**

- Organizing and Graphing data
- Cumulative Frequency Distributions
- Stem-and-Leaf displays
- Measures of Central Tendency for Ungrouped and grouped data
- Measures of Dispersion for Ungrouped Data
- Mean, Variance, and Standard Deviation for Grouped Data
- Probability: Experiment, Outcome and Sample Space
- Calculating Probability
- Marginal Probability, Conditional Probability and Related Probability Concepts
- Intersection of Events and the Multiplication Rule
- Union of Events and the Addition Rule
- Counting Rule, Factorials, Combinations, and Permutations
- Random variables
- Probability Distribution of Discrete Random Variable
- Mean and standard Deviation of discrete Random Variable
- Continuous Probability Distribution and Normal Probability Distribution
- Standardizing a Normal Distribution
- Simple Linear Regression and Linear Correlation Coefficient --- Hypothesis

➤ **Outcome Assessment:**

1. Direct Assessment

- Midterm Written Exam I
- Midterm Written Exam II
- Final Written Exam
- Quizzes
- Homework
- Integrative Projects
- Students' Portfolios
- Case Study
- Oral Exams
- Written Reports
- Participation in Lecture
- Illustrative Presentations
- Use of Computer Facilities by Students
- Reading of References Related to Course Topics
- Team Work
- Practice in the Lab

2. Indirect Assessment

- Pre-Course Questionnaire
- Post-Course Questionnaire
- Group Discussions
- Students' Interviews

➤ **Course Outline:**

Weeks	Contact Hours	Sections	Topics	Pages
1	3	<i>Revision</i>	<i>Revision</i>	<i>Revision</i>
2	2	Section 2.1	Organizing and Graphing Qualitative data	From: 29 to 34 Example: 2-2
	1	Section 2.2	Organizing and Graphing Quantitative data	From: 36 to 40 Examples: 2-3 and 2-4
3	2	Section 2.3	Cumulative Frequency Distributions	From: 54 to 56 Example: 2-7, and exercise 2.35
	1	Section 2.4	Stem-and-Leaf displays	From: 57 to 60 Examples: 2-8 ; 2-10
4	2	Section 3.1	Measures of Central Tendency for Ungrouped data	From: 86 to 93 Examples: 3-2; 3-4; 3-5; 3-6; 3-9.
	1	Extra Sheets	Measures of Central Tendency for grouped data	Examples: 3 (page 290), 5 (page 307), 4 (page 311)
5		-----	<i>أجازة عيد الاضحى المبارك</i>	<i>Holiday</i>
6		-----	<i>أجازة عيد الاضحى المبارك</i>	<i>Holiday</i>
7	3	Section 3.2	Measures of Dispersion for Ungrouped Data (Range, Variance and Standard Dev.)	From: 99 to 104 Examples: 3-11; 3-12; 3-13.
8	3	Section 3.3	Mean, Variance, and Standard Deviation for Grouped Data	From: 106 to 111 Examples: 3-15; 3-16; 3-17.
9	2	Section 4.1	Experiment, Outcome and Sample Space	From: 147 to 151 Examples: 4-1; 4-2; 4-4.
	1	Section 4.2	Calculating Probability	From: 152 to 154 Examples: 4-7; 4-8.
10		-----	<i>Midterm Exam</i>	<i>Midterm Exam</i>
11	3	Section 4.3	Marginal Probability, Conditional Probability and Related Probability Concepts	From: 158 to 166 Examples: 4-12; 4-13; 4-14; 4-16; 4-18.
12	2	Section 4.	Intersection of Events and the Multiplication Rule	From: 170 to 176

	1	Section 4.5	Union of Events and the Addition Rule	Examples: 4-20; 4-23; 4-25. From: 179 to 183 Examples: 4-26; 4-27; 4-29.
13	2	Section 4.6	Counting Rule, Factorials, Combinations, and Permutations	From: 187 to 193 Examples: 4-32; 4-37; 4-39; 4-40; 4-42.
	1	Section 5.1	Random variables	From: 210 to 212
14	2	Section 5.2	Probability Distribution of Discrete Random Variable	From: 212 to 215 Examples: 5-1; 5-2; 5-3.
	1	Section 5.3	Mean and standard Deviation of discrete Random Variable	From: 219 to 223 Examples: 5-5; 5-6.
15	2	Section 6.1	Continuous Probability Distribution and Normal Probability Distribution	From: 265 to 279 Examples: 6-1; 6-2; 6-3; 6-5.
	1	Section 6.2	Standardizing a Normal Distribution	From: 281 to 284 Examples: 6-6; 6-7,6-8.
16	2	Section 13.1	Simple Linear Regression	From: 592 to 599 Example: 13-1.
	1	Section 13.4	Linear Correlation Coefficient	From: 620 to 622 Examples: 13-6.
17	3	<i>Revision</i>	<i>Revision</i>	<i>Revision</i>
Total contact hours	42			

Marks Distribution

Homework	10 marks	Notes
Midterm Exam	30 marks	
Final Exam	60 marks	
Total	100 marks	