Republic of the Philippines
UNIVERSITY OF ANTIQUE
Sibalom, Antique

Course Syllabus in STAT 1 - STATISTICS

COURSE INFORMATION

Course Code:	**Stat 1**
Course Title:	**Statistics**
Course Description:	This course is an introduction to statistics and data analysis. It covers the following: reasons for doing Statistics, collection, summarization and presentation of data, and hypothesis testing.
Pre-requisite:	None
Credit:	3 units
Lecture:	3 hours/week

DETAILED COURSE OUTLINE

Program Outcomes	Performance Indicator	Intended Learning Outcomes	Course Topics	References/ Resources	Outcomes-Based Teaching and Learning Activities	Assessment of Learning Outcomes	Time Allotment
							Lec (hrs)
Exhibit comprehensive knowledge of various learning areas in the curriculum	Discuss and share insights on the subject area's learning goals, instructional procedures and content in curriculum	Get oriented with the vision, mission, goals and objectives of the university and the college, the grading system, the course requirements and safety measures.	Vision, mission, goals and objectives of the university and the college Grading system and course requirements Safety Measures	University Code Student Handbook	• Presentation of the Mission, Vision, Goals and Objectives of UA through pre-recorded video of the university • Use mentimeter in soliciting ideas about the university's VMGO	• Provide Forum Discussions on how to become one of antiques pride. • Provide online quiz (LMS based)	1
Effectively communicate orally and in writing using both the English/Filipino language;	Demonstrate effective oral and written communication using both English & Filipino language;	Demonstrate knowledge of the basic terms, concepts and procedures in statistics	**Introduction to Statistics** • Statistics as Discipline • Descriptive vs. Inferential Statistics • Population and sample • Types of Variables • Levels of Measurement	Ref.a, Ref.b, Ref.c, Ref.d, Ref.e, Ref.f, Ref.g, Ref.h Ref I, Ref j Ref k	• Provide pre-recorded video lessons then require students to post additional comments or questions using discussion forum in LMS. (Asynchronous) • Conduct 1 hour knowledge deepening session (Synchronous)	• Conduct Online quiz (LMS based – with time allotment and other restrictions when taking the assessment)	3
Work effectively and independently in multi-disciplinary and multi-cultural teams	Work effectively as a member of multi-disciplinary and multi-cultural teams	Use appropriate methods of data collection and presentation	**Collection, Organization and Presentation of Data** • Methods of data collection • Probability and non-probability sampling • Organization of data • Tabular and Graphical Data Presentation	Ref.a, Ref.b, Ref.c, Ref.d, Ref.e, Ref.f, Ref.g, Ref.h Ref I, Ref j Ref k	• Provide pre-recorded video lessons then require students to post additional comments or questions using discussion forum in LMS. (Asynchronous) • Conduct 2 hours knowledge deepening session (Synchronous)	• Gamify using kahoot to measure knowledge and understanding about the lesson then provide feedback in every questions answered.	6

Program Outcomes	Performance Indicator	Intended Learning Outcomes	Course Topics	References/ Resources	Outcomes-Based Teaching and Learning Activities	Assessment of Learning Outcomes	Time Allotment Lec (hrs)
Articulate the latest developments in their specific field of practice	Participate in continuing education and professional	Summarize data using different numerical measures	**Measures of Central Tendency and Location** • Arithmetic mean, median and mode • Quantiles (quartile, decile and percentile) **Measures of Variability** • Range • Quartile Deviation • Variance • Standard Deviation **The Normal Distribution** • The Normal Curve and Its Properties • Standard Scores • Areas under the Normal Curve and Applications	Ref.a, Ref.b, Ref.c, Ref.d, Ref.e, Ref.f, Ref.g, Ref.h Ref I, Ref j Ref k	• Provide pre-recorded video lessons • Provide questions in forum discussion and solve use peer-tutoring and peer evaluation. • Conduct 4 hours knowledge deepening session (Synchronous)	• Conduct Online quiz (LMS based – with time allotment and other restrictions when taking the assessment) • Give summative test using quiz material LMS (items and choices are shuffled, use or random selections of questions from question banks and make restriction before taking the test)	16
Midterm Examination							1
Demonstrate professional, social, and ethical responsibility, especially in practicing intellectual property rights	Articulate the contribution of one's profession to society and nation building development in specific field of practice;	Make inferences about the mean and proportion of one and two populations using sample information through hypothesis testing	**Hypothesis Testing** • Basic concepts of statistical hypothesis testing **Test of Difference** • t-test (one sample, dependent, independent samples) • One-way Analysis of Variance (ANOVA) **Chi-square Test**	Ref.a, Ref.b, Ref.c, Ref.d, Ref.e, Ref.f, Ref.g, Ref.h Ref I, Ref j Ref k	• Provide pre-recorded video (Asynchronous) • Provide finish researches and encourage group work activities to identify what statistical test were implemented. • Conduct 5 hours knowledge deepening session (Synchronous) • Use mentimeter in soliciting ideas from the students	• Conduct Online quiz (LMS based – with time allotment and other restrictions when taking the assessment) • Give assignments to measure understanding and application of the topics.	18

Program Outcomes	Performance Indicator	Intended Learning Outcomes	Course Topics	References/ Resources	Outcomes-Based Teaching and Learning Activities	Assessment of Learning Outcomes	Time Allotment Lec (hrs)
					• Demonstrate how to use SPSS and MS Excel in computing for p-value		
Work effectively and independently in multi-disciplinary and multi-cultural teams	Work effectively as a member of multi-disciplinary and multi-cultural teams	Investigate the linear relationship between two variables by measuring the strength of association and obtaining a regression equation to describe the relationship	**Correlation** • Pearson's R	Ref.a, Ref.b, Ref.c, Ref.d, Ref.e, Ref.f, Ref.g, Ref.h Ref I, Ref j Ref k	• Provide pre-recorded video (Asynchronous) • Provide computational exercises and encourage activities in dyad form. • Conduct 2 hours knowledge deepening session (Synchronous) • Use kahoot to gamify discussions • Demonstrate how to use SPSS and MS Excel in computing for p-value	• Conduct Online quiz (LMS based – with time allotment and other restrictions when taking the assessment) • Require students to survey two variables which they think have relations and let them solve for correlation coefficient. • Give summative test using quiz material LMS (items and choices are shuffled, use or random selections of questions from question banks and make restriction before taking the test)	8
Final Examination							1

Note: Learning Plan Matrix will be presented to have a guide in completing the course.

COURSE REFERENCES

Ref. a: Almeda, J.V., Capistrano, T.G., and Sarte, G. (2010). Elementary Statistics. The UP Press, Diliman, Quezon City
Ref. b: Bluman, Allan G. (2018). Elementary Statistics: A Step by Step Approach (10th edition). New York: McGraw-Hill
Ref. c: Friedman, D., Pisani, R., and Purves, R. (2007). Statistics (4th edition). WW Norton, Inc.
Ref d: Hayter, A. (2002). Probability and Statistics for Engineers and Scientists (2nd edition). CA: Duxbury
Ref e: Howell, D. (2017). Fundamental Statistics for the Behavioral Sciences (9th Ed). USA: Cengage
Ref f: Levine, Berenson & Stephan (2002). Statistics for Managers Using Microsoft Excel (3rd edition). Upper Saddle River, NJ: Prentice Hall
Ref g: Mann, P. (2010). Introductory Statistics (7th edition). Hoboken, NJ: Wiley
Ref. h: Mendenhall, Beaver & Beaver (2009). Introduction to Probability and Statistics (13th edition). Belmont, CA: Thomson/Brooke/Cole
Ref. i: Navidi, W and Monk, B. (2019). Elementary Statistics (3rd edition). New York: McGraw Hill
Ref j: Ravid, R. (2020). Practical Statistics for Educators (6th edition). New York: Rowan & Littlefield
Ref k: Walpole, Myers, Myers & Ye (2005). Probability and Statistics for Engineers and Scientists (7th edition). Singapore: Pearson Education (Asia)