University of International Business and Economics

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International Summer School

STAT 220: Introduction to Statistics

Term: May 27 – June 27, 2019
Instructor: Jingzhi Tie
Home Institution: University of Georgia
Email: jtie@uga.edu
Class Hours: Monday through Thursday, 120 minutes each day (2,400 minutes in total)
Office Hours: TBD
Discussion Session: 2 hours each week

Total Contact Hours: 64 contact hours (45 minutes each, 48 hours in total)
Credit: 4 units

Course Description: *Statistics* is the study of data and how it can be collected, organized, analyzed and interpreted to obtain insights. *Descriptive* statistics focuses on organizing and summarizing data so that it is better understood. *Inferential* statistics leverages data from a small group to arrive at conclusions about the entire population of which the small group is a part. Statistics is part of everyday life. One of the most sought-after job areas these days is business analytics, which refers to the application of statistics to obtain important insights from data available to organizations.

Course Goals: We will first introduce data and statistics, data presentations, measures of centrality and variation, discrete and continuous probability, hypothesis testing for populations and parameters, Chi-square tests, analysis of variance.

Required Textbook:
Dorit Nevo, Making sense of data through statistics- an introduction, second edition,
ISBN: 978-0-09857955-8-0, Legerity Digital Press, LLC

Grading Policy: Grading will be determined by a combination of class attendance and participation, and the results of your exams. Attendance and Participation 10%, Midterm Exams 40%. Final Exam 50%.

Grading Scale:
Assignments and examinations will be graded according to the following grade scale:

A	90-100	**C+**	72-74
A-	85-89	**C**	68-71
B+	82-84	**C-**	64-67

B	78-81	**D**	60-63
B-	75-77	**F**	below 60

Class Rules:
Students are expected to come to lecture having read the material assigned for the day, and prepared to engage in active discussion about those ideas.

Attendance Policy:
Summer school is very intense and to be successful, students need to attend every class. Occasionally, due to illness or other unavoidable circumstance, a student may need to miss a class. UIBE policy requires a medical certificate to be excused. Any unexcused absence may affect the student's grade. Moreover, UIBE policy is that a student who has more than 1/3 (6 times) of the class in unexcused absences will fail the course.

Course Schedule:
Week One:
Monday: Variables and data, populations and samples,
Tuesday: data collections, from statistics to analytics
Wednesday: Frequency tables, Column Chart
Thursday: Relative frequency, comparing nominal data

Week Two:
Monday: Measures of centrality, Measures of variance
Tuesday: Percentiles, Probability
Wednesday: Relationships between events, Bayes' theorem
Thursday: Review of first four chapter and first exam

Week Three:
Monday: Random Variables and probability distributions, Binomial distribution
Tuesday: Poisson Distribution, Continuous probability distributions
Wednesday: working with normal distribution, Hypothesis testing
Thursday: Sampling distributions of the mean, logic of hypothesis testing

Week Four:
Monday: t-distribution, Confidence intervals
Tuesday: Test of single populations and a single population variance
Wednesday: Test of two populations and two populations' variance
Thursday: Tests of two populations' means, Bringing it all together

Week Five:
Monday: Review hypothesis testing and the second exam.
Tuesday: goodness of fit test, test of independence
Wednesday: analysis of variances, one way and two-way ANOVA.
Thursday: Final Exam.