Arts and Sciences Division

Statistical Methods I Syllabus

Any changes to the syllabus will be posted in the College's Learning Management System prior to implementation of change.

Course Information

- **Course**: MAT 152-YMN3
- **Course Hours**: Contact Hours 5; Credit Hours 4
- **Term**: Summer 2019
- **Meeting Times**:
- **Prerequisites**: DMA 050 and DRE 098 or appropriate placement
- **Co-requisites**: MAT 001S may be required
- **Course Description** *per catalog*: This course provides a project-based approach to introductory statistics with an emphasis on using real-world data and statistical literacy. Topics include descriptive statistics, correlation and regression, basic probability, discrete and continuous probability distributions, confidence intervals and hypothesis testing. Upon completion, students should be able to use appropriate technology to describe important characteristics of a data set, draw inferences about a population from sample data, and interpret and communicate results. This course has been approved for transfer under the Comprehensive Articulation Agreement as a general education course in Mathematics (Quantitative).
- **Text:** Triola, <u>Elementary Statistics Using Excel</u>, 6th Edition, ISBN: 0134763785 9780134763781 05/11/2017 AS
- **Supplies/Materials**: A graphing calculator is required. Students may only use calculators that have been approved by their instructors for assessments. The TI-83/84 series is pre-approved for all courses. Calculators with a CAS system are not approved. Instructors may approve the use of the Desmos Test Mode App for assessments. If this App is approved, students must demonstrate that it has been enabled before receiving any assessment. Upon completion of the assessment, instructors must witness the App being disabled in order to verify the time spent using the App. Any time discrepancies will result in a zero on the assessment, and the privilege to use the Desmos Test Mode App will be revoked for the remainder of the semester.
- **Access Code**: *Online homework is required for all students* Students have the option of a textbook with the access code or a standalone access course for the course. Both options come with an e-book.
- **Course ID:** illenye12803

Instructor Information

- **Instructor Name**: Kory Illenye
- **Email Address: korydillenye@abtech.edu**

Learning Outcomes/Objectives

Upon successful completion of the course, the student will be able to:

- Organize, display, calculate, and interpret descriptive statistics

- Apply basic rules of probability

- Identify and apply appropriate probability distributions

- Perform regression analysis

- Analyze sample data to draw inferences about a population parameter

- Communicate results through a variety of media

*This course, and assignments therein, may be used to assess General Education Core Competencies or Program Student Learning Outcomes.

Evaluation Criteria

Table 1 Course Grading Breakdown

Grade Break Down	Percentage
Homework	15%
Tests	45%
Labs/Quizzes	20%
Final Project	20%
Total:	100%

Final Assessment or Exam: Each instructor will schedule a comprehensive final course assessment at some point during the last five days of the semester or the last two days of the class. The assessment may consist of one or multiple components or methods. The course schedule will indicate the date(s) and method(s) of evaluation. If the final evaluation is given prior to the last day of class, the schedule will reflect the class activities to take place after the final evaluation. Students are required to take their final examinations at the time(s) and place(s) scheduled. Conflicts may be resolved by arrangement with the faculty member. Three assessments scheduled for the same day is considered a conflict.

Grading System

Grade Letter	Associated Percentages
A	90-100
B	80-89
C	70-79
D	60-69
F	Below 60

Participation Requirements

It is mandatory that the student attend each course at least once during the first 10% of the course, or in the case of online courses, a graded activity must be submitted during the first 10% of the course. Each online course syllabus must identify the activity to be completed prior to the 10% point of the course and the date by which the activity must be completed. For hybrid courses, the student must attend the classroom portion of the course or complete an online graded activity prior to the 10% point. Failure to attend or complete the activity prior to the 10% point will result in the student being dropped from the course. The student will not be allowed to continue in the course or receive a refund.

Regular and punctual class participation is required of all students and essential for success, which is dependent upon active involvement in all instructional activities. To receive a passing grade, students must participate in 80% of the contact hours of the course. Active participation, regardless of course format (seated, online, hybrid), includes submission of completed assignments by the posted due dates and timely completion (as specified by the instructor) of any other course requirements: tests and exercises, discussion board entries and other group work, lab participation, and any other activities assigned in the course syllabus, discussed in class, or described in online instructional materials as contributing to the final grade.. If a student does not meet the requirement of 80% active participation, the student may be assigned an F grade for the course.

College Policies and Procedures

College policies and procedures are located on A-B Tech's Policies website at the following link: Policies and Procedures.

Information on Student Rights, Responsibilities, and Due Process (including Code of Classroom Conduct and Code of Student Conduct) are located on A-B's Tech website at the following link: current catalog.

Mathematics Department Policies and Expectations

Email:
A-B Tech student email is to be used for official school business. Students are held responsible for any information emailed. Emails should adhere to professional standards. This is the best way to communicate with your instructor. Expect a response **no later** than 48 hours from the time the email was sent. Any email that is not written in a professional tone will **not get a reply**, but returned to the student. This will give the student the opportunity to rewrite the email and get a response

Grades

Final grades for this course will be calculated and posted in the Moodle gradebook. Assessment grades will be posted in Moodle within a week of their due date. Grades for more complex projects or labs may take longer. If this occurs, students can contact their instructor for more details. No additional assignments or make-up work will be accepted after the final course grade has been posted.

Expectations:

You will come to class prepared. This means you need to read through sections and examples before class. You need to have any assignments due ready at the beginning of class. You are expected to arrive on time and check your A-B Tech student email regularly. Be attentive during class by taking good notes, asking questions, and not being distracted by technology.

Assessments:

Any assessment submitted for grading must by created by the student for the current course. Submitting *any work* from a previous course will result in an automatic grade of zero.

Course Requirements and Expectations

Census Activity:

Make-Up Policy: There will be no make-ups on missed assignments. Life does often through curve balls at us, with that said the instructor has the right to provide exemptions to this policy on a case by case basis.

Important Dates:

First Day of Class: May 30th

Last date to withdraw (W): Jul 12th

Holidays/breaks:

July 4th, 5th

Last Day of Class: July 26th

Activity Days:

Course Content:

I.   **Module One**

        A.   Statistical and Critical Thinking
        B.   Types of Data
        C.   Collecting Sample Data
        D.   Introduction to Excel
        E.   Frequency Distribution
        F.   Histograms
        G.   Statistical Graphs
        H.   Scatter Plots and Correlation
        I.   Measures of Center
        J.   Measures of Variation
        K.   Measures of Relative Standing and Boxplots

II.   Module Two

        A. Basics of Probability
        B. **Addition and Multiplication Rules**
        C. **Complements, Conditional Probability**
        D. **Counti**ng
        E. Probabilities Through Simulations
        F. Binomial Probability Distributions
        G. Poisson Distribution

III.   Module Three

        A. The Standard Normal Distribution
        B. Real Applications of the Normal Distribution
        C. Sampling Distributions and Estimators
        D. The Central Limit Theorem
        E. Assessing Normality
        F. Estimating a Population Proportion
        G. Estimating a Population Mean
        H. Estimating a Population Variance and Standard Deviation

IV.   Module Four

        A. Basics of Hypothesis Testing
        B. Testing a Claim About a Proportion
        C. Testing a Claim About a Mean
        D. Testing a Claim About a Variance or Standard Deviation
        E. Correlation
        F. Regression

V.   Module Five

        A. Contingency Tables
        B. Control Charts for Data, Mean and Variation
        C. Projects
        D. Ethnics In Statistics

Course Schedule

Date	Preperations required by student	Assessment
3-Jun	Chapter 1,2.1	Homework, Quiz
5-Jun	2.2-2.3, 3.1, Lab	Homework, Quiz
10-Jun	3.2-3.3	Homework, Quiz
12-Jun	Test (Chapters 1-3)	Labs Due
17-Jun	4.1-4.2, Lab	Homework, Quiz
19-Jun	4.3-4.4, Lab	Homework, Quiz
24-Jun	5.1-5.2, Lab	Homework, Quiz
26-Jun	TEST (4-5)	Labs Due
1-Jul	6.1-6.3	Homework, Quiz
3-Jul	6.4, 7.1	Homework, Quiz
8-Jul	7.2-7.3	Homework, Quiz
10-Jul	TEST (6-7), 8.1	Labs Due
15-Jul	8.2-8.3	Homework, Quiz
17-Jul	10.1-10.2, 14	Homework, Quiz
22-Jul	TEST (8-10), Projects	Projects
24-Jul	Projects	Projects Due