Course Syllabus
Math 1150
Spring 2022: Introduction to CCP Introductory Statistics
at Hopewell-Loudon High School
Department of Mathematics and Statistics
Bowling Green State University

Instructor: Mrs. Brenda Burns

Room: 156
Phone: (419) 937-2804 Ext. 1036
Email : burnbre@bgsu.edu or bburns@hlschool.net
Office hours: M-F: 2:15 – 3:00 or by appointment before and after school.

Required Text: *Elementary Statistics-A step by step approach* by Allan G. Bluman

Calculator: TI-83 Plus or TI-84 Plus is recommended.

Prerequisites: Two years of high school algebra, one year of geometry and a satisfactory placement exam score.

Course Description: The main objective of Math 1150 is to give the non-mathematical student an elementary introduction to the practice of statistics. This course will give insight into how a statistician gathers, summarizes, and draws conclusions form data. We are surrounded everyday by numerical information and graphical material. At the end of the course, the student should be a critical consumer of this information.

Homework: All homework will be collected daily. Some assignments will be graded using completion points, while others will be graded for accuracy. When assignments are graded for accuracy, only a few specific problems will be graded. Late homework will NOT be accepted unless there is an excused absence.

Quizzes: There will be quizzes after chapter 1, chapter 2, chapter 3, chapter 10, chapters 4&5, chapter 6, and chapters 7&8. Any material from class, the text, notes and homework is 'fair game' for tests.

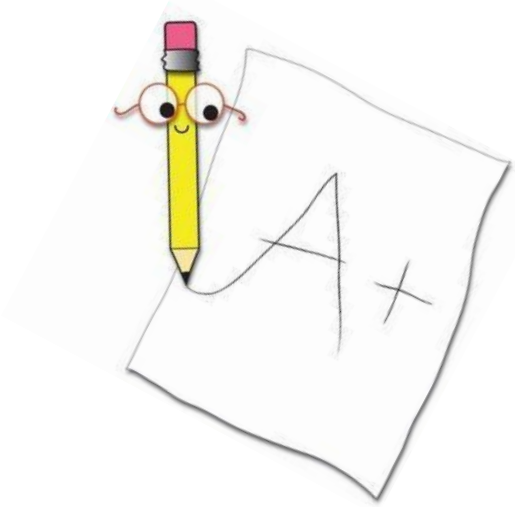
Projects: Projects will be assigned throughout the course. Information will be given in class regarding the projects.

Exams: There will be three exams, covering - (chapters 1,2 & 3), (chapters 10,4 & 5) and (chapters 6,7 & 8) respectively.

HW 10%
Quizzes 35% (5% each)
Projects 10%
Exams 45% (15% each)

Grading Scale:

A	**90%-100%**
B	**80%-89.9%**
C	**70%-79.9%**
D	**60%-69.9%**
F	**0%-59.9%**



Cell Phones: Cell phones should be silenced during class time. Ringing, vibrating, blinking, dancing, singing etc. is a distraction to the instructor and the students. There may be times in class when cell phones will be used to do a text poll. This is the only time that your cell phones should be used in class. Cell phones can be used to dial 911 in an emergency situation.

Expectations for behavior:

- **Course attendance and participation:** We have found that class ATTENDANCE and PARTICIPATION are important elements of student success. While a few students might find it possible to succeed without regular attendance, most students will find that regular attendance is necessary for success in this course. This does not mean that attendance by itself will generate success in this course - you must also learn the content of the course. All students should (1) make regular course attendance a priority, (2) devote significant time to studying for this course, and (3) complete all course assignments on time. You are expected to attend class regularly and actively participate in this course.

- **For this class to be effective, students must be active participants.** You are expected to contribute to each class session. This includes asking questions, answering others questions, and adding relevant information.

- **Treat each other with respect and dignity.** There are things that we can all learn from each other. This means allowing everyone to share their ideas and carefully consider their input. No one should ever be put down for his/her contributions.

Codes of Conduct and Academic Honesty Policy: The instructor and students in this course will adhere to the University's general Codes of conduct defined in the BGSU Student Handbook. The Code of Academic Conduct (Academic Honesty Policy) requires that students do not engage in academic dishonesty. For more information, refer to Students Discipline Programs (http://www.bgsu.edu/content/dam/BGSU/general-counsel/documents/Academic-Honesty.pdf)

Department Mediator: If a student has a problem with this course, the student should first discuss the problem with the instructor. If the problem persists or is unresolved, the student should then contact the course coordinator Dr. Xiaofen Zhang (xiaofz@bgsu.edu; (419) 372-6656). If the problem is still unresolved, the student should finally contact the department mediator Dr. Kit Chan (hchan@bgsu.edu; (419) 372-7468).

Additional Resources: Tutoring at the Learning Commons (http://www.bgsu.edu/learning-commons.html) is a free service for all BGSU students enrolled in any course at BGSU. The Learning Commons is located on the first floor of Jerome Library. In addition to tutoring the center also offers resources such as textbooks, computers, calculators, a variety of handouts, and a lending library. For the hours of operation visit the above website.

Disability Policy: In accordance with the University policy, if the student has a documented disability and requires accommodations to obtain equal access in this course, he or she should contact the instructor at the beginning of the semester and make this need known. Students with disabilities must verify their eligibility through the Office of Disability Services for Students (http://www.bgsu.edu/disability-services.html).

Course Content:

Chapter 1 – The Nature of Probability and Statistics

- 1.1 – Introduction
- 1.2 – Descriptive & Inferential Statistics
- 1.3 – Variables & Types of Data, Two Way Tables
- 1.4 – Data Collection & Sampling Techniques
  Storing Data, Causality
- 1.5 Observational & Experimental Studies
- 1.6 Uses & Misuses of Statistics

Chapter 2 – Frequency Distributions & Graphs

- 2.1 - Introduction
- 2.2 – Organizing Data
  Categorical Frequency Distribution, Grouped Frequency Distribution
- 2.3 – Histograms, Frequency Polygons & Dot Plots
- 2.4 – Pareto Charts, Time Series Graphs, Pie Graphs
  Misleading Graphs, Stem & Leaf Plots
  Interpreting Graphs

Chapter 3 – Data Description

- 3.1 - Introduction
- 3.2 – Measures of Central Tendency
  Mean, Median, Mode, Midrange, Weighted Mean, Distribution Shapes
- 3.3 – Measures of Variation
  Range, Population Variance, Standard Deviation, Coefficient of Variation, The Empirical Rule
- 3.4 – Measures of Position
  Standard scores, Percentiles, IQR, Outliers

EXAM

Chapter 10 – Correlation & Regression

- 10.1- Introduction
- 10.2- Scatter Plots
- 10.3 Correlation
  Correlation Coefficient, Significance of the Correlation Coefficient, Correlation & Causation
- 10.4 – Regression
  Line of Best Fit, Determination of the Regression Line Equation

Chapter 4 – Probability & Counting Rules

- 4.1 - Introduction
- 4.2 – Sample Spaces & Probability
  Classical Probability, Complementary Events, Empirical Probability, Law of Large Numbers, Subjective Probability, Probability & Risk Taking
- 4.3 – The Addition Rules for Probability
- 4.4 – The Multiplication Rules & Conditional Probability
- 4.5 - Counting Rules, The Fundamental Counting Rule, Factorial Noation, Permutations & Combinations

Chapter 5 – Probability Distributions

- 5.1 - Introduction
- 5.2 – Probability Distributions
- 5.3 – Mean, Variance & Expectation

EXAM

Chapter 6 – The Normal Distribution

- 6.1 - Introduction
- 6.2 – Properties of the Normal Distribution
- 6.3 – The Standard Normal Distribution
  Finding areas under the Standard Normal Distribution Curve
  The Normal Distribution Curve as a Probability Distribution Curve
- 6.4 – Applications of the Normal Distribution
- 6.5 – The Central Limit Theorem

Chapter 7 – Confidence Intervals

- 7.1 – Introduction
  Surveys & Questionnaire Design
- 7.2 – Confidence Intervals for the Mean
- 7.4 – Confidence Intervals & Sample Size for Proportions

Chapter 8 – Hypothesis Testing

- 8.1 - Introduction
- 8.2 – Steps in Hypothesis Testing
- 8.3 – z Test for a Mean
- 8.4 – t Test for a Mean
- 8.5 – z Test for a proportion

EXAM

Hopewell-Loudon Classroom Rules

Quizzes - Quizzes will be posted on the board in advance. It is the responsibility of the student to check to see when a quiz is scheduled.

Planners – Passes will be written in planners up to three times each quarter. Once a student has used three passes they will not be able to leave the room until the next quarter.

Absences – Students are responsible for all work that is missed. If a student is absent then it their responsibility to make arrangements to take any tests and quizzes they missed. **Homework, projects, quizzes and exams can only be made up if the absence is an excused absence.**

Classroom supplies – Students are responsible for bringing their notebook, binder, pencils and calculator to class every day. Supplies will not be loaned out from the teacher.

Food and beverages –Students shouldn't bring any food or beverages to class.

Students and parents are reminded that this is a college level class and will move at a quick pace. Students will need to be in attendance daily and complete work as assigned. Students and parents can access progress book to see the current grade for the class. Students are reminded they must obtain a grade of "C" in the class in order to receive credit from BGSU. A student is financially responsible for the course if he/she earns a failing grade. The grade a student receives from BGSU will be the same grade shown on the Hopewell-Loudon transcript for the course.

I have read the rules and policies for the BGSU Statistics class and understand each of them clearly. I understand the consequences of the rules and will do my best to follow them.

_____ _____

Student Signature Date

_____ _____

Parent Signature Date

Parent email address _____