HAGERSTOWN COMMUNITY COLLEGE
MASTER COURSE SYLLABUS

COURSE: MAT 109 Introduction to Statistics, 3 credits

INSTRUCTORS: R. Campbell, T. Crawford, J. Mason, A. Myers

SEMESTER/YEAR: Spring 2018

COURSE DESCRIPTION:
An introductory study of modern statistical analysis employing real world data sets from business, education, social and natural sciences. Concepts and applications in the areas of descriptive statistics, basic probability, probability distributions (Binomial, Poisson, Normal, Student-t, Chi-Square, and F), confidence interval estimation, one and two sample hypothesis testing, linear correlation and regression, goodness-of-fit, and ANOVA are covered. In addition to class time, students are expected to use Learning Support Center resources for the completion of online homework and tutorial programs. Total of 45 contact hours.

Prerequisite: MAT 100 or appropriate score on placement test or consent of math department.

REQUIRED MATERIALS: Sullivan/Woodbury, Interactive Statistics MyStatLab Access Code
ISBN-9780321782595

STUDENT LEARNING OUTCOMES:
General Education: Upon successful completion of this course, students will have demonstrated the capacity to effectively…
G1 Apply mathematical methods involving arithmetic, algebra, geometry, and graphs to solve problems.
G2 Represent mathematical information and communicate mathematical reasoning symbolically and verbally.
G3 Interpret and analyze numerical data, mathematical concepts, and identify patterns to formulate and
    validate reasoning.

Course: Upon successful completion of this course, students will have demonstrated Statistical Literacy (SL) and Statistical Reasoning (SR).
SL **-** Statistical literacy involves understanding and using the basic language and tools of statistics: knowing what statistical terms mean, understanding the use of statistical symbols, and recognizing and being able to interpret representations of data.
SR - Statistical reasoning is the way people reason with statistical ideas and make sense of statistical information. Statistical reasoning may involve connecting one concept to another (e.g., center and spread) or may combine ideas about data and chance. Reasoning means understanding and being able to explain statistical processes, and being able to fully interpret statistical results.

These skills/abilities will be applied to the follow course concepts generating 26 distinct course outcomes: SL1, SR1, SL2, SR2, ..., SR13, ST13.

1 – Data Collection
2 – Summarizing Data Graphically
3 – Summarizing Data Numerically
4 – Regression
5 – Probability
6 – Discrete Distributions
7 – Normal Distributions
8 – Sampling Distributions
9 – Parameter Estimation
10 – One Sample Inference
11 – Two Sample Inference
12 – Chi-Square Tests
13 – ANOVA

CREDIT HOUR TO CLOCK HOUR CALCULATION:

To earn one academic credit at HCC, students are required to complete a minimum of 37.5 clock hours (45 fifty-minute "academic" hours) of coursework per semester. Those hours of coursework may be completed through a combination of hours within the classroom and hours outside the classroom. Certain courses may require more than the 37.5 minimum hours of coursework per credit.

Credit Hour to Clock Hour Calculation:

Direct Faculty Instruction: 1 hour/week/credit for 15 weeks; 50 min = 1 classroom hour
(50 min x 3 credits x 15 weeks) = 2250 minutes = 37.5 hours
Student Work Outside the Classroom: 2 hours/week/credit for 15 weeks
(100 min x 3 credits x 15 weeks) = 4500 minutes = 75 hours

LECTURE SECTIONS	Direct Faculty Instruction (In Class) 37.5 Hrs. Required	Student Work (Out of Class) 75 Hrs. Expected
Advanced Preparation		30 Hours
Class/Group Work	37.5 Hours	
Formative Assessment/Homework		15 Hours
Practice Exercises/Quizzes		22 Hours
Mid-Term		4 Hours
Final Exam		4 Hours

HYBRID SECTIONS	Direct Faculty Instruction (In Class) 18.75 Hrs. Required	Student Work (Out of Class) 93.75 Hrs. Expected
Advanced Preparation		48.75 Hours
Class/Group Work	18.75 Hours	
Formative Assessment/Homework		15 Hours
Practice Exercises/Quizzes		22 Hours
Mid-Term		4 Hours
Final Exam		4 Hours

ONLINE SECTIONS	Direct Faculty Instruction (In Class) 0 Hrs. Required	Student Work (Out of Class) 112.5 Hrs. Expected
Advanced Preparation		67.5 Hours
Formative Assessment/Homework		15 Hours
Practice Exercises/Quizzes		22 Hours
Mid-Term		4 Hours
Final Exam		4 Hours

A NOTE ON TESTING:

All testing exam will be administered in a proctored setting, either in the HCC Academic Testing Center (or an approved accredited testing facility) or by the instructor.

STUDENTS WITH DISABILITIES:

Students may receive reasonable accommodations if they have a diagnosed disability and present appropriate documentation. Students seeking accommodations are required to contact the Disability Support Services (DSS) office as early as possible. Students may contact a DSS staff member for an appointment at dss@hagerstowncc.edu or at 240-500-2530

THE INSTRUCTOR RESERVES THE RIGHT TO MODIFY THE COURSE CONTENT AND/OR THE EVALUATION (TESTING) PROCEDURES AS S/HE DEEMS NECESSARY.