

| Date | Section | Topic |
|---------|-----------------|---|
| Jan 17 | 1-1,1.2,2.1-2.2 | The Nature of Statistics, Simple Random Sample; variables |
| 22 | 2.2-2.3 | Organizing Data |
| 24 | 2.4-2.5,3.1 | Distribution Shapes, Central Tendencies |
| 29 | 3.2,3.4 | Variation, 5 Number Sum, Boxplots |
| 31 | 3.5,4.1-4.2 | Populations; Probability, Events |
| Feb 5 | 4.3,6.1-6.2 | Rules of Probability, Normal Distribution, Standard Normal Curve |
| 7 | 6.3-6.4 | Normally Distributed Variables, Normal Probability Plots |
| 12 | 7.1-7.3 | Sampling Error, Mean, distribution of sample mean |
| 14 | 8.1-8.2 | Estimating Population Mean, Confidence Intervals for 1 Population Mean |
| 19 | 8.2-8.3 | Margin of Error, Sample Size |
| 21 | *** 9.1-9.2 | *** Test # 1 (Ch. 1-7) *** Hypothesis Testing |
| 26 | 9.3-9.4 | Critical Value Approach, P-value Approach, Hyp. Test – 1 Mean |
| 28 | 9.5, 10.1 | Hypothesis Test 1 Population Mean; Sampling Distrib Diff 2 Sample Means |
| Mar 5 | 10.2-10.3 | Inferences 2 Population Means Independent Samples |
| 7 | 10.4-10.5 | Mann-Whitney Test, Inferences Paired Samples |
| 19 | 10.6-10.7,12.1 | Paired Wilcoxon, CI Population Proportion |
| 21 | 12.2-12.3 | Inferences 1 Population Proportion, 2 Population Proportions |
| ###W 26 | 13.1-13.2 | Chi-squared Distribution, Goodness-of-Fit |
| 28 | 13.3, 13.4 | Association, Independence |
| Apr 2 | 13.4,13.5 | Homogeneity |
| 4 | ***14.1-14.2 | *** Test # 2 (Ch. 8-12) ***, Linear Regression, 1 Independent Variable |
| 9 | 14.3-14.4 | Coefficient of Determination, Linear Correlation |
| 11 | 15.1-15.2 | Regression Model, Inferences for Slope of Population Regression Line |
| 16 | 15.3-15.4 | Estimation, Prediction, Inferences in Correlation |
| 18 | 15.5-16.2 | Test for Normality, F-distribution, One Way ANOVA Logic |
| 23 | 16.3 | ANOVA Procedure |
| 25 | 16.5 | Kruskal-Wallis Test |
| 30 | Ch16 | ANOVA, Kruskal-Wallis |
| May 2 | | Last day of classes: Overview of FE, Which Procedure? |
| *7* | | FINAL EXAM (2 hours) [May 9 if school is closed on May 7] |

FINAL GRADE = 2/3 Class Ave. + 1/3 Final Exam

Class Ave: Mean of Tests and Quizzes, Quiz Ave= 1 test.

Tests: Full period (50 minutes), **NO MAKEUPS**. If a test is not taken, the grade for that test is 0.

One test grade may be replaced with a 4 to 5 page paper (See below).

Material covered on test includes material since last exam.

Quizzes: Unannounced, **any WEDNESDAY, NO MAKEUPS** If there are 6 or more quizzes,

2 quizzes will be dropped before the average is computed; if less than 6 quizzes, 1 quiz

dropped. Covers material from previous week. If a quiz is not taken, the grade for that quiz is 0.

FINAL: Comprehensive; **Date: May 7** (Note: If WCC is closed on 5/7, then Final Exam on May 9)

PAPER: 4-5 pages, typed, double spaced. Subject should be one of the topics covered on the test

to be replaced. For a grade of C, the paper must include 1) a complete description/explanation of the topic with an example and 2) three references. Use citations of the form (author, page) for ALL content new in this course.

For a higher grade, the paper should include such additional information as scientific or social applications, historical development of technique, relationship of the topic to other topics in the course, etc.

Required only if a test is missed. An outline must be submitted prior to writing the paper. See scoring sheet.

ATTENDANCE: Absence from class will not affect final grade, except as it effects quiz and test grades.

ASSIGNMENTS: All odd problems unless otherwise noted.

W ### LAST DAY TO WITHDRAW with a W (3/26) ### | Spring Break Mar 12, 14 – no classes

MATH 140 – STATISTICS STUDENT LEARNING OUTCOMES

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| <p>STUDENT LEARNING OUTCOMES - Upon successful completion, the student will be able to</p> <p>SLO1: The student will become acquainted with the language, philosophy, and methodology of statistics.</p> <p>Objectives:</p> <ol style="list-style-type: none"> 1. Use appropriate vocabularies and terminologies to express ideas and conclusions while performing descriptive and inferential statistics 2. Solve probability and statistics problems by using correct mathematical symbols, formulas and expressions 3. Choose appropriate methods to solve problems in probability, descriptive and inferential statistics |
| <p>SLO2: The student will achieve competence in the manipulation and computation of mathematical formulae.</p> <p>Objectives:</p> <ol style="list-style-type: none"> 1. Choose appropriate formulae to solve application problems in statistics 2. Understand how a mathematical formula is derived 3. Use technology, such as TI graphing calculators to efficiently compute numerical results that involve mathematical formulae 4. Know the meaning of an approximated result from the exact result of a computation |
| <p>SLO3: The student will achieve a basic understanding of probability and its application to statistical inference.</p> <p>Objectives:</p> <ol style="list-style-type: none"> 1. Understand the meaning of probability values and know how to calculate these values 2. Understand the concept of probability distributions and sampling distributions, as well as being able to work with key distributions such as the Binomial, the Normal, the T and the X^2 Distributions |
| <p>SLO4: The student will develop competency in using statistical procedures and in reaching valid conclusions.</p> <p>Objectives:</p> <ol style="list-style-type: none"> 1. Be able to find and interpret confidence intervals for one and two population means, where the population standard deviation is known, versus when it is unknown 2. Be able to find and interpret confidence intervals for one population proportion 3. Know how to conduct hypothesis tests in regard to testing one and two population means, both when the population standard deviation is known and when it is unknown 4. Perform hypothesis tests for one population proportion 5. Perform the Goodness-of-Fit test and the Chi-Square Independence test 6. Understand how to perform linear regression with one independent variable |
| <p>SLO5: The student will develop competency in using technology to perform statistical inferences.</p> <p>Objectives:</p> <ol style="list-style-type: none"> 1. Be able to use the graphing calculator to find confidence intervals and to perform various hypothesis tests 2. Be able to use the graphing calculator to compute the probability for the Binomial, the Normal, the T and the X^2 Distributions |

Outcomes will be measured by one or more of the following: *Homeworks *Class participation
 *Quizzes (in class or take home) *Tests (in class or take home) *Projects *Final Exam

The SUNY General Education (GE) Mathematics requirement are addressed by the objectives above. Upon successful completion, students will demonstrate the ability to:

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| SUNY GE 1: Interpret and draw inferences from mathematical models such as formulas, graphs, tables and schematics | SLO 2, 3 |
| SUNY GE 2: Represent mathematical information symbolically, visually, numerically and verbally | SLO 1, 2, 3 |
| SUNY GE 3: Employ quantitative methods such as, arithmetic, algebra, geometry, or statistics to solve problems | SLO 1, 2, 3, 4 |
| SUNY GE 4: Estimate and check mathematical results for reasonableness | SLO 2, 3, 4 |
| SUNY GE 5: Recognize the limits of mathematical and statistical methods | SLO 2, 3, 4 |

Student Contributions

- Students are expected to attend every class meeting, arriving on time.
- Cell phones and/or other communication devices should be turned off for the duration of each class meeting.
- Assignments are to be completed on time.
- Students are expected to take all tests and quizzes as scheduled. There are no exemptions for any exams.
- Students should expect to spend a minimum of 2 hours per week outside of class for every hour spent in class.
- Students should comply with the [WCC Student Code of Conduct](#), including: 1) respect for all, 2) no cheating.

I understand that the final date to withdraw from this class is Monday, March 26, 2019. If I need to withdraw after that date, I will need to bring a note to Professor Battaly from the WCC Health Office, explaining the medical need to withdraw.

Date

Name