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| |  |  |  | | --- | --- | --- | | *Approved: Nov 2023* | *Effective: Fall 2024* | | | **MATERIAL TO BE COVERED** | **SECTIONS FROM TEXT** | **TIME LINE** | | **Introduction to Statistics**: Sampling, Types of Data, Design of Experiments, Bias in Studies, Graphical Summaries of Qualitative Data, Frequency Distributions and Graphs of Quantitative Data, Misleading Graphs, Descriptive Statistics  **Support material for Introduction to Statistics**: Additional support for Sampling, Types of Data, Design of Experiments, Bias in Studies, Graphical Summaries of Qualitative Data, Frequency Distributions and Graphs of Quantitative Data, Misleading Graphs, Descriptive Statistics | Chapter 1, Chapter 2, Chapter 3 | 6 Hours  Support:  4.3  Hours | | **Probability**: Basic Ideas, the Addition Rule and Rule of Complements, Conditional Probability and the Multiplication Rule  (Optional: Counting)  **Support material for Probability**: Additional support for Basic Ideas, the Addition Rule and Rule of Complements, Conditional Probability and the Multiplication Rule (Optional: Counting) | 5.2 - 5.3  Optional: 5.4 | 3 Hours  Support:  2.6  Hours | | **Discrete Probability Distributions**: Random Variables, Binomial Distribution (Optional: Poisson Distribution)  **Support material for Discrete Probability Distributions**: Additional support for Random Variables, Binomial Distribution (Optional: Poisson Distribution) | 6.1 - 6.2 Optional: 6.3 | 3 Hours  Support:  2.6  Hours | | **Normal Distribution**: Standard Normal Curve, Applications of the Normal Distribution, Sampling Distributions and the Central Limit Theorem, the Central Limit Theorem for Proportions, Normal Approximation to the Binomial Distribution, Assessing Normality  **Support material for Normal Distribution**: Additional support for Standard Normal Curve, Applications of the Normal Distribution, Sampling Distributions and the Central Limit Theorem, the Central Limit Theorem for Proportions, Normal Approximation to the Binomial Distribution, Assessing Normality | 7.1 - 7.6 | 5 Hours  Support:  2.6  Hours | | **Confidence Intervals and sample size (single parameter):** mean, proportion. (Optional: variance. Omit: sample size for variance)  **Support material for Confidence Intervals and sample size (single parameter):** Additional support for mean, proportion. (Optional: variance. Omit: sample size for variance) | 8.1 - 8.3, 8.5 Optional: 8.4 | 4 Hours  Support:  2.6  Hours | | **Hypothesis Testing (single parameter)**: mean, p-value, t-test, proportion. (Optional: standard deviation & variance, power)  **Support material for Hypothesis Testing (single parameter)**: Additional support for mean, p-value, t-test, proportion. (Optional: standard deviation & variance, power) | 9.1 - 9.4, 9.6 Optional: 9.5, 9.7 | 5.5 Hours  Support:  4.4  Hours | | Optional: Confidence Intervals for Two Parameters | Optional: 10.1 - 10.3 |  | | **Hypothesis Testing (two parameters):** comparing two means (dependent or independent samples), proportions. (Optional: variances and Multiple Testing Problem)  **Support material for Hypothesis Testing (two parameters):** Additional support for comparing two means (dependent or independent samples), proportions. (Optional: variances and Multiple Testing Problem) | 11.1 - 11.3  Optional 11.4 - 11.5 | 4 Hours  Support:  4.3  Hours | | **Correlation and Regression**: linear correlation, linear regression. (Optional: variation, multiple regression, modeling)  **Support material for Correlation and Regression**: Additional support for linear correlation, linear regression. (Optional: variation, multiple regression, modeling) | 4.1 - 4.3. 13.1 - 13.2 | 3.5 Hours  Support:  1.7  Hours | | **Applications of Chi Square**: multinomial experiments, contingency tables, goodness of fit, tests for independence and homogeneity.  **Support material for Applications of Chi Square**: Additional support for multinomial experiments, contingency tables, goodness of fit, tests for independence and homogeneity. | 12.1 - 12.2 | 2.5 Hours  Support:  1.7  Hours | | **Analysis of Variance**: one-way with equal and unequal sample sizes.  **Support Material for Analysis of Variance**: Additional support for one-way with equal and unequal sample sizes. | Section 14.1 | 2 Hours  Support:  1.7  Hours | |  |  |  | | All hours listed are face-time; i.e. breaks are administered by the instructor separately and are in addition to the hours listed. 2-unit class: hours total 30 (15 x 2 hours) 0 hours subtracted for exams3-unit class: hours total 42.5 (15 x 2 hours 50 minutes) – 4 hours for exams + 2.5 hour final hourMath 110: The outline allows for 4 hours of exams excluding the 2.5 final examMath 11: The outline does not include time for exams. Exams in the support course are at the discretion ofthe professor.Math 11 is a 15-week course. The corequisite course does not meet during finals week.Corequiste courses are Pass/No Pass grading. NOTE: The course will include an introduction to the use of computers in statistics. Instructors are encouraged, where practical, to incorporate computer demonstrations and computer assignments in their courses. Between 10% and 15% of the course grade should be based on the students' ability to appropriately use computer software, interpret the results and turn in homework. The software used in the class will be determined by the instructor. | | | |  |  |  | | Submitted by: Lancaster, Chavez, Dewilde, Troxell, Case, Guth, Kim, Chan, Pyle, Kirchgraber, Wohlgezogen | | | |

Math Department Policy can be found at: <https://www.mtsac.edu/math/departmentpolicy.html>