**Assignments MA 404 Fall 2023. Dr. Gary Guthrie** [**gguthrie@bju.edu**](mailto:gguthrie@bju.edu) **864-643-8212**

From the text: ***Freund's Mathematical Statistics*** ; Eighth Edition; Miller and Miller; Prentice Hall

All dates for tests are approximate and are subject to adaptation based on the class:

|  |  |  |
| --- | --- | --- |
| **Chapter** | **Assignment** | **Details** |
| **Aug 30**  **Proj 1 Due** | Project 1 – Descriptive stats | Use the data provided and run and present descriptive stats using Megastat, R, or SPSS. Your write up must be in Word. You must come to a conclusion on each part and overall. |
| **Sept 4 Proj 2 Due** | Project 2 – Inferential Stats | Use above data and test, using inferential stats, your conclusions. |
| **1C**  **Chapter 1**  **Sept 8** | a.  Read – Chapter and do the examples    b.  Presentations by students        Occupancy theory  \_\_\_\_\_\_\_\_\_\_\_\_\_\_        Binomial theorem     \_\_\_\_\_\_\_\_\_\_\_\_\_\_    c .  HW    d.  Test – chapter 1 | a.  Read chapter 1    b. Occupancy ex 8-10, 48-57      Binomial  ex 5,11,13-23    c.  ex 1-4, 24-47,    d.  Hour test (hand in completed HW) |
| **Chapter 2**  **Sept 25** | a.  Read – Chapter and do the examples    b.  Quiz on Probability Rules    c.  Presentations by students        Birthday Problem     \_\_\_\_\_\_\_\_\_\_\_\_\_\_        Yatzee and Rook      \_\_\_\_\_\_\_\_\_\_\_\_\_\_        Reliability                  \_\_\_\_\_\_\_\_\_\_\_\_\_\_    d.  HW        e.  Program your TI 89    f.  Test – chapter 2 | a.  Read ch 2    b.  Five minute quiz    c.       Birthday program on TI 89       Yatzee ex 63       Reliability ex 113 - 120 (odd)    d  1a, 2, 3, 7, 11,15, 18, 19, 22,23, 24,25,      30,42,43, 51,53, 55,59,61,63,65,67,71,75,      79,81,89,91,93    e.  Ex 85,86    f.  Hour test (hand in completed HW and program) |

|  |  |  |
| --- | --- | --- |
| **chapters**  **3,4,5,6**  **Oct 18**  **Oct 20** | a.  Discrete Uniform, Binomial and Bernoulli      b.  discrete Geometric, Hypergeometric and        Poisson    c.  Presentations by students        Hypergeometric     \_\_\_\_\_\_\_\_\_\_\_\_\_\_    d.  Continuous Uniform, Exponential and       Normal      e.  General case      f.  Presentations by students        Chebychev’s ineq.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_    g. Review of means variance, MGF etc  h.  Test on above | a. Read Ch 5: sections 1 - 4      HW Ch 5: 41,44,49,52,53,54    b.& c.  Read Ch 5: section 5 - 8      HW Ch 5: 57, 59, 60, 61,65,69,75,81     Program the hypergeometric      d.  Read Ch 6: sections 1,2 (Unif), 3 (Just Exponential), 5,6 (normal and normal approx. to Binomial)       HW ch 6:odd 51-87 that are unif or exp or normal    e. Read Ch 3 and 4 and do examples      HW  Ch 4: application 1-55 odd    f.  Read Ch 4: section 4    g. From Ch 4 sections 2-5  h. Hour test (hand in completed HW) |
| **8**  **Nov 3** | Sampling distribution  a.  Theory - distribution of the mean    b.  Presentations by students        CLT     \_\_\_\_\_\_\_\_\_\_\_\_\_\_    c.  Statements of other distribution (theory left for second semester)    d.  30 minute quiz on above | a. - c. Read Ch 8: sections 2,5,6 for statements of                                           theory             HW ch 8: ex 63, 66,  67, 69, 71, 73,                                    75, 79, 81        d.  Quiz (hand in completed HW) |
| **13**  **Nov 17** | a.  Read hypothesis testing       Use program hypothesis testing on TI 89    b.  Test chapter 13 | a.  Read chapter 13       HW chapter 13 exercises applications               odd – English is required  b.  Hour test (hand in completed HW) |
| **11**  **Nov 29** | a.  Read confidence intervals       Derive confidence intervals       Use program confidence intervals on TI 89    b.  Test chapter 11 | a.  Read chapter 11       HW chapter 11 exercises applications                odd – English is required    b.  Hour test (hand in completed HW) |
| **Computer**  **Dec 6** | a.  ANOVA (just statement)  b.  Regression (just statement)  c.  Contingency (just statement) | Part of your project |
| **Final** | Dec 11-14 | 150 points |

**Copyright (2023, Guthrie) as to this syllabus and all lectures**.

Students are prohibited from selling (or being paid for taking) notes during this course to or by any person or commercial form without the express written permission of the professor teaching the course.