MA 511 E191 Applied Statistics for Engineers & Scientists

Summer 2015 – WPI MW 6-7:50pm   (In classroom and online.)
PROFESSOR Michael R. Johnson
E-MAIL mrjohn@wpi.edu   **PHONE** 508-831-5134
TEXT Applied Statistics for Engineers and Scientists (1999); Petruccelli, Nandram, and Chen
ISBN 0-13-565953-1 (Electronic link to book available on myWPI.edu)

Reasonably priced new copies ($31) available through WPI bookstore.

OBJECTIVE
Develop a working knowledge of statistics. Be aware of pitfalls in data collection and understand inference made from samples about a population. Cover confidence intervals, hypothesis tests, and various regression models. Use Excel to calculate and summarize statistical results.

READINGS
An overview of Chapters 1-11 is provided:
- Chapters 1-3 introduce procedures of collection, diagnosing variations and randomness of collected data, and statistical measures and descriptions of data sets.
- Chapter 4 covers probability that is used in inferential statistics.
- Chapters 5-6 cover confidence intervals and basic hypothesis tests.
- Chapters 7-8 introduce basic calculation and interpretation of simple and multiple regression.
- Chapter 9 covers the one-way model: includes ANOVA and random complete block design.
- Chapter 11 involves distribution-free hypothesis tests.
- Chapter 10 covers the factorial model (time pending)

HOMEWORK
Two types of HW are given and posted on Blackboard.
HW Problem Sets   -   Pass these in on due dates. Random problems are graded.
                                W 5/27, W 6/3, W 6/10, W 7/1, W 7/8, W 7/15
Suggested Problems   -   Not to be passed in but they can appear on exams.

OFFICE HOURS
Salisbury Labs 405C by appointment.
I will also be accessible through adobeconnect for online office hours:
https://connect.wpi.edu/MRJ_MTW_430_530/   MTW 4:30-5:30pm or by appointment

If you have technical questions about adobeconnect contact
Joe Cotnoir (jcotnoir@wpi.edu) or WPI ATC support.

GRADING
2 Exams   35%   Test 1: W, 6/17 on campus or remotely 6-8pm
                                   Chapters 1-7
              40%   Test 2:
                           On campus on W, 7/22 or remotely 6-8pm
                                   Chapters 5-11
- *If you cannot make those dates/times listed please inform me beforehand*
- *I am flexible of conflicts provided you inform me early in the semester*

HW Problem Sets
              25%   W 5/27, W 6/3, W 6/10, W 7/1, W 7/8, W 7/15

ACADAMIC HONESTY
See school's policy: *www.wpi.edu/offices/policies/honesty/studentguide.html*
Working together is allowed except for exams or otherwise noted. When working together you must show individual thought and writing in each problem assigned. Direct copying (and allowing someone to copy directly from you) is not acceptable.

STUDENTS WITH DISABILITIES
Contact Disabilities Services (x-4908 or dso@wpi.edu) so an appropriate accommodation can be implemented. Please see me to discuss any help or accommodations needed.

ONLINE COURSE
Lectures are recorded and appear the night of class (with a lag).
Class notes are accessible through mywpi.edu.

PROCTORED EXAM POLICY
Qualified proctors must be used for exams. See Mathematics Department online exam policy posted on myWPI. Please ask me if you further questions.

REMOTE ACCESS
To access the WPI terminal applications remotely go through "Remote Desktop Connection" on your computer and connect to windows.wpi.edu.

DATA ACCESS AND SOFTWARE
Datasets from book will be available through myWPI.

Excel is the software used in class but you can use another program for assignments if you wish. Use "Analysis Toolpack" in Excel: File->Options->Add-Ins->Analysis Toolpack->Go.

CLASS DATE AND TIMES
- *Please note class meets regularly on M and W. There are 20 total 2 hour classes.*
- *There will not be a class on M, 5/25 but will be held instead on F, 5/29.*