QM213 ADL Statistics for Business & Economics I
Fall 2019 Syllabus

ALL VIA NUOODLE with section B classes in NORTH 302 MWF 09:00-09:50. *Students in section B must attend MONDAY classes in NORTH 302. Instructor will be in class MWF 09:00:03-09:49:57* & all students welcome.

Students welcome any time in Mack 423 or by Skype (mekabay) & by phone (802-479-7937)

Textbook: Kabay, M. E. (2018). *Statistics in Business, Finance, Computer Science and Information Assurance: A Layered Introduction with Excel*. Provided free as PDF version in color available online through Nuoodle and from **http://www.mekabay.com/courses/academic/norwich/qm213/index.htm**

WK	Day	Date 2019	Text Chapter & Section	TOPICS & ACTIVITIES — OPEN-BOOK NUOODLE WEEKLY REVIEW QUIZZES, HOMEWORK QUIZZES & HOMEWORK UPLOADS DUE BY @ 23:55 2 SUNDAYS AFTER START OF EACH WEEK	Quiz deadline 23:55 SUN of Std Week
1	M	26-Aug	Preface & 1.1 - 1.9	**Introduction:** About applied statistics; Why a layered introduction?; The importance of homework. Why use Excel? Long-term goals. SQ3R. **Learning Excel:** Web resources, basics; Counting and measuring; quantitative & qualitative variables.	2
1	W	28-Aug			
1	F	30-Aug			
2	M	2-Sep		LABOR DAY	3
2	W	4-Sep	1.10 - 1.21 & 2	Tables & Variables: table layouts & more about qualitative variables; quantitative data: discrete, continuous, ratio, ordinal, ranks. **Accuracy, Precision, Sources of Data, Representing Data:** significant figures & determining	
2	F	6-Sep			
3	M	9-Sep	3	**Sorting, Backups & Enhanced Tables:** sorted lists in Word & Excel; simple sorts in Excel; Advanced sorting in Excel; mistakes in sorting; making backup files. Enhancing the presentation of tables in Word; Excel table tools. Copying an Excel table into a Word document.	4
3	W	11-Sep			
3	F	13-Sep			
4	M	16-Sep	4	**Charts, Histograms, Errors in Graphing:** Horizontal bar charts; pie charts. Designing and using histograms. Misleading graphs: disparate magnitudes; truncating the ordinate; highlighting non-random sections.	5
4	W	18-Sep			
4	F	20-Sep			
5	M	23-Sep	5	**Cumulative Frequency Distributions, Area under the Curve, & Probability Basics:** relative frequencies, cumulative frequencies, ogives; classes in distributions. Frequency distribution curves; area under the curve. Basics of probability & theoretical probability distributions in Excel: uniform, Normal, chi-square, F, Student's-t.	6
5	W	25-Sep			
5	F	27-Sep			
6	M	30-Sep	6	**Descriptive Statistics:** Characterizing samples and populations: Descriptive Statistics in Excel. Location: mean, median, mode; geometric mean; time series and the moving average. Dispersion: range, quartiles, deciles, inter-quartile range, variance, standard deviation. Descriptive statistics for Normal distributions: skewness, kurtosis.	7
6	W	2-Oct			
6	F	4-Oct			
7	M	7-Oct	7.1 - 7.12	**Sampling and Statistical Inference (I):** Populations and samples, sample statistics and parameters, Greek letters for parametric statistics, random sampling from a population, selecting random values for an unbiased sample, more about probability and randomness, random number generators, probabilities in tossing coins, probabilities in statistical inference, the central limit theorem in practice, the expected value, more about the Normal distribution.	8
7	W	9-Oct			
7	F	11-Oct		MID-TERM EXAM DUE 23:55 FRI 11 OCT 2019	

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8	M	14-Oct	7.13 – 7.24	**Sampling and Statistical Inference (II):** interval estimation, population mean estimated using parametric standard deviation, estimating parametric mean using the sample standard deviation, degrees of freedom vary in statistical applications, notation for critical values, two-tailed distributions, excel confidence.t function, beware the definition of a in inverse probability functions, interval estimate for any Normally distributed statistic, population proportion based on sample proportion, conditional formatting, confidence limits for population variance and population standard deviation based on sample variability.	9
	W	16-Oct			
	F	18-Oct			
9	M	21-Oct	8.1 – 8.7	**Hypothesis Testing (I):** comparing variances, levels of significance, Type I Error, Type II Error, testing a sample variance against a parametric value, comparing means, one-way ANOVA.	10
	W	23-Oct			
	F	25-Oct			
10	M	28-Oct	8.8 – 8.14	**Hypothesis Testing (II):** ANOVA model, case study, t-tests, critical values, ANOVA single factor vs t-test, t-test without raw data, T.TEST function.	11
	W	30-Oct			
	F	1-Nov			
11	M	4-Nov	9.1 – 9.4	**Analyzing Relations Among Variables (I):** cross tabulations, filtering, charts for contingency tables.	12
	W	6-Nov			
	F	8-Nov			
12	M	11-Nov	9.5 – 9.8	**Analyzing Relations Among Variables (II):** scatterplots, computing and testing r.	13
	W	13-Nov			
	F	15-Nov			
13	M	18-Nov	9.9 – 9 .12	**Analyzing Relations Among Variables (III):** coefficient of determination, linear regression using Excel graphics, ANOVA with regression, predicted values & confidence limits.	14
	W	20-Nov			
	F	22-Nov			
	M	25-Nov		**THANKSGIVING VACATION**	
	W	27-Nov			
	F	29-Nov			
14	M	2-Dec	10	**Analyzing Frequency Data:** computing expected frequencies, chi-square goodness of fit, Excel =CHISQ.TEST function, tests of independence using chi-square.	*FINAL EXAM*
	W	4-Dec			
	F	6-Dec			

Final exam due 23:55 WED 11 DEC 2019