Schedule (Subject to adjustment – changes will be announced on mybcc.net class site – check the site often for announcements or extra credit opportunities)

Week	Topics	Homework due Tuesday	Homework due Thursday	Exams and Project
Sep 18	Review syllabus and course requirements. Watch The Joy of Statistics <u>http://www.gapminder.org/videos/the-joy-of-stats/</u> MODULE 1 Read Describing data 1.1, 1.2, 1.3, 1.4, 1.5. and 1.6 Read 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8 TI instructions for standard deviation p. 63		Resume 1.12, 1.14, 1.18, 1.24 (Classify scale as well) Solution manuals are available in the Business Study Center C207. Text data files are on mybcc.net	
Sep 24	MODULE 1 http://eagereyes.org/about Visualization of data.	2.57, 2.67, 2.83 Plot stem leaf and do mean, median, mode, variance and standard deviation. For 2.177 only use Excel to plot histogram, show mean, median and mode, up to plus and minus three standard deviation, identify outliers Worksheet A Summation	2.166, 2.175, and 2.176	Sep. 28 RAT 1 First office visit completed by end of September.
Oct 1	MODULE 2 Read Probability 3.1,3.4, 3.5, 3.6, 3.7 Read Discrete Probability Distributions 4.1, 4.2, 4.3, 4.4 Read Normal distributions 5.1, 5.2, 5.3, 5.4 TI Instructions for binomial p. 213	General Discrete 4.22, 4,36, 4.114, 4.116 For all problems, plot the entire distribution and show mean and plus and minus 3 std on graph. Team Project Selection Oct 4	Binomial 4.60, 4.61, 4.62, For 4.125 plot the entire distribution and show mean and plus and minus 3 std on curve on graph. Worksheet B Binomial/General Discrete 4.115 Calculate	Oct 5 RAT 2 Team Project Selection Oct 4
Oct 8	MODULE 2 Instructions for TI normal curve p. 253	Normal 5.38, 5.40, 5.42, 5.56, 5.60. For all problems, plot the distribution and show mean and plus and minus 3 std on curve on graph Worksheet C Normal Worksheet D Regression	4.123 Table	EXAM 1 Module 1 and 2– Oct 11, 12 (Exam will take two sessions)
Oct 15	MODULE 3 Read Central Limit - 6.1, 6.2, 6.3 Confidence Interval - 7.1, 7.2, 7.3, 7.4, 7.5	Central Limit 6.34, 6.38, 6.58, 6.64	Large 7.16, 7.18, 7.22	Second office visit completed this week
Oct 22	MODULE 3 Oct 23 Lab Location N252	Small 7.36, 7.38, 7.39 (Use Excel to do 7.39) Prop. 7.50, 7.54, 7.56 Sample size 7.70, 7.72, 7.74, 7.78.	Worksheet E Sample Means	Oct 25 RAT 3 (No class Oct. 26)

Oct 29	MODULE 4 Read One population hypothesis testing - 8.1, 8.2, 8.3, 8.4, 8.5.	Individual Project due Oct 30	Large 8.32, 8.34, 8.46 Small 8.64, 8.68. For all problems, draw curve, show mean, areas of rejection, decision rule, calculation of test statistic, and conclusion including p-value.	Nov 2 RAT 4 Individual Project due Oct 30
Nov 5	MODULE 4 and start Module 5 Read: Two populations 9.1, 9.2, 9.3, 9.4, 9.5	Prop 8.80, 8.84.8.86 Worksheet F Single Population Hypothesis For all problems, draw curve, show mean, areas of rejection, decision rule, calculation of test statistic, and conclusion including p-value.		INDIVIDUAL EXAM 2 Module 3 and 4 No 8, 9
Nov 13	MODULE 5 More than two populations 10.1, 10.2		Large sample 9.14, 9.110 Pooled Variance 9.20, 9.28, 9.134 For all problems, draw curve, show mean, areas of rejection, decision rule, calculation of test statistic, and conclusion including p-value.	Nov 16 RAT 5
Nov 19	MODULE 5 and 6 Read Multiple Regression and Chi Square 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8 12.1, 12.2, 12.3, 12.4 Lab Nov 20 Lab N252 Do Class eval at bellevuecollege.edu/classeval	Prop 9.58, 9.62, 9.66 For all problems, draw curve, show mean, areas of rejection, decision rule, calculation of test statistic, and conclusion including p-value.	Paired 9.41, 9.42, 9.46, ANOVA <u>More than two</u> <u>populations</u> 10.32, 10.34 For all problems, draw curve, show mean, areas of rejection, decision rule, calculation of test statistic, and conclusion including p-value.	
Nov 26	MODULE 5 and 6	Regression 11.102, 11.111, 11.113 May be completed on Excel. Chi Square: 13.24, 13.26, 13.28 For chi square problems, state the decision rule, show calculation of test statistic, and conclusion including p-value.	Worksheet G Two population hypothesis Worksheet H Final Regression review sheet	Draft Team Project due Nov 30 (Peer eval done)
Dec 3		Dec. 4 Final Team Project due Final Exam Review		Dec. 4 Final Team Project due Dec. 6 at 9:30 am <u>Comprehensive</u> <u>Final</u>

Course Requirements

	Weight	Your score in points
2 exams (20% each) and one comprehensive final (25%)	650	
Individual exams are two pages of notes (4 sides 8 ½ X 11) which may		
NOT include the practice exams which must be turned in with the		
exam.		
You may use a calculator. Laptops and cell phones are prohibited.		
Individual (10%) and Team Project (5%) Detailed instructions and	150	
project template on mybcc.net course site. (Instructor reserves the		
right to adjust points based on contribution.)		
Complete instructions on the Project are on mybcc.net in the		
Project file.		
Videos on how to use Excel to complete the team project are		
available at:		
Website: <u>http://ba240.groups.live.com</u>		
Login: <u>ba240student@live.com</u>		
Password: Fall2012		
No spaces "F" is capitalized.		
Once you signed in, click on documents.		
Individual Readiness Assurance Tests. Individual (5%).	50	
Individual Readiness Assurance Tests. Team (5%)	50	
Class activities including in-class worksheets, participation and	50	
attendance. Also included in personal office visits to instructor. (5%)		
Homework and worksheets. Homework must be turned in at the	50	
beginning of class on the date due. You must be in class to get credit		
for the homework. (5%)		
TOTAL	1000	

Math 138 is required for this course. BA 240 transfers as STATS 311 at UW and is a rigorous 300 level course that requires your full participation in class and on your own time.

Time and place Morning Section: Time: T TH 9:30 to 11:20 F 10:30 to 11:20 am Room C208 Telephone: 425-564-4063 Contact Email: <u>llum@bellevuecollege.edu</u> BE SURE TO PUT BA 240 IN SUBJECT HEADING OF EMAIL FOR MORE TIMELY RESPONSE. Office mail: D110 I am frequently in my office so please drop by to see me. **Office hours** Office Location C207 Lum Office Hours: MTWTh11:30 to 12: 20 pm or by appointment. Video lecture Links provided on last page of syllabus **Lecture Videos** Project Excel Demos video lectures at: Website: http://ba240.groups.live.com Login: ba240student@live.com Password: Fall2012 No spaces "F" is capitalized. Once you signed in, click on documents. Business Transfer Website: http://bellevuecollege.edu/business/transfer/default.htm

Required Texts	Statistics by McClave and Sincich, Pearson/Prentice Hall 2006 (This book may be rented from the bookstore) The textbook data files are posted in a zip file in the MyBCC.net course website. All problem files are under Exercises. To use, open Excel first and then in the drop down menu right above the Cancel button, go to the tope for All Files (*.*). Browse to find the text data files and open it. You may have to format the file into columns before using it.						
Other	Scantrons for quizzes.						
Requirements	Calculator that can calcu	ulate standard deviatior	ns. For instructions on	TI-83 statistical			
	functions:						
	http://www.angelfire.o		ctions/tiusrmanstat83	8.htm			
Resources	The solution manual is ava			best students make			
	extensive use of the study						
	Review sessions may be so	-		ed by instructors in other			
	sections. Attend the review	v sessions to help you do	better in the exams.				
How to succeed in			s. You will be called upor	n to answer questions and			
this course	complete problems or						
	-	-		selected by the instructor			
		•		e standards in dealing with			
		This includes in-class, out-					
		or a module answering the					
		will be tested on your re	-				
				epts that you have learned.			
		ed on your individual Rea		our team RAT, team			
		asework, team project, 3					
				ms or issues. This requires			
		ch, analysis and evaluation		ed in your professions.			
	You must take personal re						
		and participate fully in th					
		uide to read textbook sec		es and do homework			
		g Module work WITHOUT					
	• •	iembers learn. You learn t	•	•			
		tal problems at the end of	f the chapter in review fo	or the test			
		s without consulting key					
	Go to the Busines	s Study regularly to study	with tutors				
_			1				
Grading	95 - 100%	A	4				
	90 - 94 86 - 89	A- B+	3.7 3.3				
	83 - 85	B	3.0				
	80 - 82	B-	2.7				
	76 - 79	C+	2.3]			
	73 - 75	С	2.0				
	70 - 72	C-	1.7				
	66 - 69	D+	1.3				
	60 - 65 D 1.0 Below 60 F 0						

 Below 60
 F
 0

 A pass grade will not be given unless <u>all requirements</u> of the course are completed.

Standard of Behavior	All interactions will be evaluated as to whether they are acceptable in the business environment. This includes interactions in the class, on online discussion forums, email communications, with the instructor, with fellow students, and in the community. Inappropriate communications include jokes and discussions your classmates find offensive, excessive messages, and other communications which would be typically deemed inappropriate in the workplace. The student will be informed and expected to comply with requests for change and improvement. <u>Cell phone and laptops are not to be used in the class</u> .
Student Code	Cheating includes, but is not limited to, copying answers on exams, glancing at nearby exams, turning in assignments or papers that have been used in other classes, and giving or receiving help during an exam. Cheating includes, but is not limited to, purchasing or selling notes, assignments or examination materials. Having a cell phone in view for any reason during an exam will result in a zero in the exam.
	Stealing includes, but is not limited to, taking the text, notes, exams, library books or other personal property of others without their permission.
	Plagiarism is presenting the words, ideas, and/or work of others as if it is an individual's own work. It includes, but is not limited to, using other's papers as one's own and including parts of published works without giving credit where credit is due.
	If you choose to cheat, steal or plagiarize, or if you assist anyone in cheating, the following actions will be taken:
	You will receive zero on the assignment or assessment. A report of the incident will be forwarded to the Dean of Student Services. He/she may file the report in your permanent record and/or take further disciplinary action. If you feel you have been unfairly accused of any of the above, you may appeal. For a description of due process, see WAC 132H-120, available in the Dean's office.
	"Cheating, stealing and plagiarizing (using the ideas or words of another as one's own without crediting the source) and inappropriate/disruptive classroom behavior are violations of the Student Code of Conduct at Bellevue College. Examples of unacceptable behavior include, but are not limited to: talking out of turn, arriving late or leaving early without a valid reason, allowing cell phones/pagers to ring, and inappropriate behavior toward the instructor or classmates. The instructor can refer any violation of the Student Code of Conduct to the Vice President of Student Services for possible probation or suspension from Bellevue College. Specific student rights, responsibilities and appeal procedures are listed in the Student Code of Conduct, available in the office of the Vice President of Student Services." The Student Code, Policy 2050, in its entirety is located at: http://bellevuecollege.edu/policies/2/2050_student_Code.asp
Affirmation of Inclusion	Bellevue Community College is committed to maintaining an environment in which every member of the campus community feels welcome to participate in the life of the college, free from harassment and discrimination. We value our different backgrounds at BC, and students, faculty, staff members, and administrators are to treat one another with dignity and respect.
Code of Honor	By being a student in this course you acknowledge that you are a part of a learning community at Bellevue College that is committed to the highest academic standards. As a part of this community, you pledge to uphold the fundamental standards of honesty, respect, and integrity, and accept the responsibility to encourage others to adhere to these standards.
Accommodations	The Disability Resource Center serves students with a wide array of learning challenges and disabilities. If you are a student who has a disability or learning challenge for which you have documentation or have seen someone for treatment and if you feel you may need accommodations in order to be successful in college, please contact DRC as soon as possible.
	If you are a person who requires assistance in case of an emergency situation, such as a fire,

	earthquake, etc, please meet with your individual instructors to develop a safety plan within the first week of the quarter.
	The DRC office is located in B 132 or you can call at 425.564.2498. Deaf students can reach us by video phone at 425-440-2025 or by TTY at 425-564-4110. Application information and other helpful links at <u>www.bellevuecollege.edu/drc</u>
Public Safety	The Bellevue College (BC) Public Safety provides personal safety, security, crime prevention, preliminary investigations, and other services to the campus community, 24 hours per day, 7 days per week. Their phone number is 425.564.2400. Public Safety is located in K100 and on the web at: <u>http://bellevuecollege.edu/publicsafety/</u> for campus emergency preparedness information, campus closure announcements and critical information in the event of an emergency.
Participating in Business Learning Community	If you intend to and have not already done so, declare your business major. Make sure you have consulted with an advisor and laid out your courses. The Business Transfer Program recommends that you subscribe to the Business listserv which provides notices of application deadlines and events. To subscribe to the listserv, individuals should send a message to: <u>lyris@list.bellevuecollege.edu</u> . In the body of your message write SUBSCRIBE bccbusiness

Social Science policies can be viewed at <u>https://bellevuecollege.edu/socsci/policies.asp</u>

Module	Knowledge DESCRIBE what the following are:	Comprehension IDENTIFY	Application USE	ANALYZE (hand, TI- 83 and Excel)	CREATE (using Excel) TEAM PROJECT	EVALUATE
MODULE 1 Communicating Data Read 1.1, 1.2, 1.3, 1.4, 1.5. and 1.6 Read 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8	descriptive and inferential statistics sample, random qualitative and quantitative data continuous and discrete nominal, ordinal, interval and ratio data histogram, pie chart, scatter plot, simple linear regression, box plot and stem leaf mean, median, mode minimum, maximum, range, standard deviation (sum of squares) Percentile, z-score, outliers Skewness, kurtosis Summation	Classify data by qualitative, quantitative, continuous, discrete, nominal, ordinal, interval and ratio Identify mean, median and mode in a data set Identify minimum, maximum, range Describe what a histogram, pie chart, scatter plot, box plot and stem leaf shows. Describe what a linear regression is.	Calculate mean, median, mode, variance, min, max, range, standard deviation, percentile, or z-score for a data set of up to 25. Create a histogram, pie chart, scatter plot, or stem leaf with proper labeling from a data set of up to 25. Hand calculate simple linear regression including correlation and R square for a data set of up to 12.	Interpret mean, median, mode, variance, standard deviation, percentile, z-score relative to each other and what they mean for the population.	Select a set of more than 50 data. Generate descriptive statistics on Excel and interpret what it says about the data set. Organize visual display to effectively communicate what the data shows.	Compare and analyze various kinds of visual display of data. Compare and contrast measures of central tendency and variation and their implications to the data. Predict from visual display. Identify the limitations of data.
MODULE 2 Describing populations Read 4.1, 4.2, 4.3, 4.4 Read 5.1, 5.2, 5.3, 5.4	General discrete probability distributions. (Expected value or mean, standard deviation) Binomial probability	Describe general discrete probability distribution. Give the formula for the mean/expected value and the standard deviation.	Create a general discrete table from data, plot the graph, calculate the mean and standard deviation.	Place mean and standard deviation on general discrete probability plot. Calculate binomial. Apply the empirical	Create probability distributions. Construct normality plot. Calculate probability for various z-scores.	Compare discrete distributions. Evaluate normality.

	distribution (mean and		Create a binomial	rule.		
	standard deviation).	List the three	table from data, plot			
	- (conditions of a	the graph, calculate			
	Trees (Bayesian).	binomial distribution.	the mean and			
		Give the formula for	standard deviation.			
	Normal probability	binomial, mean, and				
	distribution.	standard deviation.	Identify normal			
		Evaluia the examining	probability			
	Standard normal curve.	Explain the empirical	distributions and do			
		rule and how it relates to normal	tests for normality.			
		distributions.	Calculate x and z and			
			find probabilities			
			using the z-table.			
MODULE 3	Define central limit	Describe the central	Identify which	Calculate	Interpret confidence	Evaluate and
Estimation	theorem, standard	limit theorem and the	should be used in	probability for the	intervals.	interpret polls.
Read 6.1, 6.2,	error, and sampling	relationship between	large sample, small	sample means	Evaluate whether	Identify the
6.3	error.	the population and	sample and large	curve.	two populations are	limitations of
7.1, 7.2, 7.3,	Define confidence level,	the sample means	sample proportion.	Calculate	the same.	polls.
7.4, 7.5	alpha, and confidence	curve.	Apply t distribution	confidence		Evaluate the
	intervals.	Define standard error. Define confidence	and probability.	intervals. Differentiate		predictive quality
	Define margin of error.	interval.	Identify the margin of error.	between t and z		of polls.
	Explain what a t distribution is and when		Describe the effect			
		Define sampling error.		distributions. Calculate the		
	you use it.		that sample size has			
			on accuracy.	sample size necessary for a		
				margin of error.		
				margin of error.		
MODULE 4 and	Null hypothesis.	Define null.	Classify problem as	Calculate test	Interpret test	Analyze the cost
5	Alternate hypothesis.	Define alternate.	large, small,	statistic.	statistic.	of type 1 and
Hypothesis	Alpha.	Type 1 and type 2	proportion, pooled	Find p-value.	Evaluate p-value.	type 2 error.
testing	One-tail	error.	variance and		· · · · ·	Evaluate and
Read 8.1, 8.2,	Two-tail	Setting alpha.	unequal variance.			improve on
8.3, 8.4, 8.5.	One population	Decision rule.	Identify critical z or t.			actual studies.
9.1, 9.2, 9.3,	Two population	Critical z or t.				

9.4, 9.5	Critical t or z p-value					
Analysis of Variance More than two populations Read 10.1, 10.2,	P-value Null hypothesis Alternate hypothesis Test statistic (F statistic	Define null. Define alternate. F-statistic.	Classify as one or two factor ANOVA. Checking ANOVA assumptions.	Calculate F-statistic. Find p-value.	Interpret test statistic. Evaluate findings.	Evaluate use of ANOVA and follow-on tests.
MODULE 6 Multiple Regression Read 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8 12.1, 12.2, 12.3, 12.4	Dependent variable. Independent variable. Intercept Slope Residual Correlation R square Prediction Prediction interval Confidence interval Assumptions (mean equal 0, variance equal, variance constant, normal) Outlier removal	Identify, define and discuss intercept, slope, residual, correlation, r-square.	Identify if regression is appropriate for the data. Describe the relationship between x and y.	Calculate intercept, slope, correlation, Rsquare, prediction, prediction interval, confidence interval.	Interpret results.	Evaluate if data transformation is necessary. Provide predictions from the analysis.
Chi-square Read 13.2, 13.3, 13.4	Contingency table Null hypothesis Alternate hypothesis Test statistic Observed frequency Expected frequency	Identify null and alternate		Calculate expected frequency. Calculate chi- square.	Interpret results.	Evaluate the usefulness of test.

LINKS TO RESOURCES	Power Point	Sample Excel	VIDEO LECTURES	VIDEO PROBLEMS AND EXCEL DEMOS

		Spreadsheets		
Module 1 - Chapter 1, 2	Module 1	Car file data for Excel 1 Car file Demo Histogram Histogram/Normality	Module 1 Part 2 Communicating Data Module 1 Part 3 Graphs Module 1 Part 4 Central Tendency/Variability Module 1 Part 5 Linear Regression	Mean Median Mode Stem Leaf Problem 2.37 Excel Histogram Excel Central Tendency and Variability Excel Simple Linear Regression
Module 2 - Chapter 3, 4, 5	<u>Module 2</u>	<u>z and t table</u> Noncumulative Binomial <u>Table</u>	Module 2 Part 1 Probability Module 2 Part 2 General Discrete Module 2 Part 3 Binomial Module 2 part 4 Normal	General Discrete Problem 4.11 Mean and Standard Deviation Binomial Problem 4.115 Normal Distribution 5.37 Excel Normality Plot
Module 3 - Chapter 6, 7	<u>Module 3</u>	<u>7.22</u> <u>7.40</u>	<u>Module 3 Part 1 Central Limit Theorem</u> <u>Module 3 Part 2 Confidence Interval</u>	Large Sample Means Confidence Interval Problem 7.22 Small sample means Confidence Interval Problem 7.40 Large sample proportion Confidence Interval Problem 7.48 Excel Random Sampling Excel Confidence Interval
Module 4 - Chapter 8 Module 5 - Chapter 9, 10	<u>Module 4</u> <u>Module 5</u>	<u>9.122</u>	Module 4 Part 1 One sample hypothesis testing	One pop. large <u>sample Problem 8.34</u> One pop. small <u>sample Problem 8.61</u> One pop. proportion <u>Problem 8.79</u> Two pop. pooled <u>variance Problem 9.19</u> Two pop. proportion <u>Problem 9.61</u> Two pop. paired Problem 9.122 ANOVA Problem 10.33
Module 6- Chapter 11, 12, 13	<u>Module 6</u>	Prediction Interval Chi Square	<u>Module 5 Part 1 Multiple Regression</u> <u>Module 5 Part 2 Simple Chi Square</u> <u>Module 5 Part 3 Chi Square</u>	Excel demos provided on Winnie Li site. Check syllabus for URL and password.