CBM003 ADD/CHANGE FORM

☒ **Undergraduate Council**	or	**Graduate/Professional Studies Council**
☐ **New Course** ☒ **Course Change**		☐ **New Course** ☐ **Course Change**
Core Category: Math/Reason **Effective Fall 2013**		**Effective Fall 2013**

1. Department: <u>HDCS</u> College: <u>TECH</u>

2. Faculty Contact Person: <u>Carole Goodson</u> Telephone: <u>34046</u> Email: <u>cgoodson@uh.edu</u>

3. Course Information on New/Revised course:
   - Instructional Area / Course Number / Long Course Title:
     <u>TMTH</u> / <u>3360</u> / <u>Applied Technical Statistics</u>

   - Instructional Area / Course Number / Short Course Title (30 characters max.)
     <u>TMTH</u> / <u>3360</u> / <u>APPLIED TECHNICAL STATISTICS</u>

   - SCH: <u>3.00</u> Level: <u>JR</u> CIP Code: <u>27.0501.10 02</u> Lect Hrs: <u>3</u> Lab Hrs: <u>0</u>

4. Justification for adding/changing course: **To meet core curriculum requirements**

5. Was the proposed/revised course previously offered as a special topics course? ☐ Yes ☒ No
   If Yes, please complete:
   - Instructional Area / Course Number / Long Course Title:
     _ / ____ /

   - Course ID: _____ Effective Date (currently active row): _____

6. Authorized Degree Program(s): <u>UH Core</u>
   - Does this course affect major/minor requirements in the College/Department? ☐ Yes ☒ No
   - Does this course affect major/minor requirements in other Colleges/Departments? ☐ Yes ☒ No
   - Can the course be repeated for credit? ☐ Yes ☒ No (if yes, include in course description)

7. Grade Option: <u>Letter (A, B, C ...)</u> Instruction Type: <u>lecture ONLY</u> (Note: Lect/Lab info. must match item 3, above.)

8. If this form involves a change to an existing course, please obtain the following information from the course inventory: Instructional Area / Course Number / Long Course Title
   <u>TMTH</u> / <u>3360</u> / <u>Applied Technical Statistics</u>

   - Course ID: <u>44374</u> Effective Date (currently active row): <u>1172006</u>

9. Proposed Catalog Description: (If there are no prerequisites, type in "none".)
   Cr: 3. (3-0). Prerequisites: ITEC 1301 or equivalent and six semester hours in mathematics. Description (30 words max.): Collection, analysis, presentation, interpretation of numerical data; probability, sampling, quality control with special emphasis on application.

10. Dean's Signature: __ _____ Date: <u>10/11/12</u>

    Print/Type Name: <u>Fred Lewallen, Associate Dean for Undergraduate Studies</u>

- Created on 10/1/2012 2:31:00 PM -

REQUEST FOR COURSES IN THE CORE CURRICULUM

Originating Department or College: Technology

Person Making Request: Carole Goodson   Telephone: 713-743-4046

                                               Email: cgoodson@central.uh.edu

Dean's Signature: _   _   Date: September 18, 2012

Course Number and Title: TMTH 3360: Applied Technical Statistics

Please attach in separate documents:

☒ Completed CBM003 Add/Change Form with Catalog Description

☒ Syllabus

List the student learning outcomes for the course (Statements of what students will know and be able to do as a result of taking this course. See appended hints for constructing these statements):

• Describe, analyze and interpret technology data with graphs (histograms, boxplots, stem and leaf, pie charts, etc.) and tables using spreadsheet software as a tool.

• Describe technology data using measures of center, variation, and relative position; analyze, and interpret the information.

• Organize bivariate technology data with graphs (line graphs, scatterplots, etc.) and tables using spreadsheet software as a tool. Produce the line of regression and apply its characteristics and the calculation of the correlation coefficient to summarize the strength of the relationship between the two variables.

• Develop basic and conditional probability concepts; use in formulating discrete probability distributions. Apply the Binomial, and Poisson distributions.

• Compute probabilities from the normal distribution and solve application problems.

• Analyze small and large samples, through the use of sampling, sampling distributions, and the Central Limit Theorem in order to describe corresponding large-sample & population behaviors and to construct and describe confidence interval estimates of technology data.

• Construct a hypothesis test and use the outcome to draw inferences regarding population parameters and the difference in population means.

• Evaluate technological data and compose a written summary that includes the strengths and weaknesses of the statistical approach.

Component Area for which the course is being proposed (check one):

*Note: If you check the Component Area Option, you would need to also check a Foundational Component Area.

☐ Communication   ☐ American History

☒ Mathematics   ☐ Government/Political Science

☐ Language, Philosophy, & Culture ☐ Social & Behavioral Science

v.6/21/12

☐ Creative Arts   ☒ Component Area Option

☐ Life & Physical Sciences

Competency areas addressed by the course (refer to appended chart for competencies that are required and optional in each component area):

☒ Critical Thinking   ☐ Teamwork

☒ Communication Skills   ☐ Social Responsibility

☒ Empirical & Quantitative Skills   ☐ Personal Responsibility

Because we will be assessing student learning outcomes across multiple core courses, assessments assigned in your course must include assessments of the core competencies. For each competency checked above, indicated the specific course assignment(s) which, when completed by students, will provide evidence of the competency. Provide detailed information, such as copies of the paper or project assignment, copies of individual test items, etc. A single assignment may be used to provide data for multiple competencies.

Critical Thinking:

Students will complete a comprehensive spreadsheet assignment that incorporates problems relating to descriptive and inferential concepts from the course, providing responses that show appropriate calculations, graphics, statistical tests, analysis and interpretation of results.

An example Comprehensive Spreadsheet assignment is attached.

Communication Skills:

Students will complete a team project in which they collect, compile, analyze and interpret original data. Results will be presented in written form and in an oral presentation.

The team project guide and presentation rubric is attached.

Empirical & Quantitative Skills:

Students will complete a comprehensive spreadsheet assignment that incorporates problems relating to descriptive and inferential concepts from the course, providing responses that show appropriate calculations, graphics, statistical tests, analysis and interpretation of results.

An example Comprehensive Spreadsheet assignment is attached.

Teamwork:

Click here to enter text.

Social Responsibility:

Click here to enter text.

Personal Responsibility:

Click here to enter text.

Will the syllabus vary across multiple section of the course?　　☒ Yes　　　　☐ No

If yes, list the assignments that will be constant across sections:
Minor differences may occur by section. All sections will include: a
Cumulative/comprehensive Spreadsheet Assignment and a Team Project/Presentation.

Inclusion in the core is contingent upon the course being offered and taught at least once every other academic
year. Courses will be reviewed for renewal every 5 years.

The department understands that instructors will be expected to provide student work and to participate in
university-wide assessments of student work. This could include, but may not be limited to, designing instruments
such as rubrics, and scoring work by students in this or other courses. In addition, instructors of core courses may
be asked to include brief assessment activities in their course.

Dept. Signature:

_____

TMTH 3360 Competency Assessment Plan

Competency	Student Learning Outcome(s)	Method of Assessment
Critical Thinking Skills **Empirical and Quantitative Skills**	• Describe, analyze and interpret technology data with graphs (histograms, boxplots, stem and leaf, pie charts, etc.) and tables using spreadsheet software as a tool. • Describe technology data using measures of center, variation, and relative position; analyze, and interpret the information. • Organize bivariate technology data with graphs (line graphs, scatterplots, etc.) and tables using spreadsheet software as a tool. Produce the line of regression and apply its characteristics and the calculation of the correlation coefficient to summarize the strength of the relationship between the two variables. • Develop basic and conditional probability concepts; use in formulating discrete probability distributions. Apply the Binomial, and Poisson distributions. • Compute probabilities from the normal distribution and solve application problems. • Analyze small and large samples, through the use of sampling, sampling distributions, and the Central Limit Theorem in order to describe corresponding large-sample & population behaviors and to construct and describe confidence interval estimates of technology data. • Construct a hypothesis test and use the outcome to draw inferences regarding population parameters and the difference in population means.	• ***Cumulative Spreadsheet Assignment*** The spreadsheet assignment is designed to include thought-provoking problems that take longer to complete than the assigned problems from the text. These problems require the integration of concepts, analysis of information and a written interpretation of the results. • ***Team Presentation*** As a group member, students will create and present a collaborative digital presentation that includes Power Point slides and/or video, with recorded narration on a topic of their choice. Students are required to use "real" data and analyze the result. The presentation will be reviewed by the instructor and peers.
Communication Skills	• Evaluate technological data and compose a written summary that includes the strengths and weaknesses of the statistical approach.	• ***Team Presentation***

Welcome to TMTH 3360

This is a GREAT course! Statistics are a part of everyday life. We encounter them when evaluating medical treatments, choosing a retirement plan, interpreting political polls, and even in sports. In this class we will learn how to identify, understand, and apply the statistics we encounter in everyday life and work, and in the industrial and technical environment. The concepts to be discussed are:

- Learning to use Microsoft Excel
- Describing Data with Graphs
- Describing Data with Numerical Measures
- Describing Bivariate Data
- Probability and Probability Distributions
- Useful Discrete Distributions
- The Normal Probability Distribution
- Sampling Distributions
- Large-Sample Estimation
- Large-Sample Tests of Hypotheses
- Inference from Small Samples

The link on our BlackBoard Learn homepage contains your weekly guide to your study. You should schedule a regular time each day to devote to the course - I suggest that a normal week should involve a minimum of 20 hours.

To make an online course a successful experience:
1. Attend Scheduled classes.
2. Spend time reading the referenced sections in the customized textbook.
3. Study the posted examples.
4. Practice the assigned problems.
5. Turn in your assignments on time.
6. Participate in the weekly Live Classroom sessions.
7. Get extra help when you need it.
8. Be disciplined. Don't fall behind!

Learning Support Services

Learning Support Services, a part of the Counseling and Testing Service, provides small group and individualized peer-tutorial instruction. This is designed to assist students in their academic work. Workshops are offered in both study and college survival skills. These services, supported by student service fees, are located on the third floor of the Social Work Building. For specific information, call 713-743-5411.

How to Find Extra Help

1. Tutoring in the Instructional Support Services Lab
   Daytime & evening hours are available. Current lab hours are posted/updated on our course homepage. Sometimes, the lab is reserved for a class or testing session, so check the website calendar first.
   > Telephone: 713-743-6263
   > Location: Room 239 – Cameron Building
   > Website: www.uh.edu/iss

2. Post your questions under the relevant topic on the Discussion Board provided in BlackBoard. Fellow classmates, as well as myself, will respond.

3. Weekly Online Live Classroom Sessions
   You need a quality headset with a microphone. See "Important Dates" for the scheduled tutoring sessions. The Adobe Connect link is provided in the course.

4. How to contact me:
   > Preferred Email: Use the email tool provided in Blackboard – I check this Inbox several times per day.
   > Altenate Email: SSchroeder@uh.edu – I do not check this Inbox every day; email within BlackBoard guarantees the quickest response.
   > Office Telephone: Cameron Lab (room 239): 713-743-6263
   > Office Hours: In summer, my office hours vary every week. I will keep you up to date on the course homepage.

REMEMBER: If you want to communicate privately, use email. If you wish to communicate with everyone, use the discussion board.

Prerequisites for TMTH 3360

Course Prerequisites:
- Six credit hours of mathematics and credit received for a Computer Technology course

Other prerequisites:
- A computer with internet access,
- Basic internet skills,
- Knowledge of Microsoft Excel, and
- Active CougarNet account

Student Learning Outcomes
for TMTH 3360

TMTH 3360 is designed to develop understanding of statistical and mathematical concepts and their application to technology. In developing the following concepts, the focus is on developing student understanding of basic statistical concepts, incorporating applications to technology including areas such as retail, human resource development, logistics, manufacturing, construction, etc. Students develop projects related to their major. Spreadsheet software (Excel) is used as a tool for computation and analysis.

- Describe, analyze, and interpret technological data with graphs (histograms, boxplots, stem and leaf, pie charts, etc.) and tables using spreadsheet software as a tool.
- Describe technological data using measures of center, variation, and relative position; analyze, and interpret the information.
- Organize bivariate technological data with graphs (line graphs, scatterplots, etc.) and tables using spreadsheet software as a tool. Produce the line of regression and apply its characteristics and the calculation of the correlation coefficient to summarize the strength of the relationship between the two variables.
- Develop basic and conditional probability concepts; use in formulating discrete probability distributions. Apply the Binomial, and Poisson distributions.
- Compute probabilities from the normal distribution and solve application problems.
- Analyze small and large samples, through the use of sampling, sampling distributions, and the Central Limit Theorem in order to describe corresponding large-sample & population behaviors and to construct and describe confidence interval estimates of technology data.
- Construct a hypothesis test and use the outcome to draw inferences regarding population parameters and the difference in population means.
- Evaluate technological data and compose a written summary that includes the strengths and weaknesses of the statistical approach.

What Do You Need For This Course?

Required textbook:

Introduction to Probability and Statistics, **14**th ed., by Mendenhall, Beaver, & Beaver. Publisher: Thomson Publishing.

Description: Hard cover text, light blue colored Background, Publication Date: **January 1, 2013**
ISBN-10: **1133103758**
ISBN-13: **978-1133103752**

Required software:

Microsoft Excel. Any version is fine.

Recommended equipment:
A quality headset with a microphone for participation in the weekly Live Classroom online sessions. What I use...

Picture may represent product family. See note below

Logitech ClearChat Comfort USB Headset w/Noise-Canceling
Microphone
[model LOG 981000014]

Manufacturer: LOGITECH
Model: 981000014

CougarNet Account:
An active CougarNet account is required in order to access the course in BlackBoard. If you do not regularly use your CougarNet account, it becomes deactivated. I recommend that you ensure your account is working as soon as the semester begins to avoid missing any assignment deadlines. To do this, log in to www.accessuh.uh.edu . If you are able to log in, then your account is active. If you are not able to log in, then call 713-743-1411 to resolve the problems.

Grading Policy

Exams (50%): There will be two exams. Each exam consists of two parts: a Project portion and an Assessment portion. The assessment portion will be completed on campus in the Instructional Support Services Lab in room 239-CAM. In order to complete the exams on time, you must study, your work must be very organized, and your weekly assignments must be completed on time.

NOTE for Out-of-Area Students: For online sections, it is not required that you travel to the University of Houston's campus, however, you must make alternate arrangements to complete your tests in a proctored environment. For details on site location, etc., contact the Program Manager, Scott Mason. He will guide you through this process and can be reached at smason@uh.edu. Make contact with him at the beginning of the course; these arrangements take time. Also, inform me at the beginning of the course so that I am aware of your arrangements. You must complete the tests according to the same deadline as everyone else in the class. Last-minute arrangements are not guaranteed to meet these deadlines. Do not delay; you cannot afford a grade of zero.

Spreadsheet Assignments (20%): You will complete spreadsheet assignments. Essentially, these are thought-provoking problems that will be creatively solved by your group. They will take longer to complete than the assigned problems from the text, but are not intended to be extremely lengthy assignments. Refer to the "Spreadsheet Assignments" link on the lefthand sidebar of the course homepage for assignment details and "Important Dates" for a list of the due dates. You will submit the assignments using the Assignment DropBox in BlackBoard and receive a grade for your work. Changes, if any, will be announced via email in BlackBoard. You will accumulate points on the assignments. At the end of the course, this percentage will be based on the number of points earned versus the total number of points possible.

Article Analyses (5%): You must read and analyze statistical content in posted articles. Each analysis will be a half to one page analysis that includes a brief article summary, but will focus more on the use of statistics in the article. I am looking for your ability to apply the statistical concepts we talk about in class to real life situations. Prior to your submission, you must submit your work through TurnItIn, a plagiarism detection program. A maximum of 20% similarity is allowed; adjust before your final submission in the Assignment DropBox for a grade. At the end of the course, this percentage will be based on the number of points earned versus the total number of points possible.

Team Presentation (15%): You will be involved in a group of 2 – 4 members that will create a presentation to be shared with the class. Your peers will view and provide feedback on each team's final presentation. There are weekly checkpoints to ensure that the group maintains the proper pace to complete the presentation on time. The items due at each weekly checkpoint, peer comments, plus the presentation add up to 100 points. More detailed information, including the evaluation rubric, is located in the posted Team Presentation Guide.

Quizzes & Homework Checks (10%): There are weekly **quizzes** to make sure that you are keeping up with the pace of the course. You will complete 1 – 2 short quizzes each week. Some questions are similar to the assigned problems, while others come directly from your assigned problems, so complete all assigned problems before you attempt the quiz. All assessments have a time limit. You have the option to re-take any quiz once during the availability period and BlackBoard will keep the highest grade. The only exception is the Syllabus Quiz. You must repeat this quiz until you receive a perfect score. Each quiz is accessible during the availability time and cannot be completed past the due date. See "Important Dates" for all quiz due dates. Changes to due dates, if any, will be announced via email in BlackBoard. There are also weekly **homework checks** to make sure that you are completing the assigned problems. You will accumulate points on the quizzes and homework checks. At the end of the course, this percentage will be based on the number of points earned versus the total number of points possible.

Makeup Work: All assignments/quizzes/projects/work, etc. are available over a period of time so that you are able to complete them at your convenience according to your schedule. Therefore, no makeup is allowed for any work except under the following conditions:

1. In the event of a medical or family emergency, contact me as soon as possible to make arrangements for makeup work. To be able to make up work, I must be notified within one week following the due date of the missed work, and supporting documentation must be provided. Failure to notify me within one week following the due date of the missed work will result in the loss of opportunity to make up the work.

2. A business trip, vacation, sport activity, Holy Day, etc., are situations in which you know in advance that you will miss assignment deadlines. You must contact me in advance to make arrangements in time for the missed work to be completed before the event/trip. Supporting documentation must be provided. Failure to follow these guidelines will result in the loss of opportunity to make up the work.

3. You are responsible to make sure that your computer and internet connection are functioning properly. More information is given on BlackBoard's homepage at http://www.uh.edu/blackboard/learn_index.html. Work missed due to these reasons cannot be turned in past the deadlines as outlined above. Technology is not always reliable; therefore, I recommend that you submit assignments before the due date. In the event of computer difficulties, please remember that computer labs are available on campus, as well as local libraries.

Withdrawal Policy: I will not initiate the withdrawal process. I feel that a withdrawal is the student's decision and responsibility. Refer to the section titled, "Important Dates" for a list of these dates and withdraw within your PeopleSoft account.

Academic Honesty: I encourage you to exchange contact information and form study groups to work together on assigned problems, the spreadsheet assignments, and prepare for upcoming tests. Exams, quizzes, homework checks, and article analyses are to be completed on your own and without the aid of any other person. If you have questions, ask me first – that keeps you out of trouble. ☺ Remember, it is also the responsibility of every student to report any occurrences of dishonesty. The University's Honor Code states, "We will be honest in all our academic activities and will not tolerate dishonesty." Students are expected to do original work. Penalties include failure of the entire assignment (zero points) and referral to the department chair for consideration of additional action. Refer to the University's Student Handbook for the definition and the consequences of academic dishonesty.

Students with Disabilities

The University of Houston seeks to ensure that the educational resources it offers are as widely accessible as possible.

For detailed information, including documentation requirements, listings of available academic support services, test administration policies, parking accommodations/requirements, and more, please see The Center for Students with DisABILITIES website at www.uh.edu/csd.

If you or someone you know has a temporary or permanent health impairment, physical limitation, psychiatric disorder, or learning disability, you are urged to contact the CSD to learn more about the services available.

If you already have accommodations on file with CSD, you need to inform the instructor of each course at the beginning of the semester. UH policy states that accommodations are not retroactive; they begin as soon as you provide supportive documentation and discuss your needs with the instructor. So do not delay.

Contact info:

Justin Dart, Jr. Center for Students with DisABILITIES
CSD Building #568, Room #110
University of Houston
Houston, Texas 77204-3022
Phone: (713) 743-5400
TDD : (713) 749-1527
Fax: (713) 743-5396
Email: uhcsd@uh.edu

Important Information for Students

The link below contains specific information about
- Disabilities,
- Religious Holy Days,
- the Academic Calendar, and
- Academic Honesty.

For more details: http://www.uh.edu/provost/stu/stu_syllabsuppl.html

Good luck! I wish you a great semester!

Sue Schroeder, your Instructor

Comprehensive Spreadsheet Assignment

To receive credit, you must show all work in an organized manner. I should see your formulas when I click on the cells.

There are 3 parts to this assignment. Each part is on a separate worksheet so that you have room for your work.

When you are finished, please submit in the Spreadsheet Assignment DropBox.

Please note: The exam is an individual assignment; you must complete it on your own. You may use the text, course notes, and other written materials, but do not consult with classmates, tutors, and other human resourses.

Part 1

One way to compare the performance of mutual funds is to look at 3-year annualized returns for groups of funds that have the same perceived risk. The data located in the tab titled, "Part 1 Data", represents the 3-year mutual funds annualized returns for high-risk, average-risk, and low-risk funds.

Question 1

We wish to create 3 separate tables: 1) one for low-risk, 2) one for average-risk, and 3) one for high risk funds. Rather than manipulate the data manually, use the Excel "Sort and Filter" feature.

1) Highlight the entire table, including the column titles.

2) Click on "Sort and Filter" and choose "Custom Sort".

3) For the box that pops up, choose from the drop-down menu of each: Sort by "Risk", sort on "Values", and order by "Custom List".
For the custom list, enter "low, avg., high" and click on OK. Your table data should be ordered with all of the low-risk funds in alphabetical order, followed by the average risk funds in alphabetical order, and finally the high-risk funds in alphabetical order.

4) Now, you can copy/paste the appropriate rows into the 3 separate tables.

Question 2

Now, sort each table by the 3- yr Return in ascending order.

Question 3

Using the high-risk table, create a histogram.

Interpret/summarize the technological data in the context of the problem. What does this graph tell you about the high risk funds? In your response, consider center, symmetry, spread, outliers.

Question 4

For each table, use Excel functions to calculate the mean, median, mode, range, variance, and standard deviation of the 3YR Annual Return %. Enter the values below.

	Mean	Median	Mode	Range	Variance	Standard Deviation
Low-Risk Funds						
Average-Risk Funds						
High-Risk Funds						

Question 5

Explain the relationship between the standard deviation and the type of each fund.
Which measure of center should you use to describe average rate of return? Why? Which stock has the greatest average return?

Question 6

Insert the values for number of funds in the following cells to construct a table. Then create a pie chart and bar chart that shows the number of each type of fund.

Make sure to include a chart title, legend and percent (%) in the pie chart, and number of each type of fund and axis labels in the bar chart.

# of Low-Risk Funds
# of Average-Risk Funds
# of High-Risk Funds

Question 7

We will use the following definitions for upper quartile and lower quartile:

Lower Quartile = the median of the lower half of the data
Upper Quartile = the median of the upper half of the data

Find the lower quartile and upper quartile of the 3YR Annual Return % for each type of fund.

	Q1 Lower	Q2 Upper
Low-Risk Funds		
Average-Risk Funds		
High-Risk Funds		

Interpret the results in the context of the data. What information do you get from these calculations?

Question 8

Write a brief paragraph to summarize and interpret the results.

Data for Part 1

Fund	Objective	Sales charge	Exp Ratio	Risk	Return 2009	Return Q1 2010	3 Yr Return (in %)
ABN Int Equity	IL	N	1.38	avg	41.90	-1.80	21.88
ACORN Int	IL	N	1.11	low	79.20	12.10	31.50
AIM Global Gr In A	GI	Y	1.65	low	0.10	1.02	12.46
AIM Sm Cp Gr	SC	Y	1.54	avg	90.60	28.70	59.82
AIM Value	GI	Y	1.79	avg	29.90	9.10	33.28
ALGER Sm Cp	SC	Y	2.14	high	32.70	7.80	24.47
ALLIANCE Gro & Inc	GI	Y	1.70	avg	10.20	1.80	20.23
ALLIANCE Int	IL	Y	1.80	avg	33.70	2.20	15.78
ALLIANCE Quasar	SC	Y	1.69	high	13.00	0.10	8.76
ALLIANCE Tech	TK	Y	2.39	high	70.60	19.20	58.71
AMER AADVANT Int Eq	IL	N	0.90	avg	26.90	-3.00	13.59
AMER CENT Giftrust	SC	N	1.00	high	87.30	21.30	35.07
AMER CENT Gl Gold	SC	N	0.69	high	-3.20	-17.01	-22.82
AMER CENT Int Discovery	IL	Y	1.55	avg	88.50	20.50	32.98
AMER CENT Target 2020	IL	N	0.59	high	-20.80	14.65	15.67
AMER CENT Vista	MC	N	1.00	high	119.10	22.80	37.47
AMER EXPRESS Discovery	MC	Y	1.05	high	-0.10	6.80	13.40
AMER EXPRESS Mutual	GI	Y	0.83	avg	6.50	-0.20	11.31
AMER EXPRESS Stock	GI	Y	0.82	avg	16.60	3.90	21.46
ARTISAN Sm Cp	SC	N	1.37	avg	19.20	12.90	14.45
BABSON Growth	GI	N	0.79	avg	12.60	2.30	25.43
BARTLETT Value Int	IL	Y	1.73	avg	32.00	-5.90	10.67
BERGER Sm Co Gr	SC	N	1.60	high	104.40	20.10	49.02
Berwyn	SC	N	1.20	high	-4.60	-5.75	-3.16
BLACKROCK Lg Cp Val Eq	GI	N	1.19	avg	3.60	-1.50	12.11
BLACKROCK Sm Cp Gr	SC	Y	1.23	high	72.50	20.30	43.97
BRINSON Global equity	IL	N	1.00	low	12.90	-4.20	9.77
CGM Cap Devel	MC	N	1.07	high	7.70	3.93	13.91
CHASE VISTA Gr & Inc	GI	N	1.25	avg	8.10	3.40	17.69
CITIZENS Emerg Gr	MC	N	1.82	avg	68.10	23.10	56.87
COLUMBIA Int Stock	IL	Y	1.48	avg	57.90	-0.10	4.43
COMMERCE Gr & Inc	GI	N	1.41	avg	-3.00	6.90	24.95
CONCERT Emerg Gr	MC	Y	1.12	avg	42.20	4.20	20.13
David Gr Opp A	MC	Y	1.29	high	31.40	9.83	23.84
DELAWARE Blue Chip	GI	Y	1.20	avg	14.50	0.70	8.75
Dreyfus Aggressive Growth	MC	N	1.13	high	36.90	11.20	-2.89
DREYFUS Int Value	IL	Y	1.40	avg	25.70	-4.20	12.45
DREYFUS PREMIER Worldwide Gr A	IL	Y	1.20	low	16.20	11.00	22.47
DREYFUS Midcap Value	MC	N	1.40	avg	28.10	22.90	19.89
EVERGREEN Aggressive growth A	GI	Y	1.18	high	47.20	24.71	39.64
EVERGREEN Small Co Growth B	MC	Y	1.93	high	74.70	17.77	29.72
FEDERATED Int Eq	IL	Y	1.63	avg	78.40	7.20	37.71
FEDERATED Int Sm Co	IL	Y	2.03	avg	126.20	8.70	49.97
FEDERATED Small cap Strat A	SC	Y	1.31	high	29.10	-1.71	17.91
FIDELITY ADVISOR Overseas T	IL	Y	1.72	avg	42.00	0.51	19.67
FIDELITY emerging markets	IL	Y	1.45	high	70.50	1.58	-10.55

Fund	Objective	Sales charge	Exp Ratio	Risk	Return 2009	Return Q1 2010	3 Yr Return (in %)
Fidelity Global balanced	IL	N	1.32	low	23.00	2.48	18.47
FIDELITY SELECTS Biotech	TK	Y	1.84	high	77.70	12.66	47.38
FIDELITY SELECTS Comp	TK	Y	1.25	high	81.00	24.40	68.58
FIDELITY SELECTS Telecom	TK	Y	1.27	avg	66.60	16.80	55.40
FIDELITY SPARTAN Mkt Ind	GI	Y	0.27	avg	20.60	2.30	27.16
FIRST AMER Mid Cap Gr A	MC	Y	1.14	avg	54.60	18.60	39.44
FIRST AMERICAN Tech	TK	Y	1.15	high	191.80	28.90	86.13
FIRST INVEST Global	IL	Y	1.72	avg	31.70	3.10	19.45
FIRSTAR Special Gr	MC	N	1.13	avg	2.30	16.60	15.42
FLAG Communications	TK	Y	1.05	avg	45.50	-0.40	55.90
FORTIS Global Growth A	IL	Y	1.42	avg	55.50	7.70	28.25
FPA Paramount	GI	Y	1.03	high	1.60	-13.30	-12.57
FRANKLIN Dynatech	TK	Y	1.00	avg	37.20	11.00	31.03
FRANKLIN Global Comm A	SC	Y	1.05	avg	51.60	11.01	31.15
FRANKLIN Small Cap Gr A	SC	Y	0.94	avg	97.10	13.71	41.86
FRANKLIN Value A	SC	Y	1.49	high	-0.80	2.26	-0.33
Fremont Global	IL	N	0.85	low	22.40	4.44	15.47
GABELLI Glbl Telecom	TK	N	1.60	avg	80.30	4.90	49.76
GALAXY Int Equity	IL	N	1.48	avg	41.10	2.40	24.89
GAM Int	IL	Y	1.66	avg	7.30	-1.20	11.37
GPLDMAN SACHS Asis Gr A	IL	Y	1.85	high	59.40	1.93	-5.32
GOLDMAN SACHS Int Eq	IL	Y	1.79	avg	31.00	2.90	18.19
GOLDMAN SACHS small cap val A	SC	Y	1.50	high	-2.20	9.30	4.00
GUARDIAN Park Ave A	SC	Y	0.78	avg	30.20	10.28	32.50
HEARTLAND Value +	SC	N	1.34	avg	1.70	8.70	7.57
HOTCHKISS and WILEY Small Cap	SC	N	1.05	high	-12.50	2.46	0.14
IAI Midcap growth	MC	N	1.25	avg	27.00	18.39	29.18
INVESCO European	IL	N	1.56	avg	38.00	16.26	31.70
INVESCO Small Co Growth	SC	N	1.51	high	81.60	12.89	45.97
INVESCO Tech	TK	N	1.20	avg	144.90	26.20	67.69
IVY International A	IL	Y	1.58	avg	27.80	-3.59	10.09
JANUS Enterprise	MC	N	0.98	avg	121.90	11.60	61.88
JANUS Worldwide	IL	N	0.89	low	64.40	11.81	38.16
JP MORGAN Sm Co	SC	N	0.97	high	44.00	8.20	23.87
J Hancock Small cap Growth B	SC	N	2.03	high	63.60	14.03	38.23
KAUFMANN Kaufmann Fund	SC	Y	1.96	avg	26.00	20.70	24.08
KEMPER Contrarian	GI	Y	1.41	avg	-11.50	-5.40	7.97
KEMPER Tech	TK	Y	0.93	high	114.30	19.50	63.79
KEMPER Samall cap equity A	SC	Y	1.01	high	33.60	21.17	26.60
LEXINGTON Growth and Income	GI	N	1.95	avg	15.50	8.04	24.22
LORD ABBETT Affiliated	GI	Y	0.63	avg	16.90	1.60	18.17
LORD ABBETT International A	IL	Y	1.51	avg	27.30	15.71	24.21
MAINSTAY Cap App B	GI	N	1.79	avg	23.90	4.06	31.96
MARSHALL Mid Cp Gr Y	MC	N	1.21	avg	61.10	22.12	45.39
MAS Mid Cp Gr Inst	MC	N	0.62	avg	68.20	13.34	56.63
Matthews Pacific Tiger	IL	N	1.90	high	83.00	11.44	6.62
MERRILL LYNCH Basic Val	GI	Y	1.57	avg	10.00	-1.20	14.36
MERRILL LYNCH Int Equity D	IL	Y	1.59	avg	37.80	0.17	10.00

Fund	Objective	Sales charge	Exp Ratio	Risk	Return 2009	Return Q1- 2010	3 Yr Return (in %)
MERRILL LYNCH Gbl Value D	IL	Y	1.16	low	10.20	2.32	20.72
MERRILL LYNCH Latin Am D	IL	Y	2.04	high	70.80	7.52	6.72
MFS Emerg Gr	MC	Y	1.88	high	50.10	9.90	36.02
MFS Global Tot Ret A	IL	Y	1.48	low	7.60	1.15	13.80
MFS Mid cap Gr B	MC	N	2.07	avg	77.10	14.30	45.37
MFS Research A	GI	Y	0.98	avg	24.30	8.94	27.16
MONTGOMERY Emerg Mkt	SC	N	2.05	avg	63.20	2.60	-2.70
MONTGOMERY Small cap R	SC	N	1.32	high	55.80	7.96	29.51
MORG STAN DW Div Gr	GI	Y	1.11	avg	-0.60	-4.80	11.38
MORG STAN DW European Growth	IL	Y	2.13	low	27.70	2.37	21.49
NATIONS Value	GI	Y	1.94	avg	1.00	-2.10	12.67
Navellier Agg Small cap eq	SC	N	1.63	high	28.30	8.93	22.56
NORTHERN Sm Cp	SC	N	1.00	avg	12.10	3.70	12.41
NORTHERN Tech	TK	N	1.23	avg	134.50	27.10	91.15
OAKMARK Int Sm Cap	IL	N	1.79	avg	53.80	-5.00	8.40
OAKMARK Sm Cap	SC	N	1.48	high	-7.90	-1.50	1.62
OPPENHIEMER Discovery	SC	Y	1.31	high	51.30	15.00	29.33
OPPENHIEMER Int Gr	IL	Y	1.40	avg	60.40	16.70	30.52
O'SHAUGHNESSY Crn Gr	SC	Y	1.15	high	37.70	10.60	28.91
PAINEWEBBER Gr & Inc	GI	Y	1.08	avg	9.00	4.00	20.26
PBHG Emerging Growth	SC	N	1.34	high	48.30	16.79	29.32
Phoenix-Zweig Managed asset C	IL	N	2.21	low	8.00	0.43	11.35
Pilgrim Small cap Gr C	SC	N	2.51	high	88.90	15.48	42.91
PIMCO Small cap value Inst	SC	N	0.85	avg	-6.40	-2.00	4.08
PIONEER Mid cap	MC	N	1.32	avg	31.00	16.02	26.09
PRICE Div Gr	GI	N	0.77	avg	-2.80	-0.70	12.21
Price Latin Am	IL	N	1.62	high	59.40	8.79	8.87
PRNCIPL PRESV PSE Tech	TK	Y	0.60	avg	114.60	18.80	67.45
PRUDENTIAL Jenn Gr & Inc	GI	Y	2.05	avg	19.80	3.20	43.31
PUTNAM OTC Emerg Gr	SC	Y	0.98	high	126.90	11.30	54.43
SALOMON Inv Value	GI	N	0.63	avg	11.50	4.70	19.21
Scudder Development	MC	N	1.51	high	35.00	14.44	28.31
Scudder Global	IL	N	1.35	low	23.50	2.34	17.48
SEI Int Eq	IL	N	1.28	avg	39.60	0.50	18.49
SMITH BARNEY Int Eq A	IL	Y	1.28	avg	59.00	-1.25	21.31
SMITH BREEDEN Eq +	GI	N	0.88	avg	20.70	0.50	25.18
State St. Res Emer Gr A	SC	N	1.37	high	51.00	12.22	30.76
Tweedy Browne Global Value	IL	N	1.41	low	25.30	4.40	18.61
USAA Aggressive Gr	SC	N	0.72	high	91.10	16.60	49.67
VANGUARD Explorer Fund	SC	N	0.74	avg	37.30	16.00	26.85
VANGUARD Select Val	MC	N	0.65	high	-2.70	1.20	1.98
VANGUARD Sm Gr	SC	N	0.24	avg	23.10	6.87	18.89
Van Kampen Global eq All B	IL	Y	1.70	low	22.50	-0.17	18.37

Part 2

The cost of manufacturing a lot of a certain product depends upon the size of the lot.

Data is shown in the tab titled, "Part 2 Data".

Question 9
Organize the data by drawing the scatter plot for the lot size (x) vs. the cost of the lot (y). Label the chart data with an appropriate title and axes titles.

Question 10
Generate the linear trendline and display its equation on the chart. Analyze this result. Does the regression line. indicate a positive correlation, negative correlation, or neither? Explain.

Question 11
Calculate the correlation coefficient and interpret the result in the context of the data.

Question 12
Calculate the slope of the regression line and interpret the result in the context of the data.

Question 13
Apply the above results to predict the cost of a lot when its size is 350 units.

Data for Part 2

Lot size (in units)	Cost per lot (in dollars)
1	30
5	70
10	140
25	270
50	530
100	1,010
250	2,500
500	5,020
400	3,700
300	3,450
150	2,100

Part 3

Fredericson Corp. wishes to compare the quarterly sales receipts of individuals in the Western Division vs. those in the Eastern Division. A random sample is taken from each group; the sales for each are presented in the tab titled, "Part 3 Data".

Question 14

Describe the output (sales) for each group using appropriate measures of center, spread and relative position.
Write a brief interpretation of results and support your interpretation with calculations.

Question 15

Construct a histogram, one for the Western Division (Formatting is important.) Summarize and write a brief interpretation.

Question 16

What is the point estimate of the difference in the means? (6 pts.)

        Mean Before Changes =
        Mean After Changes =
        Difference =

Question 17

Compute the margin of error?

        Variance Before Changes =
        Variance After Changes =
        Margin of Error =   minutes

Question 18

Create a 90% confidence interval estimate of the difference in quarterly sales.

        Lower Limit =
        Upper Limit =

Question 19

Do a t-test of the difference in sales by division. Be sure to formally state the hypothesis, give the p-value and interpret the results in the context of the problem.

Question 20

Analyze your results. What are the test assumptions? Can you conclude that there is a difference in the quarterly sales receipts of individuals in the Western Division vs. those in the Eastern Division? Explain.

Data for Part 3

Quarterly Sales	
Western Div	Eastern Div
493,605	449,171
490,022	424,298
479,132	468,052
468,669	432,050
489,205	445,406
536,950	462,800
383,063	452,756
530,526	441,601
523,995	402,907
524,844	425,536
570,598	482,238
486,630	472,347
465,067	521,829
435,294	491,781
461,588	445,474
515,730	458,227
428,308	431,932
475,615	487,107
513,165	438,366
556,477	474,977
528,136	443,321
508,904	400,111
487,460	402,552
503,432	449,843
476,511	433,554
554,398	372,895
524,322	370,214
531,439	410,594
558,220	481,896
501,051	448,176
452,609	397,256
547,195	
499,207	
485,341	
452,332	

Group Presentation Evaluation

Communication - Structure and Organization of the Presentation (0 – 12 pts.)
Criteria to be considered:
- Presentation stimulates attention in its introduction
- Introduction contains clear purpose, and/or goals.
- Major ideas are clear/presentation is well organized
- Presentation parts create a unified whole
- Individual speakers refer to each other's points/make transitions
- Presentation includes summary for effective closure

Quantitative Content (0 – 16 pts.)
Criteria to be considered:
- Presentation speaks to the assignment guidelines/objectives
- Presentation reflects thorough research
- Supporting material is thorough/sufficient
- Speakers demonstrate genuine knowledge of topic
- Material is interesting
- References are cited in bibiliography
- An attempt is made to be creative
- Presentation is professional and appropriate

Communication – Presentation Delivery (0 – 10 pts.)
Criteria to be considered:
- Presentation exhibits conversational style/extemporaneous delivery
- Presentation exhibits appropriate voice tone, volume, rate, and enthusiasm
- Presentation demonstrates audience awareness
- Presentation is equally distributed among group members
- Vocal distractions are minimal (i.e., "umm" and "like")

Quantitative - Presentation Materials (0 – 6 pts.)
Criteria to be considered:
- Presentation material is effective/professional
- Visuals are professional/appropriate
- Bibliography utilizes proper format (either APA or MLA)

Teamwork - Peer Evaluation (0 – 6 pts.)
Criteria to be considered:
- Comments from your team
- How well did the team work together?

Team Presentation Guide

Your group will be required to create and present an interesting and informative 10-15 minute collaborative digital presentation that includes powerpoint slides and/or video, with recorded narration on a topic of your choice to share with classmates. The presentation will be posted and your peers will review your presentation and provide feedback. Each phase report is to be submitted in the Assignment DropBox – refer to "Important Dates" for the due date of each phase.

Phase 1: Choose Group Members. Groups may be 2 – 4 persons; you must work with others on this project. (3 points)

- Group members need to learn who everyone is-- exchange names, phone numbers, emails, etc. and keep a record of this information.
- Discuss what the group is expected to do -- don't assume that the requirements of the group project are clear to everyone. More often than not, people are not always sure about what the group is expected to do. Email the instructor with questions.
- Finalize group membership by the due date. Then, sign up on the Group Project Sign-up sheet (choose a group number) and submit the names of the group members and your "Group Contract" in the Assignment DropBox.

Phase 2: Choose a Topic. (4 points) For this project, you may choose from any of the following general topics and submit your group's "Project Idea Report" with a brief summary in the Assignment DropBox by the due date. This topic must be approved before the group continues the work.

a. Compile and analyze real data. It can be a single set of data or bivariate data. You should get at least 30 observations.

- Record the values on a spreadsheet.
- Select and construct appropriate graph(s).
- Find the values of the descriptive measures (mean, median, quartiles, range, standard deviation, etc.)
- If appropriate for your data, construct a confidence interval estimate of the measure.
- Analyze and write-up your conclusions.

b. Interview an individual that uses statistics in their work and report on the results. The report should include:

- The name of the individual and a short bio [education, current employment, how they got into the field...]
- Nature of the organization
- The duties of their position
- Statistical concepts that are used on the job
- A description of at least one of the most interesting studies, or outcomes, etc.

c. Select two groups of data for comparison. Prepare a survey that you can use to collect the data. You will need a minimum of 30 observations from each group.

- Inlcude the survey in your presentation.
- Record the values on an Excel spreadsheet.
- Select and construct appropriate graph(s).
- Find the values of the descriptive measures (mean, median, quartiles, range, standard deviation, etc.)
- Using the Empirical rule, describe the data in the 95th and the 99th percentile.
- Formulate a hypothesis (see chapters 8 and 9) based on your data from and analyze the data.
- Complete a difference of means test.
- Analyze and compile your conclusions – is there a significant difference between the two groups?
- Summarize your conclusions.

Below are previous project ideas to help you think about your team's topic selection.

- Does eating popcorn affect people's enjoyment of movies?
- Does drinking caffeine affect students' performance on tests?
- Does the quality of college students' relationship with their freshman roommate affect the quality of their college overall experience?
- Does birth order affect college academic success?
- What is more important to college students when choosing a major: interest in the subject, career aspirations, family influence, or ability in the subject?
- Is team payroll related to winning percentages in professional sports?
- Do the results of federal elections have an effect on stock prices?
- Are members of certain subpopulations (e.g., racial, ethnic, or educational backgrounds) more likely to receive the death penalty?
- Are policies that reduce governmental debt also associated with reduction in quality of life?

Phase 3: Division of Labor (6 points)

- Divide the project up into a series of smaller steps or parts.
- Put the parts of the project into a time sequence -- in what order must each step or part of the project be done?
- Agree on a time table -- when must each part of the project be finished?
- Agree on who is responsible for each part of the project.
- Agree on what each person must PRODUCE for their part of the project by the agreed upon deadline. BE SPECIFIC -- everyone in the group must agree to turn in something tangible to the group at a stated time.
- Agree about what to do if people in the group "get behind" and won't be able to meet a deadline.
- Agree upon a schedule of meetings -- most groups think all they need to do is divide up the work, meet five minutes before the presentation, and "whip it together." We all know that this approach rarely works!
- Submit the "Group Expectations Contract" in the Assignment DropBox by the due date.

Phase 4: Meet and Work Together (10 points)

- Use some of your group meetings to review what members have accomplished up to that point.
- Have group members provide feedback about each other's work -- is the material provided by the member what the group needs, is something missing, what else needs to be done?
- Set new expectations and deadlines as appropriate -- groups usually discover as the project moves along that the original time table and division of group member responsibilities needs to be modified. Take the time to do that so that the work doesn't all pile up at the end.
- Pay attention to possible gaps in the group's work -- are there important topics or tasks that the group is overlooking?
- Submit the "Group Progress Report" in the Assignment DropBox by the due date.

Phase 5: Continue working on the project (10 points)

- Submit the "Group Progress Update" in the Assignment DropBox by the due date.

Phase 6: Presentation Planning (10 points)

- Once the research on the project is fairly far along, the group needs to turn its attention to the development of the presentation.
- The powerpoint presentation should be used as an outline for the presentation. Do not read from the slides.
- Each group member must contribute to the presentation equally with slide content and narration.
- Each group member has a minimum of 3 minutes to present their material.
- Make sure you complete a grammar and spell check on your work.
- Decide on a presentation format – powerpoint with narration, video, etc.
- Determine who will serve as the presentation moderator.
- Decide on audio/visual aids for the presentation.
- Practice.
- Work together to improve delivery skills of each group member.
- Don't forget to cite your resource(s) in APA or MLS format. Need a great resource to help you cite your sources for the interesting facts for each item?
  Try http://www.easybib.com.
- Submit the "Group Presentation Planning Report" in the Assignment DropBox by the due date.

Phase 7: Presentation Submission (51 points)

- Once the presentation is final, it is to be posted on the Discussion Board under the "Team Presentations" topic for peer review.
- Also submit the presentation in the Assignment DropBox for the grade.
- In addition, submit the "Peer Evaluation" in the Assignment DropBox. (5 points of the 51 points count for the peer evaluation.) The Peer Evaluation is to be submitted individually in a separate Assignment DropBox so that comments can be kept confidential.

Phase 8: Assess Other Presentations (6 points)

- You must view at least 3 other presentations and post a comment for each one.
- The comments must state one of the following:
    1. Why the presentation topic interested you.
    2. What you learned from the presentation.
    3. Suggestions for improvement in the presentation.
    4. How the presentation relates to a personal experience.

I will be happy to give you feedback in advance of any due date.

All parts of this project add up to 100 points which is 10% of the final course average. If any part is late by one day, only half of the credit can be earned for that portion. If any part is late by two or more days, then zero points can be earned for that portion. No exceptions.

The Report Forms...

Each form is located in the corresponding Assignment DropBox. Copies are outlined below so you know what each form looks like.

1. **Group Contract** in Assignment DropBox, Phase 1.
2. **Project Idea Report** in Assignment DropBox, Phase 2.
3. **Group Expectations Contract** in Assignment DropBox, Phase 3.
4. **Group Progress Report** in Assignment DropBox, Phase 4.
5. **Group Progress Update** in Assignment DropBox, Phase 5.
6. **Group Presentation Planning Report** in Assignment DropBox, Phase 6.
7. **Peer Evaluation Form** in Assignment DropBox, Phase 7.
8. **Group Presentation Evaluation** – my evaluation

Group Contract

- We have agreed to work on our Team Presentation as a group.
- We have exchanged names, phone numbers, emails, etc..
- We have discussed the group expectations and understand the project
- We realize that it will be our responsibility to schedule times to meet as a group.
- We also acknowledge the fact that we are responsible for dividing the work up evenly.
- We accept the fact that our grade will be a group grade and that all of us receive the same grade.
- We all agree to put forth our best effort in order to earn the best possible grade for the group.
- We have signed up on the Group Project Sign-up sheet.

Group Members (2 – 4 members):

Name_____

Name_____

Name_____

Name_____

Our first working session will be on _____.

Project Idea Report

Write a brief summary of your project.

Depending on the project choice, complete the left-hand or right-hand side of the table.

What data are you using?	Who are you interviewing?
Cite your data resource.	What is this person's job title and place of employment?
What do you hope to discover in this project?	What do you hope to discover in this interview?

Our next working session will be on _____.

Group Members (2 – 4 members):

Name_____

Name_____

Name_____

Name_____

Please wait for topic approval before work continues. Your answer will come in the Assignment Dropox.

Group Expectations Contract

We have divided the project up into the following parts and plan to complete them in this order.

What is to be done 1st, 2nd, 3rd, etc.?	Who is responsible?	Completion date?
Part 1		
Part 2		
Part 3		
Etc.		

Our next working session will be on _____.

Group Progress Report

We have met on the following dates:

Write each person's name and describe his/her accomplishments toward the project so far.

Person #1:

Person #2:

Person #3:

Person #4:

Write each person's name and describe his/her goals toward the next phase of the project.

Person #1:

Person #2:

Person #3:

Person #4:

Our next working session will be on _____.

Group Progress Update

We have met on the following dates:

Write each person's name and describe his/her accomplishments toward the project so far.

Person #1:

Person #2:

Person #3:

Person #4:

Write each person's name and describe his/her goals toward the next phase of the project.

Person #1:

Person #2:

Person #3:

Person #4:

Our next working session will be on _____.

Group Presentation Planning Report

We have met on the following dates:

Write each person's name and describe his/her accomplishments toward the presentation.

Person #1:

Person #2:

Person #3:

Person #4:

Our next working session will be on _____.

Peer Evaluation Form

Rate yourself and your team members on the relative contributions that were made in preparing and submitting your group presentation.

In rating yourself and your peers, use a one-to-five point scale, where

5 = superior

4 = above average

3 = average

2 = below average

1 = weak

Names (begin with your own)				
Participated in group discussions or meetings				
Helped keep the group focused on the task				
Contributed useful ideas				
Quantity of work done				
Total scores				

Group Presentation Evaluation

Communication - Structure and Organization of the Presentation (0 – 12 pts.)
Criteria to be considered:
- Presentation stimulates attention in its introduction
- Introduction contains clear purpose, and/or goals.
- Major ideas are clear/presentation is well organized
- Presentation parts create a unified whole
- Individual speakers refer to each other's points/make transitions
- Presentation includes summary for effective closure

Quantitative Content (0 – 16 pts.)
Criteria to be considered:
- Presentation speaks to the assignment guidelines/objectives
- Presentation reflects thorough research
- Supporting material is thorough/sufficient
- Speakers demonstrate genuine knowledge of topic
- Material is interesting
- References are cited in bibiliography
- An attempt is made to be creative
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Communication – Presentation Delivery (0 – 10 pts.)
Criteria to be considered:
- Presentation exhibits conversational style/extemporaneous delivery
- Presentation exhibits appropriate voice tone, volume, rate, and enthusiasm
- Presentation demonstrates audience awareness
- Presentation is equally distributed among group members
- Vocal distractions are minimal (i.e., "umm" and "like")

Quantitative - Presentation Materials (0 – 6 pts.)
Criteria to be considered:
- Presentation material is effective/professional
- Visuals are professional/appropriate
- Bibliography utilizes proper format (either APA or MLA)

Teamwork - Peer Evaluation (0 – 6 pts.)
Criteria to be considered:
- Comments from your team
- How well did the team work together?