Statistics Foundations Waiver Exam

• Waiver exams must be taken within the first year of starting GSM classes
• The waiver exam may be taken only once per subject
• Arrangements are made with the faculty proctor for the subject area
• The cost of the waiver exam is $100 payable prior to exam date
  o Payment recommended at least two weeks prior to the exam
• Please forward the check to the Graduate School of Management (GSM), made payable to:

  Marquette University Graduate School of Management
  David Straz Hall, Executive Center, Suite 275
  PO Box 1881
  Milwaukee, WI 53201-1881

• Upon receipt of the fee, the GSM will notify the faculty member and provide written documentation authorizing the waiver exam

Statistics Foundations Waiver Examination Information

The exam:
The examination consists of 26 multiple choice and true/false questions and 20 questions where you must show your work with the solution. The multiple choice and true/false questions are each worth one point. The other 20 questions range from 2-6 points per problem. You will have two hours and thirty minutes to complete the exam. The test is open book. You will need to bring a Statistics text with you, as you will probably need to use some of the tables in the text. A grade of 80 or above is needed to be waived from MANA 6001 (Statistics Foundations). Note that though this is an open book exam, you must be comfortable with the material before you start the exam. If you are not comfortable with the material before the exam, you will not finish the exam.

Scrap paper will be provided.

Topics Covered and Points per Topic:

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For a further breakdown of the topics, please see the next page.

Calculator:
You will need a calculator for the examination. Your calculator should be able to do (at least) exponential functions. Calculators that can store data or that are communications devices are not allowed.
If you have any questions about the exam, please ask Bob Collins (office: DS 228, phone: 414-288-3412, e-mail: robert.collins@marquette.edu).

Review:
Following are the topics covered on the exam:

Data
- Categorical vs. Quantitative

Descriptive Statistics: Numerical Methods
- Measures of Location
  - Mean
  - Median
  - Mode
  - Percentiles
- Measures of Variability
  - Range
  - Variance
  - Standard Deviation
- Measures of Location and Detecting Outliers
  - z-score
- Measures of the shape of Distributions
  - Skewness
- Measures of Association
  - Covariance
  - Correlation Coefficient

Probability
- Basic
- Conditional
- Mutually Exclusive
- Independent

Probability Distributions
- Discrete
  - Expected Value
  - Variance
  - Binomial
  - Poisson
- Continuous
  - Uniform
  - Normal
  - Exponential

Sampling and Sampling Distributions
- Inferential Statistics
  - Sampling Distribution of the mean
  - Sampling Distribution of the proportion

Hypothesis Testing and Confidence Intervals
- Means: One Population
- Two Populations
- Proportions: One Population
- Appropriate Sample Size

Chi-Square Tests
- Goodness of Fit
- Test of Independence (Contingency Tables)

Analysis of Variance
- Completely Randomized Designs

Regression and Correlation
- Simple Linear Regression
  - Coefficient of Determination
  - Hypothesis Testing

Text:
I suggest that you use the text that you used during your undergraduate studies.

Updated: 8/2013