**Unit Memo 2 Rubric – Analyzing Data Through Univariate Models**

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| EXPECTED LEVEL | IMPRESSIVE LEVEL | **Area** |
| * □ Tries models that treat some “numerical-like data” as categorical (i.e. Crew)
* □ Correctly describes a typical shipment, using averages
* □ Correctly determines what the best model has to say about “typical shipments”
* □ Displays several graphical summaries of the data, using boxplots and histograms
* □ Constructs reasonable pivot tables to show how the variables inter-relate
 | * □ Correctly describes variation in typical shipments (standard deviation, etc.)
* □ Accurately describes variation in model predictions
* □ Side-by-side boxplots are used to provide more insight into the situation
* □ Pivot tables are displayed in more than one format (e.g. count, average, standard deviation, percentage of total, etc.)
* □ Additional tools are used to make sense of the data (e.g. z-scores, computed variables, etc.)

□ Errors in original are corrected in revised version | **Mechanics and Techniques**□ Unacceptable□ Un/Exp□ Expected□ Exp/Imp□ Impressive |
| * □ Includes a preliminary analysis of expected relationships among variables that is complete
* □ Provides a reasonable interpretation of the “typical shipment” for the manager
* □ Recommendation to manager shows how to account for different size crews and shipments
* □ All graphical summaries are interpreted for the reader
* □ All pivot tables are interpreted for the reader
 | * □ Preliminary analysis of relationships among variables is accurate and well-reasoned
* □ All inferences made from evidence provided are reasonable and well-explained
* □ Analysis does reasonable job explaining how crew size, shift, and truck type relate to performance
* □ Recommendation to manager is reasonable
* □ Recommendation to manager provides for ways to know if a crew is under/over performing

□ Errors in original are corrected in revised version | **Application and Reasoning**□ Unacceptable□ Un/Exp□ Expected□ Exp/Imp□ Impressive |
| * □ Assignment was submitted on time
* □ Submitted as a single Word or PDF file
* □ Submitted in report form with header
* □ The writing is competent (grammar, spelling are basically correct)
* □ There is an adequate introduction to the problem situation
* □ The introduction clues the reader as to what to expect in the memo
* □ Charts are legible and not fragmented
* □ All axes and text on graphs are readable.
* □ All parts of memo are addressed
* □ Supporting computer output is embedded in the memo
 | * □ The writing adequately deals with the complexity and depth of the analysis
* □ Text and graphics are well integrated in a way that facilitates the reader’s understanding
* □ Creates own chart(s) for collecting and summarizing results to facilitate comparisons of the models
* □ Memo includes a conclusion summarizing the results of the analysis (executive summary)
* □ Conclusion states how accurate we can anticipate the predictions of the models will be.
* □ Overall, the graphs, charts, and text have a professional appearance.

□ Errors in original are corrected in revised version | **Communication and Professionalism**□ Unacceptable□ Un/Exp□ Expected□ Exp/Imp□ Impressive |