**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 |