**ADTA 5230 Final Exam Guide**

Here are the essential details for the Final Exam:

* **Format & Duration:** The exam will consist of approximately 40 multiple-choice questions. You will have 110 minutes to complete it. You can use your course materials (notes, textbook, etc) during the exam. However electronic devices and communication is NOT allowed.
* **LockDown Browser:** The exam will use a lockdown browser. Please make sure you install it before the exam starts.
* **Completion:** Once started, the exam must be completed in one sitting. The option to pause and resume later is not available.
* **Preparation:** Study the topics we've covered this semester thoroughly. For guidance on which areas to focus on, refer to the detailed list provided in our course materials.
* **Practice Exam:** A practice exam is available on Canvas to help you prepare. You can attempt this practice exam up until two days before the actual exam. Please note that the practice exam's grade does not contribute to your final grade.

If you have any questions or need further clarification, please feel free to reach out.

1. **A general knowledge of Python programming**
   1. Importing data
   2. package names and some essential functions
   3. some simple commands such as “.head()”, “.drop()” etc.
   4. create dummies (pd.get\_dummies)
2. **Chapter 6: Multiple Linear Regression**
   1. Interpretation of the coefficients
   2. Making predictions.
   3. Variable Selection: Forward Selection, Backward Elimination
   4. R2 and Adjusted-R2
3. **Chapter 7: KNN Algorithm**
   1. Advantages/Disadvantages
   2. KNN algorithm
   3. KNN model evaluation
   4. What is Euclidean distance and how to find it.
   5. Steps of KNN
4. **Chapter 9: Classification and Regression Trees**
   1. Classification tree requirements
   2. Impurity measures
   3. Decision rules
5. **Chapter 10: Logistic Regression**
   1. Estimate Probability
   2. Difference between linear regression and logistic regression
6. **Chapter 11: Neural Nets**
   1. Activation function types
   2. Deep learning
   3. NN layers