Applying Optimization in a Real World Setting: Your Topic Here Academic Level : Bachelor Paper details Essay Guidelines: - Your paper should be 2 to 3 pages in length - It may be hand-written or typed - Your Title should be “Applying Optimization in a Real World Setting: Your Topic Here” - You may use any format you choose (MLA, APA, or no format as long as your paper looks professional and is easy to read). - Due Date: Your essay should be e-mailed to Professor Trunkhill prior to April 30th at midnight. Late papers will receive a late penalty. Components for your Essay: Section 1: Introduction - Describe the real-world application that you chose to investigate. Give any background information necessary to understand your topic. Be specific! Section 2: Body - Describe the strategy behind your solution and show all of the steps required to solve your problem. Assume that the reader will not understand your solution unless you completely explain your work. Section 3: Conclusion – Cite any sources you used to complete your paper and explain why you chose to solve this particular problem. Example Topics: Recall that Optimization is where we set up an Objective function and a Constraint function to find the optimal solution using Critical Values and the 2nd Derivative Test. We solved many problems this way including box problems, soup cans problems, beam strength problems and advanced container problems. For your essay, you may use any problem that we did not solve in together in class or as part of the homework. You can make up your own example or find one in from an outside resource such as a textbook, YouTube, or from a Google search. Thousands of these problems exist, so try to find one that you would enjoy working on. Grading Criteria: I have assigned a short essay in lieu of a traditional exam since I believe it will give you the best chance to maximize your points given our current set of circumstances. The amount of effort you put into your paper will be directly reflected in the grade you receive. In particular, I will consider the following criteria when grading your papers: - The Quality of the Problem: If you choose a very simple problem (such as a box problem), you can expect a lower grade. If you choose a more advanced problem (such as an advanced container problem or an engineering problem like the beam problem) you can expect a higher grade. - The Explanation and Solution: Please explain the details of your problem along with how you set up the Objective and Constraint functions. In addition, be sure to include all of the steps for your solution including the 2nd derivative test. - Accuracy and Completeness of your Solution: I will make deductions for a solution that contains errors or missing steps.