Grading Rubrics for Reverse Engineering Project – DUE 10/3/16

Deliverable 1: Nutritional Label Evaluation – from Lab 2

10 pts	Label Deconstruction	Pts Received and Comments
	☐ Component functionality: each nutrient has description of main purpose(s) in the product ☐ Each component that is composed of other ingredients should be broken down ☐ Physical dimensions of product are listed (L, W, H, volume, mass, color/appearance)	
10 pts	Nutrition description ☐ Description of nutrition ☐ Potential hurdles or challenges to improving nutrition	

Deliverable 2: Linear Programming – from Lab 4

25 pts	Linear Programming	
	☐ Functional MS Excel or MatLAB program* ☐ Nutrition label reflecting best guess of ingredients ☐ If your current bar has additional voluntary information (extra vitamins and minerals), make sure you have those listed on your label as well ☐ Second label with product improvements ☐ Explanation of how changes have improved the nutrition of the bar** ☐ Description of where differences exist between your label and the label on the revised product	

Deliverable 3: Final Project (Includes Deliverables 1 and 2 in Report) – Due 10/5/15

25 pts	Process Flow Diagram(s)	
	☐ Show how much of each ingredient is added at the appropriate step (appropriate order of addition) ☐ Listed times, speeds, and temperatures on processing steps make sense relative to the batch size ☐ Processing steps make sense and use appropriate (logical choice) equipment ☐ # Bars/batch made and # Bars/time it takes to process: How many bars produced in a day? (Assume the length of a work day)	

25 pts	Product Improvements and Revisions ☐ Photocopy of current bar nutrition label ☐ State bar usage (energy/meal/snack) and comment on how that affects the nutrition panel ☐ Areas of concern that offer an opportunity for change/improvement ☐ Difficult to obtain ingredients identified ☐ Product/Process improvements described – be specific: how much of which ingredient you are going to add or change? ☐ Description of pro's and con's to making substitutions (cost vs. taste vs. health, etc)	
25 pts	Readability (spelling and grammar), Appearance, and Neatness ☐ No spelling or grammatical errors ☐ Charts are labeled and easy to read and understand ☐ Ingredients and functionality is clearly presented ☐ Flow chart is neat and logically ordered ☐ Overall professionalism and structure	
10 pts	Timely Completion of Deliverable 1 on 9/18/14	
10 pts	Timely Completion of Deliverable 2 on 9/25/14	
10 pts	Timely Completion of Deliverable 3 on 10/2/14	
150 pts	Total Score	

* Use USDA ingredient database (http://ndb.nal.usda.gov/ndb/) to obtain specific nutrient compositions for each ingredient.

**Use the FDA recommended daily values to help create a more balanced food product: http://www.fda.gov/food/guidanceregulation/guidancedocumentsregulatoryinformation/labelingnutrition/ucm064928.htm

NOTE: SELF and PEER Assessment will be done after handing in the project. These will be anonymous and only seen by the grader.