

BIOL 100L Human Biology Lab Nutrition Assignment

Due 14 November 2008

The purpose of this assignment is to make you more aware of your diet and whether or not you are providing yourself with good nutrition.

In order to complete this assignment, it is necessary for you to keep track of everything you eat for at least five (5) days. Do the best you can to make them "normal" eating days. They need not be consecutive days (omit a "strange" day that falls in the middle of your data collection. If you have a pattern of eating very light on some days of the week and very heavy on others, mix the days to reflect average eating.) You must write down not only what you eat, but an accurate indication of the amount you have eaten. Be sure to include what you eat at regular meals, as well as snacks and liquids (other than water). Note such things as butter on toast or sugar in coffee as separate items. If you have included any foods that are altered, such as "low fat" or "reduced", etc., indicate that on the chart. Brand names are also helpful. If you eat a combination foods, indent and list the ingredients so that you can do separate analyses for the items. **Do not include nutritional supplements, unless they contain Calories.**

After you have collected all your data, that is, made your lists, you will need to find the nutritional values of what you have eaten. You may use several sources for this information. Many good nutrition charts (books, tables, etc.) are available. Check the website for posted charts (keep checking as new resources may appear as I develop and post them). Of course, there are the nutritional labels found on cans and package in grocery stores. However, that information is usually presented as percents of the Daily Value (%DV), and you still have to convert these figures into units and milligrams (or micrograms or grams depending on how they are presented) in order to add them to other values you find for the foods you have eaten. A copy of the nutritional values of local (Hawaiian Islands) foods is available in PDF format on the website. Whatever source you use, be sure it is a good one, and be careful about how the nutritional values are expressed. It would be best to find a source that gives values for serving size portions (but be sure that you reflect the sizes of your servings in your calculations). For this report, **all food values must be expressed as amounts, not percents.**

In the right hand margin of the daily charts, indicate the source of your information for each item (text and reference number, label, name of other source). Also, keep track of any other sources of information that you use, as you will be asked to produce a list of references (bibliography) for your final paper.

The specific parts of the assignment are described below.

DAILY CHARTS (You will need to print out multiple copies of these, one for each day; copies are available from the website in PDF format.)

- A. List all foods and amounts for each day on one of the charts provided for the assignment.
- B. You are required to find certain nutrients for this analysis (Calories, protein grams, total fat grams, total fiber grams, Vitamin C, Iron, and Sodium.) There are two columns for you to use in evaluating one other vitamin (choose one) and one other mineral (choose one). Indicate your choice, including the units of measure, on the top of each of the final two columns.
- C. Find all the nutritional values as indicated. You can not calculate the totals if any values are missing, or if any values are expressed as percents. Calculate the totals for each day separately. Enter the totals in the row marked TOTAL. Then transfer that data to the summary chart.
- D. For each food item listed in the Daily Charts you need to indicate the source of your information regarding the nutritional content of that food item. There is a column on the Daily Chart where you can enter the reference or the reference code for that food item. As indicated above, you will need to present a complete bibliography for all of your information sources.

SUMMARY CHART

- A. Once all your daily data are entered, calculate the average intake for each nutrient over the five-day period (the summary chart is available in PDF format at the website).
- B. Next, find or calculate your own personal nutritional needs. This should be determined from the RDA charts and consider such things as body size, sex, age, activity level, life style, and other important factors. The daily values in the standard charts (posted in PDF format on the website) are usually based upon a 2000 Calorie diet. You will need to calculate your nutritional needs (daily values) based upon your daily Calorie expenditure using the formula below. The procedure for calculating your daily Calorie expenditure is also posted on the website (PDF format).

$$\text{Your Daily Value} = (\text{Daily Value Based upon a 2000 Calorie Diet}) \times (\text{Your Daily Calorie Expenditure} / 2000)$$

For example, if your daily Calorie expenditure is 2373 Calories, then your daily value of Vitamin C is calculated as follows:

$$\text{Your Daily Value of Vitamin C} = (60 \text{ mg Vitamin C}) \times (2373 / 2000) = 71.19 \text{ mg Vitamin C}$$

This result means that if your daily Calorie expenditure is 2373 Calories, you need to consume 71.19 mg Vitamin C each day.

- C. Subtract, and enter the differences (with the appropriate + or - sign) between your actual average daily intake and your required daily value (as calculated in B above) for each nutrient in the chart.
- D. Calculate the percentage deviation for each nutrient by dividing the difference by the recommended amount in each case. Enter these values as percents above (if you have eaten more than the recommended amount for that nutrient) or percents below (if you have eaten less than the recommended amounts).

WRITTEN REPORT

Write a report (probably 2-3 pages) summarizing and interpreting the results of your diet monitoring. Identify and evaluate your deficiencies and excesses. Comment as specifically as you can on what you could do to improve your diet. Bear in mind eliminating an item from your diet to reduce an excess of one factor may produce a deficiency in another. Conversely adding an item to make up for a deficiency in one factor may produce an excess in another. For the purposes of this assignment, you may not recommend the use of dietary supplements (e.g., vitamin pills). Your goal is to reach the appropriate balance using foods, not supplements.

BIBLIOGRAPHY

On a separate page list the full bibliographic details for your reference sources (texts, magazine articles, websites, food labels, etc.) used to compile nutritional information on the foods you eat.

REPORT SUBMISSION

A complete report will consist of five daily report charts, a summary chart, your written analysis, and bibliography. It would be best to submit this report to me through the mail.