**Senior PHE Research Assignment – Nutrition**

Curricular Competency addressed: “Students are expected to demonstrate reasoned decision-making related to their personal health and well-being.”

Curricular Content addressed:

* the role of nutrition and how it can affect health and performance
* potential short- and long-term consequences of health decisions

**Your task:**

Use reliable resources (databases, peer-reviewed journals, etc.) to research the topic of nutrition (specifics below). You can present your information either as a **written report** or as a **poster**. Your final presentation piece should incorporate text, graphics, pictures, etc. to clearly and completely explain your findings and demonstrate your understanding of the topic.

Your project should demonstrate your understanding of the following:

* Calories and daily caloric needs
  + define and describe
  + identify factors that influence a person’s daily caloric intake
  + identify ***your*** recommended daily caloric intake
* Macronutrients
  + name, define and describe the three major macronutrients
  + give examples of healthy food sources for each macronutrient
  + recommended percentage of macronutrient intake, depending on your fitness and body composition goals
* Micronutrients
  + name and define the two different types
  + give three examples of each type (six examples total)
  + give intake recommendations for each example you list
  + give examples of food sources for each micronutrient example you list
* Water
  + Identify and discuss its importance to health

You must also research to understand how your metabolism works. You will need to show your understanding of the following:

* Caloric deficit
* Caloric surplus
* Body composition
* Body Mass Index

Include a **sample one-day diet plan** based on the above information that will meet **your** fitness and body composition goals. Identify your fitness and body composition goals at the top of the sample diet. Your diet plan should cover a single 24 hour period, and be balanced in terms of macronutrients, micronutrients, fluid intake, and total calories, according to your research. When describing your diet, make sure to **be as detailed and accurate** as possible in terms of food type (including brand if necessary) and quantity (number, or weight/volume if applicable). Using a table might be a useful way of communicating this information.

Finally, you will need to **write a detailed paragraph** explaining the consequences of failing to have a diet that balances the appropriate macronutrient and micronutrient intake, along with not consuming the appropriate quantity of calories to suit fitness, performance, or health goals.

Your final product will be assessed as follows:

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| **Not Meeting Expectations** | **Minimally Meeting Expectations** | **Meeting Expectations** | **Exceeding Expectations** |
| * Incomplete; missing significant information. * Poorly organized; does not communicate ideas effectively. * Little understanding/   knowledge shown. | * Mostly complete; missing some important information. * Organization is mostly understandable. * Some understanding/   knowledge shown. | * Complete; all necessary information is included. * Organization communicates info well. * Complete understanding/   knowledge shown. | * Information is rich and detailed throughout. * Easily understood; organization adds to the overall understanding of the work. * Sophisticated under-   standing/knowledge shown. |