**NUT 10 Food Diary Project Assignment (4 Parts total)**

**PART C: Calculations**

**PART C: Calculations** (worth **66.5** points): Due on Canvas: **Thursday, May 2nd by 5 PM (PST)**

* + Upload your completed Food Diary Project Part C: Calculations assignment to Canvas\* (Microsoft Word file or PDF; must be typed)
  + **Lates accepted within 24 hours with an automatic 10-point deduction.**
  + Blank, handwritten, assignments without Nutrition Profiles from ASA24®\*, or assignments that do not match the values from your recordswill be given a 0.

*\* Additional points will be deducted for only using 1 or 2 food records for your project (-20 points for only using 1 record, -10 points for only using 2 records).*

***Come to office hours now to get your questions answered—our instructional team will not be answering questions after 12 PM (PST) on the due dates.***

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**1: Total Energy Requirement (page 2) (8 points)**

Use the equations below to calculate your total energy requirement. Round to the nearest whole number *(points will not be deducted for rounding)*. **Note: Edit this document using Microsoft Word (UC Davis has a free download—link provided on the Canvas assignment). If you’re using Pages, you won’t see the fill-in-the-blank spaces/boxes.**

1. **Calculate your Basal Metabolic Rate (BMR)**

Biological sex (select one):

Male

Female

Body weight (BW): 165 lbs 2.2 lbs/kg = 75 kg

**Calculate your BMR using one of the equations below based on your biological sex:**

Male: 1.0 kcal/kg\*hr x BW (kg) x 24 hr/day = BMR = 1800 kcal/day

Female: 0.9 kcal/kg\*hr x BW (kg) x 24 hr/day = BMR =       kcal/day

1. **Calculate your Daily Energy Requirement**

Activity Level:  Sedentary = 30% of BMR *(use 0.3)*

Light = 50% of BMR *(use 0.5)*

Moderate = 70% of BMR *(use 0.7)*

Strenuous = 100% of BMR *(use 1.0)*

1. **Activity:** 1800 kcal (BMR) x 0.5 (activity level) = 900 kcal for activity
2. **Thermic Effect of Food (TEF):** 2700 kcal (BMR + activity) x 0.05 = 135 kcal for TEF
3. **Energy Requirement:** 1800 kcal (BMR) + 900 kcal (activity) + 135 kcal (TEF) = 2835 kcal/day\*

\*\*Transfer this number to your kcal standard on the Nutrient Adequacy table (page 3)

1. **Calculate your Protein Recommended Dietary Allowance**

0.8 g/kg x 75 kg BW = 60 g/day\*

\*\*Transfer this number to your protein standard on the Nutrient Adequacy table (page 3)

**2: Nutrient Adequacy (page 3) (33.5 points total)**

Use your ASA24® report and the standard values located on the Canvas Food Diary Project assignment. Please note that it is not unusual for your intake of some nutrients to be greater than 100% of the standard. Round your 3-day averages and intake as a % of standard to the nearest whole number *(points will not be deducted for rounding)*.

*To calculate your intake as a % of standard, reference this example:*

If your average intake of protein was 40g and your standard is 50g, then your intake as a % of standard = (40g/50g) x 100 = 80%

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Nutrient** | **3-Day Average Intake** | **Standard\*** | **Intake as a % of Standard** | **Check** *(or highlight)* **if below 100%** |
| Calories (kcals) | 2534 kcals‡ | 2835 kcals\*\* | 89 % |  |
| Protein (g) | 101 g‡ | 60 g\*\* | 168 % |  |
| Carbohydrate (g) | 329 g‡ | 275 g | 120 % |  |
| Fiber (g) | 22 g‡‡ | 38 g | 58 % |  |
| Added Sugars (g) | 63 g | 50 g | 126 % |  |
| Saturated Fat (g) | 29 g | 20 g | 145 % |  |
| Sodium (mg) | 4789 mg | 2300 mg | 208 % |  |
| Folate (μg DFE) | 519 μg DFE | 400 μg DFE | 130 % |  |
| Niacin (mg) | 27 mg | 16 mg | 169 % |  |
| Thiamin (mg) | 1.9 mg | 1.2 mg | 158 % |  |
| Vitamin A (μg RAE) | 557 μg RAE | 900 μg RAE | 62 % |  |
| Vitamin B12 (μg) | 7 μg | 2.4 μg | 292 % |  |
| Vitamin C (mg) | 293 mg | 90 mg | 326 % |  |
| Vitamin D (IU) | 237 IU | 600 IU | 40 % |  |
| Calcium (mg) | 779 mg | 1000 mg | 78 % |  |
| Iron (mg) | 17 mg | 8 mg | 213 % |  |
| Potassium (mg) | 3575 mg | 3400 mg | 105 % |  |
| Zinc (mg) | 13 mg | 11 mg | 118 % |  |

\*Standard values located on the Canvas Food Diary Project assignment on the “Nutrient Standards” PDF document *(do not round these values; do not use the target values from ASA24)*

\*\*These values come from your calculations on page 2

‡ Pages 4-5 you will need to show your work for calculating the averages for kcals, protein, and carbohydrates

‡‡Transfer your average fiber intake to the fiber table on page 5

**3: Diet Evaluation (pages 4-5) (25 points)**

Answer the questions below based on data from the ASA24® records of your 3-day food intake. You will need to calculate your averages. Round to the nearest whole number *(points will not be deducted for rounding)*.

1. **Energy Macronutrient Distribution:** In this section, you will calculate your 3-day average energy macronutrient distribution. You will need to know the physiological fuel value for carbohydrates and protein from the course content.

**Total average calories:** Use the kcal values from ASA24® on page 3:

1. **Total average calories (kcals)** = = 2534 kcals\*

\*use this number in step 3 for carbohydrates and protein

**Carbohydrate intake:** Use the gram values from ASA24® on page 7:

1. **Average carbohydrate (g)** = = 329 g
2. 329 g **(Average g from step 1)** x 4 kcals/g **(carbohydrate physiological fuel value)** = 1316 kcals
3. **Average % of total calories** = x 100% = 52 %\*

\*transfer this % to the table on page 5

**Protein intake:** Use the gram values from ASA24® on page 7:

1. **Average protein (g)** = = 101 g
2. 101 g **(Average g from step 1)** x 4 kcals/g **(protein physiological fuel value)** = 404 kcals
3. **Average % of total calories (%)** = x 100% = 16 %\*

\*transfer this % to the table on page 5

**Fat intake:** Total grams of fat are not provided, so please use the % values from ASA24® on page 3.

1. **Average % of total fat calories (%)** = = 33 %\*

\*transfer this % to the table on page 5

|  |  |  |
| --- | --- | --- |
| **Nutrient** | **Average % of Total Calories\***  [(Average Calories of nutrients) / (total average calories (from ASA24 records))] x 100 | **Acceptable Macronutrient Distribution Range** |
| Carbohydrate | 52 % | 45-65% |
| Protein | 16 % | 10-35% |
| Fat (Total) | 33 % | 20-35% |

*🡪Check if the sum of Average % of Total Calories is ~ 100% (+ 5%)*

1. Which statement below describes your 3-day average **carbohydrate** intake?

My intake is within the Acceptable Macronutrient Distribution Range

My intake is below the Acceptable Macronutrient Distribution Range

My intake is greater than the Acceptable Macronutrient Distribution Range

1. Which statement below describes your 3-day average **protein** intake?

My intake is within the Acceptable Macronutrient Distribution Range

My intake is below the Acceptable Macronutrient Distribution Range

My intake is greater than the Acceptable Macronutrient Distribution Range

1. Which statement below describes your 3-day average **total fat** intake?

My intake is within the Acceptable Macronutrient Distribution Range

My intake is below the Acceptable Macronutrient Distribution Range

My intake is greater than the Acceptable Macronutrient Distribution Range

1. For dietary fiber, list your recommended Adequate Intake and 3-day average intake:

|  |  |  |
| --- | --- | --- |
| **Your 3-Day Average Intake** *(from ASA24 records)* | **Adequate Intake**  *(25 g/day for females and 38 g/day for males)* | **Calculate Your 3-day Average as a % of Adequate Intake**  *(ex: [7g/25g] x 100% = 28%)* |
| 22 g/day | 38 g/day | 58 % |

1. Which statement below describes your 3-day average fiber intake?

My % Adequate Intake is at least 100%, so I am meeting my fiber needs

My % Adequate Intake is below 100%, so I could improve my fiber intake

1. How many more grams of fiber would you need to eat in order to meet your fiber Adequate Intake? *(if you met your Adequate Intake, write in “0”)*

38 g (Adequate Intake) – 22 g (Your average intake) = 16 g

1. MyPlate Recommendations **–** Use your ASA24® report for ONE day to complete the table below: **(6.5 points)**

Date Selected: 04/23/2024 (mm/dd/yyyy)

**\*Refer to the USDA MyPlate website for examples from each food group:** [**https://www.myplate.gov/eat-healthy/what-is-myplate**](https://www.myplate.gov/eat-healthy/what-is-myplate)

|  |  |  |  |
| --- | --- | --- | --- |
| **Food group** | **Below**  **recommendations** | **At or above recommendations** | **List one food that contributes to each MyPlate food group** *(this can come from either your food records OR an additional food you can include in the future)* |
| Grains |  |  | **Please list a whole-grain choice for the grains group:**   * **Whole wheat bread** |
| Fruits |  |  | * **Apple juice** |
| Dairy |  |  | * **Cheese Pizza** |
| Protein Foods |  |  | * **Meatballs** |
| Vegetables |  |  | * **Celery** |

**Part C Grading Rubric: Total Points Possible = 66.5 points**

*\*\** *If you do not submit any food records, both Part C and Part D will be graded as a 0. Additional points will be deducted for only using 1 or 2 food records for your project (-20 points for only using 1 record, -10 points for only using 2 records), so even if you miss the deadline, please complete all 3 food records*

***\*\*If your calculations do not match the values from your food records, your Part C will be graded as a 0.*** *Please double-check your calculations and/or attend office hours to ask questions.*

| **Section** | **Question(s)** | **Full credit** | **Partial Credit** | **No Credit** |
| --- | --- | --- | --- | --- |
| 1: Total Energy Requirement | 1-3 | **8 points**: All boxes are checked and all calculations are correct | -0.5 point for each incorrect number; -0.5 points for each unchecked box (max = -8 points) | 0 points: either left blank or the calculations are incorrect |
| 2: Nutrient Adequacy--Table  % of standard table  \*\*must use 3 food records | % of standard table | **33.5 points** for completed table with correct calculations | -0.5 point for each incorrect or blank number (max = -31 points) | 0 points: either left blank or the calculations are incorrect |
| 3 A: Diet Evaluation | 1 (average kcals + tables) | **13.5 points**; correct calculations | -0.5 points for each missing or incorrect number; duplicate incorrect numbers not taken off credit | 0 points: either left blank or the calculations are incorrect |
| 3 A: Diet Evaluation | 1a, 1b, 1c | **1.5 points**; all boxes are checked | -0.5 points for each box that is not checked/incorrectly checked (max = -1 point) | 0 points: no boxes checked |
| 3 B: Fiber | 2 (includes 2a, 2b) | **3.5 points**; correct fiber calculations and the checked box | -0.5 point for each missing or incorrect number; -0.5 points for no checked box | 0 points: either left blank or the calculations are incorrect |
| 3 C: MyPlate | 6 | **6.5 points**: Completed table & includes correct MyPlate foods | -1.5 point if day isn’t selected  -0.5 point if unchecked box(es) and/or includes foods not considered to be in the MyPlate groups | 0 points: left blank; no credit given if foods don’t match any from record |