# EXAM FORMAT FOR NUTR 240: Writing your own exam

Exam topics will be released to you at 2:40 pm on the MIDTERM dates (Wednesday, 9/23 and Wednesday 10/28) and will be due the following Saturday by 11:55 pm. You will be randomly assigned 5 topics from which to choose 4 questions (different topic for each question you write- for example, you can’t write 4 digestion questions for Midterm exam 1). Not everyone will receive the same topics.

Midterm 1 topics: Nutrition Guidelines, Digestion, Carbohydrates, Lipids, lipid soluble vitamins, Proteins, Metabolism

Midterm 2 topics: Alcohol, B vitamins, Water and electrolytes, Bone health and minerals and vitamin C, trace minerals, nutrition and physical activity, nutrition and pregnancy, lifecycle nutrition, food safety and food additives, obesity

**Final Exam topics:** Any lecture topic is fair game. Final exam topics will released on 11/16 between 3:30 and 4:00 pm with a due date of November 20th at 3 pm.

**Exam Structure:**

Please write 4 exam questions, short answer type. In addition, you must provide an answer, why that answer is correct and why alternative answers are incorrect. See the grading rubric below, and the examples provided. You will have 72 hours to complete. You must work alone- no working/conferring with your classmates or anyone else. You can use your textbook, your notes, sakai site materials and internet sites for gaining additional information, if needed. In general, you should not rely on the internet for this exam, as it may distract and confuse you. However, you are allowed to search the net if you wish. Please do not download any existing questions you may find on the internet- plagiarism will result in an automatic 0. If you can find them, you know that I will find them.

**Please do not submit your exams late. I will take 10 points off for every 12 hours you are late submitting. You can’t be more than 48 hours late (which would be a 40 point deduction!)**

# GRADING RUBRIC

**TYPE OF QUESTION BASED ON BLOOM’s TAXONOMY (see pages 5-7)**

EVALUATE *6 points*

ANALYZE *5 points*

APPLY *4 points*

UNDERSTAND *3 points*

REMEMBER- *2 points*

**CLARITY OF QUESTION**

Easy to understand *6 points*

Close to understanding- but could have been written in a more straightforward way *5 points*

Have to read carefully to make sure the question is understood *4 points*

Somewhat misleading, there is at least one plausible alternative explanation that cannot be ruled out *3 points*

Very misleading, could be interpreted in multiple ways with multiple possible answers *1 point*

Can’t understand what kind of answer is required *0 points*

**ANSWER PROVIDED**

Answer is correctly provided *6 points*

Answer is correctly provided, but not contains material that is irrelevant to the question *5 points*

Answer is only partially correct, *3 points*

Answer is almost completely wrong *1 point*

Answer does not match question at all *0 points*

**Explanation of answer and why alternative answers are incorrect**

Explanation is clear and precise, with multiple wrong alternatives discussed *6 points*

Explanation is clear and precise, but alternatives are incompletely discussed *5 points*

Explanation is clear and precise, but alternatives are not considered *4 points*

Explanation is missing one or 2 key points *3 points*

Explanation is missing multiple key points *1 point*

Explanation is wrong *0 points*

**Total Points Possible for Each Question: 24 points**

**Total Points Possible for each exam: 96 points**

**This is an example of a 2 point “Remember” question**

1. Draw a saturated fat, polyunsaturated fat and a monosaturated fat and name them.

**This is an example of a 3 point “understand” question**

2. Under what conditions would glucagon be released into the bloodstream?

**This is an example of a 4 point “apply” question**

3. Your roommate, Omar, ate some spoiled food, and consequently developed severe diarrhea. Explain how his body is responding to the fluid loss.

**This is an example of a 5 point “analyze” question**

4. A 65-year-old, slightly obese friend of your cousin tells you that her doctor told her that her “bad” cholesterol was high and her “good cholesterol” was low and her triglycerides were high. She wants you to explain in detail what bad and good cholesterol are, what triglycerides are and how they might affect her health, and what are her possible risk factors to account for the cholesterol levels? What are possible outcomes if she doesn’t control her cholesterol and triglyceride levels?

**This is an example of a 6 point “evaluate” type of question with answers: This question and answer would get full points- 24 points**

5. A six month old child is brought to the emergency room due to failure to thrive and chronic, foul-smelling diarrhea. The child has been exclusively breastfed. There was no infection noted, and no history of infections. A lipid profile showed low levels of LDL, HDL and total cholesterol, although triglyceride levels were within normal range. A test for lipase was normal. A high blood clotting time was noted, and liver function was compromised. Low serum levels of vitamin A were also noted, although vitamin D was normal. What is the likeliest explanation for this child’s problem for the data provided? How would you confirm the diagnosis? Explain the findings and the possible treatments. What would you expect to occur without treatment?

Correct answer: can’t make or release chylomicrons from the enterocyte.

Explanation: Chylomicrons are required to move long chain fatty acids and fat soluble vitamins from the enterocyte into the lymph, and then into the blood stream for cells to use. The reasoning to come to this conclusion is due to several clues: lack of fat soluble vitamin A, so can’t get from the diet into the blood stream through the chylomicrons, vitamin D normal, which could mean the child can get vitamin D from sun exposure, so no need to get from diet. High clotting time suggests another fat soluble vitamin missing-vitamin K- again suggesting that the carrier for fat from the enterocyte is missing.

Alternative answers and reasoning to reject alternatives:

a) not lactose intolerant- would not affect fat in the stool-foul smelling diarrhea means fat in the stool

b) not CF-lipase normal

c) not pancreatic insufficiency-lipase levels are normal

d) not celiac disease-breast-feeding, not eating gluten to trigger

e) can’t make LDLs- but LDLs are low, not missing. And wouldn’t have the fatty stool problem

Diagnosis: Oral fat loading: have the child fast and then give a long chain fatty acid fat bolus. Should not see an increase in serum lipids at 2, 3 or 5 hours because chylomicrons are not getting out of the enterocyte, or not being made.. Can confirm with genetic testing.

Treatment: Provide foods with predominantly medium chain and short chain fatty acids rather than foods with long-chain fatty acids. Provide intravenous or large amounts orally of essential fatty acids. Provide missing fat soluble vitamins

If not treated- will develop a severe essential fatty acid deficiency (in linoleic and linolenic acid). This is because the liver can make all other fatty acids. DHA and EPA, synthesized from essential fatty acids, are important in brain and retina development and function. Child will also be deficient in A, E, D (if no sunlight) and K. Clinical symptoms include dermatitis (due to lack of essential fatty acids), intellectual deficiency (due to lack of essential fatty acids), delayed bone growth (due to lack of vitamin K and possibly D), blindness (lack of vitamin A and lipids needed for normal eye development/maintenance).

**This is an example of a question that would not get full points**

6. A child is vitamin A deficient due to a poor diet. Explain the symptoms and ultimate outcome if the deficiency is not treated? Explain why a deficiency in vitamin A leads to these outcomes. This is a 3 point understand question

This is easy to understand- 6 points for clarity of question.

Answer: The child would have night blindness. Answer is somewhat correct, but does not explain that the child may also develop blindness. Answer is only partially correct, *3 points*

Explanation of answer: This is because vitamin A is used in vision cycle. Missing from the answer: how vitamin A functions in the vision cycle (e.g. rhodopsin/opsin, retinol/retinal cycling) and no discussion of retinoic acid being used to alter gene transcription in endothelial cells of the cornea,- causing dry, scarred corneas. This is a very minimal answer. Explanation is missing multiple key points *1 point*

**This question would receive 13 points out of a possible 24**

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| **Definitions** | **I. Remembering** | **II. Understanding** | **III. Applying** | **IV. Analyzing** | **V. Evaluating** |
| **Bloom’s Definition** | Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. | Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas. | Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way. | Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. | Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. |
| **Verbs** | * Choose * Define * Find * How * Label * List * Match * Name * Omit * Recall * Relate * Select * Show * Spell * Tell * What * When * Where * Which * Who * Why | * Classify * Compare * Contrast * Demonstrate * Explain * Extend * Illustrate * Infer * Interpret * Outline * Relate * Rephrase * Show * Summarize * Translate | * Apply * Build * Choose * Construct * Develop * Experiment with * Identify * Interview * Make use of * Model * Organize * Plan * Select * Solve * Utilize | * Analyze * Assume * Categorize * Classify * Compare * Conclusion * Contrast * Discover * Dissect * Distinguish * Divide * Examine * Function * Inference * Inspect * List * Motive * Relationships * Simplify * Survey * Take part in * Test for * Theme | * Agree * Appraise * Assess * Award * Choose * Compare * Conclude * Criteria * Criticize * Decide * Deduct * Defend * Determine * Disprove * Estimate * Evaluate * Explain * Importance * Influence * Interpret * Judge * Justify * Mark * Measure * Opinion * Perceive * Prioritize * Prove * Rate * Recommend * Rule on * Select * Support * Value |

Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing, Abridged Edition. Boston, MA: Allyn and Bacon.

**BLOOM’S TAXONOMY FOR WRITING TEST QUESTIONS:**

* **Remember**
  + Recognizing
  + Recalling
  + Define
  + Show
* **Understand**
  + Interpreting
  + Exemplifying
  + Classifying
  + Summarizing
  + Inferring
  + Comparing
  + Explaining
* **Apply**
  + Executing
  + Implementing
  + Solving
  + Identifying
  + Developing
* **Analyze**
  + Differentiating
  + Organizing
  + Attributing
  + Analyze
  + Distinguish
  + Examine
  + Classify
* **Evaluate**
  + Checking
  + Critiquing
  + Assessing
  + Concluding
  + Interpreting