

Connecting Bloom’s Taxonomy to Learning Activities

Levels of Bloom’s Taxonomy (Revised Version)	Explanation of Level	Example Verbs Used for Learning Objectives	Example Learning Activities (What students can do!)
Remembering	Recognize and recall previously memorized information, such as facts, terminology, problem-solving strategies, rules	Arrange, define, identify, label, list, match, name, recall, recite	Quiz self on vocabulary words using flash cards Practice labeling a diagram or picture
Understanding	Demonstrate a comprehension of the facts, such as explaining a concept in your own words	Classify, compare, contrast, differentiate, discuss, distinguish, describe, explain, rewrite	Explain a concept in your own words Discuss course content with peers
Applying	Use information to solve problems; transferring theoretical concepts to practical situations	Apply, calculate, demonstrate, examine, illustrate, solve, use	As you review a process ask what would happen if you changed a step or level in the process
Analyzing	Break objects or ideas into component parts, determining how parts relate to one another and to the overall structure	Analyze, breakdown, deconstruct, examine, infer, model, question, select	Analyze and interpret data Compare and contrast two ideas or solutions
Evaluating	Judge the validity of ideas or quality of work based on a set of criteria	Appraise, argue, assess, critique, evaluate, grade, judge, recommend	Develop or use a rubric to provide a written peer assessment of strengths and weaknesses of another student’s work.
Creating	Combine information to create a unique idea, solution, or product	Assemble, create, combine, compose, construct, hypothesize, reorganize, synthesize	Generate a hypothesis or design an experiment based on the topic area you are studying

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Example assessment questions at each level of Bloom’s Taxonomy using the topic of water relations in food.

- 1. Remembering:** Define the terms moisture content and water activity.
- 2. Understanding:** Explain why water activity is related to stability, but moisture content is not.
- 3. Applying:** Examine the impact on the water activity and stability of fruit roll ups if the temperature is increased from 25°C to 40°C.
- 4. Analyzing:** Analyze the stability of crackers, which have a water activity of 0.25 at 25°C, compared to bread, which has a water activity of 0.96 at 25°C.
- 5. Evaluating:** Assess the design and results of a new experiment (under creating) developed and carried out by another student.
- 6. Creating:** Design and carry out an experiment to test the microbial stability of a food system at a water activity of 0.90.

References

Bloom, B, Englehart, M, Furst, E, Hill, W, Krathwohl, D. (1956). Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain. New York: McKay.

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Fink, L.D. (2003) Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses, San Francisco: Jossey-Bass.

Krathwohl, D. R. (2002). A Revision of Bloom’s Taxonomy: An Overview. Theory into Practice, 41(4): 214-218.

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Activity: Write two assessment questions on the same topic, one at a low and one at a high level of Bloom’s Taxonomy. Exchange papers with a partner. Partner determines the specific Bloom’s Taxonomy level of each assessment question. Lastly, discuss the importance of the objectives, teaching and assessing your students at the same level of Bloom’s Taxonomy.

Level	Assessment Questions	Specific Level of Bloom’s?
Low		
High		

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Name: _____

1. How engaged are you in the ANSC 452 class?

I attend ANSC 452 always/almost always/sometimes/not very often.

I spend 1-2 hours/about an hour/less than an hour engaging with ANSC 452 material each week.

I write out answers to the lecture learning outcomes for every lecture/for some lectures/not at all.

I write out answers to all/some/none of the practice questions posted on Compass.

I talk about the material we are learning in ANSC 452 often/sometimes/never.

2. Approximately how much time did you spend preparing for this exam? When did you start studying?

3. What percentage of your test preparation did you spend on the following?

	% of Time Spent
Looking at the Powerpoint slides or your notes	
Rewriting Powerpoint slides or your notes	
Reading Learning Objectives	
Writing out Answers to Learning Objectives	
Reviewing Online Assignments or Practice Questions	
Talking about the class material with a friend or group	
Other: _____	

4. Now that you have looked over your graded exam, what percentage of the points missed do you think were the result of the following? (Just estimate. We are going for an overall feel here.)

	% of Points Missed
Didn't understand what the question was asking	
Didn't connect the question to the right unit of the class	
Didn't answer all parts of the question	
Couldn't remember a pathway or got the steps wrong	
Didn't know how to approach the question	
Didn't see the application of the learning objectives	
Other:	
Other:	

5. Based on the outcome of your exam and your answers above, what will you do differently next time to prepare for the exam or while you are taking the exam? (please list 1-3 things)

6. What can Dr. Dilger do to help support your learning and preparation for the next exam?

FSHN 101 – Introduction to Food Science and Human Nutrition, Fall 2018
Exam Wrapper for Hour Exam 3

Name: _____ E-mail: _____@illinois.edu

Purpose and Instructions: An exam wrapper is a short, reflective activity that asks you to review your performance (and the instructor's feedback) on an exam with a focus on adapting your future learning. Complete the exam wrapper questions below and submit a hard copy during class on Wednesday, December 5, 2018. Please type your responses using this template.

A. Please provide a brief, but thorough response to the following questions.

1. How did you prepare for the exam?

Please check each exam preparation activity you did in preparation for exam 3. Use the check minus (✓-, used a little), check (✓, used in moderate amounts), and check plus (✓+, used heavily) system. If you did *not* use an activity, leave it blank. Add activities not listed.

Used	Preparation Activity	Used	Preparation Activity
	Review/Re-read lecture materials		Attend Office Hours
	Review/Re-read notes taken in class		Attend Review Sessions
	Underline or Highlight notes		Filled out Study Guide
	Re-write notes		Applied the LSU Study Cycle
	Read Recommended Text		Self-Quizzing
	Note-cards or Flash cards		Microtheme Generated Questions
	Review Compass Materials		Example Exam 2 Questions
	Review Microthemes		Study Group
	Watch Compass Videos		Other:
	Other:		Other:
	Other:		Other:

2. Reflect on your habits and behaviors during Section 3 and rate yourself on the following activities/success skills using a scale from 1 (= poor/needs significant improvement) to 10 (= excellent/implemented regularly and successfully).

Rating	Habits and Behaviors
	Attended class
	Took notes during class
	Asked questions during class
	Got adequate sleep each night (7 or more hours)
	Used time management practices
	Set study goals
	Review lecture materials and notes <i>after each</i> lecture
	Studied throughout the section (not just a few days before the exam)
	Motivation to do well
	Other:
	Other:
	Other:

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3. Using the Table below, fill-in the following items for each exam question that you got incorrect:
 - a. Was the question at a Low (Remembering and Understanding) or High (Applying to Creating) level of Bloom’s Taxonomy?
 - b. Was the type of question Multiple Choice or True False?
 - c. What material did the question cover?
 Options include: Overview of Food Processing, Microorganism characteristics, Fermentation, Biotechnology, Food Borne Illness, Refrigeration and Freezing, Thermal Processing, Water Removal.
 - d. Why was your answer incorrect?
 - e. Why do you think you got the question incorrect? (Example: Silly mistake; Just didn’t know the answer; Question was not clear*, etc.,). Please be as specific as possible.

a. Bloom’s Level	b. Question Type	c. Question Topic	d. Why incorrect?	e. What went wrong?

*If question was unclear, please explain why.

4. After analyzing each question that you got incorrect, do you see any trends or patterns?

5. What specific changes to your exam preparation activities (Question 1 above) or your habits and behaviors (Question 2 above) do you plan to make to improve your Exam 4 score?

6. Do you have any suggestions for improving how the material is presented in lecture to enhance your learning of the course material?

7. Is there anything else you would like to share with us?

