Rubrics

(from https://ctl.yale.edu/Rubrics)

There are two major types of rubrics:

- Holistic – a single score is assigned that describes the general “level” of performance
- Analytic – scores are assigned for several different criteria within the assignment

In computer science, we tend to utilize analytic rubrics much more frequently, but holistic rubrics can still be useful (particularly for more subjective components, such as “style”).

Developing a rubric:

1) Define the **goal and purpose** of the task that is being evaluated.
2) Decide **what kind of rubric** to use.
3) Define the **criteria**.
4) Define the rating scale to measure **levels of performance**.
5) **Write descriptions** for each performance level of the rating scale.
6) **Test and revise** the rubric.

General Grading Guidelines

You likely will have some control over the design of the rubrics (or at least the ability to suggest changes). Grading will vary greatly based on your course material and the type of assessment, but here are some general things to keep in mind:

- **What are you trying to assess?** Before you even begin grading, you need to have a clear idea of what knowledge the assessment is intended to test. It is usually more effective to assign points based on how *important* that knowledge is to what you hope students take out of the class rather than how *difficult* the question seems. Bloom's Taxonomy is a very useful tool here.
- **Be consistent!** This will help prevent student questions and disputes about the grading. Make sure to check in with other TAs who are grading the same thing, particularly if you are considering changing the rubric. If you end up having to change your rubric in the middle of grading, make sure that you apply the change consistently to the work that you graded using the old rubric.
- **Assign partial credit whenever possible.** All-or-nothing helps no one: students get frustrated for receiving nothing for their time and effort and course staff can't differentiate between the degrees of student knowledge and misconceptions. Partial credit is a good way to allow for adjustments as you grade (*i.e.* you may not be able to change the point value of the question, but you can still tweak the "tiers" of partial credit within that total) and reward students who have the right idea, even if they don't have a perfect solution.
- **What did students actually do?** Particularly relevant for new assessments, but it's always worth looking through at least a handful of student submissions before actually assigning any grades. This will usually surface any issues with the question itself (*e.g.* vagueness, errors in design, unexpected correct responses) and give you a chance to tweak your rubric as necessary.
- **How do you handle cascading errors?** Oftentimes, assessments will have parts that depend on other parts (*e.g.* code that relies on a previously-written piece of code or a multistep computation that might have an error in an early step). Can you abstract your rubric items in order to assign credit for the correct ideas/processes even if the specifics are off?
- **Don't kill yourself.** Limit your rubrics to a reasonable number of items to check for. For short answer/essay/code block responses, don't try to do too much interpretation – grade based just on what was actually written.
- ***How* you give the feedback matters!**

Learning Objectives

(https://novaonline.nvcc.edu/TOTAL_Workshops/LearningObjectives_v4/LearningObjectives_v4_print.html)

Learning objectives are the statements that describe what students will be able to do once they successfully complete a unit of instruction. A good learning objective is **specific**, **measurable**, and **clearly stated**.

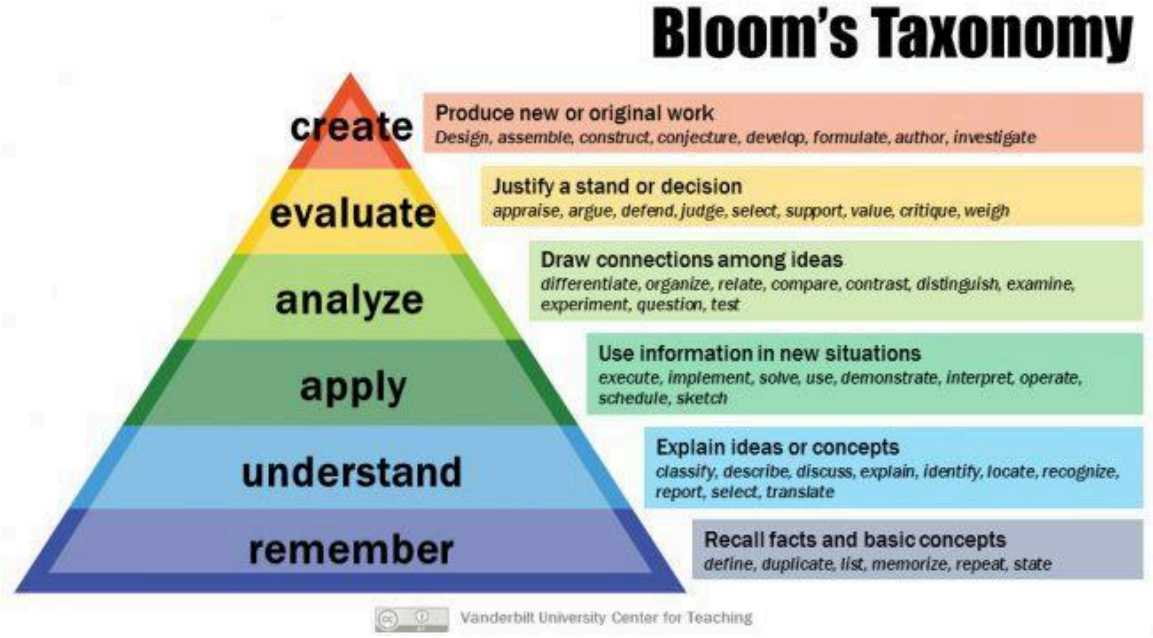
Learning objectives help:

1) Guide course developers in selecting suitable materials, methods, and assessments.
2) Students focus on what they are expected to learn and understand how they will be assessed.

Bloom's Taxonomy

(from https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/)

In 1956, Benjamin Bloom and collaborators published a framework for *categorizing educational goals*, which became known as **Bloom's Taxonomy**. In 2001, this was revised by a group of cognitive psychologists to better describe the cognitive processes by which thinkers encounter and work with knowledge:



Bloom's Taxonomy gives us a way to categorize and define *learning objectives* as well as make sure that our assessments are properly aligned with those learning objectives. Notice that each level of Bloom's Taxonomy is associated with **action verbs** (on the right of the above image) that readily translate into tasks that we can ask students to perform during assessments (*e.g.* assignments and exams).