*Version 2019-Spring-1.3, Revised 16 January 2019*

Activity 0.2:

Grading Schemes

We will also learn about the grading scheme in this course, and the reasons why this grading scheme has been chosen.

## Content Learning Objectives

*After completing this activity, students should be able to:*

* Explain why the grading scheme in this course was chosen.

## Process Skill Goals

*During the activity, students should make progress toward:*

* Leveraging prior knowledge and experience of other students. (Teamwork)

## Team Roles

*Record role assignments here.*

|  |  |
| --- | --- |
| Manager |  |
| Presenter |  |
| Recorder |  |
| Reflector |  |

# Model 1: Traditional Grading Scheme

CS 100 is a hypothetical course in Computer Science.

It has two major learning objectives: Objective X and Objective Y. Both have equal weight in the course, i.e. an equal amount of class and lab time is spent on X and Y, and the assignments to assess the students' learning in X and Y are equally weighted in the course grading scheme (each is worth 50% of the final grade.)

A letter grade of C is assigned for a 75% and is considered "average".

## Questions (8 min)

1. Two students, Sarah and John, have taken CS 100. Sarah and John each receive a final course grade of C in the course. What can you say about Sarah and John's knowledge of the CS 100 material?
2. What can you say about Sarah and John's knowledge about Objective X? About Objective Y?
3. Another student, Mike, has taken CS 100. Mike's scores on the assignments to assess learning in Objective X is 50%, and in Objective Y is 100%. What is Mike's final course grade for CS 100 (both percentage and letter)?
4. What can you say about Mike's knowledge about Objective X? About Objective Y?
5. Would you consider Mike to be competent in the material for CS 100?
6. How well does a traditional grading scheme (such as in the hypothetical CS 100) represent a student's competence in the course material?

# Model 2: Specification- and Competence-based Grading Scheme

CS 100 is a hypothetical course in Computer Science. It has three major learning objectives: Objective X, Objective Y, and Objective Z.

The instructor has developed a number of assignments that can be used to assess the students' learning in the course.

Each assignment includes a *specification* that lists all of the conditions that must be met for a student’s submission for that assignment to be considered successfully completed.

The assignments and the learning objectives they address are as follows:

* Assignments X1, X2, and X3 address Objective X.
  + Successfully completing assignment X1 or X3 is sufficient to show *competence* in Objective X.
  + Successfully completing assignment X2 shows an *advanced competence* in Objective X.
* Assignments Y1, and Y2 address Objective Y.
  + Successfully completing assignment Y1 is sufficient to show competence in Objective Y.
  + Successfully completing assignment Y2 shows *highly advanced competence* in Objective Y.
* Assignments Z1, Z2, Z3, and Z4 address Objective Z.
  + Successfully completing assignment Z1, Z2, or Z4 is sufficient to show competence in Objective Z.
  + Successfully completing assignment Z3 shows an advanced competence in Objective Z.

## Questions (10 min)

1. How would a student know what is required to "successfully" complete a particular assignment?
2. What are the possible grades that a student can earn on an assignment?
3. How will the instructor determine what grade the student has earned on an assignment?
4. Assuming that the instructor wants a course grade of C to show that a student is minimally competent in all three learning objectives for the course, list one possible set of assignments that a student must successfully complete to receive a grade of C.
5. Is that the only set of assignments that would satisfy the instructor's requirements for a C?
6. Given that a course grade of D is lower than a course grade of C, and a course grade of F is a failing grade, suggest a set of requirements for each?
7. Given that a course grade of B is higher than a course grade of C, and a course grade of A is the highest grade, suggest a set of assignments that a student must successfully complete for a grade of B, and another set of assignments that a student must successfully complete for an A. (You may define each set in terms of the course grade below it.)
8. In Specification Grading, a higher grade is often described as being earned by "jumping over higher hurdles" or "jumping over more hurdles." What do those two phrases mean in relation to the example assignments listed in the model?

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