Tips on Tests

- **Tests perceived by students as unfair (too long, too "tricky," too much on untaught material) may be the leading cause of poor student evaluations of teaching.**
- **No surprises on tests**! The students should never see a type of question or problem that they had no reason to expect.
- Review your instructional objectives before and after writing each test.
- Consider handing out a study guide a week before each test. Make it thorough.
- *Minimize speed as a factor in performance.* (Suggestions on how to do that in next section)
- Design 10–15% of the test to discriminate between A-level and B-level performance. (No more, no less.)
- Announce point values for each item.
- Always work out a test from scratch when you have the final version. Then revise and do it again.
- Have a colleague or graduate student read (or work through) the test for clarity. Revise again if necessary.
- If the grades are much lower than you anticipated, you may want to consider *scaling* the grades by adding enough points to bring the top grade up to 100 or the average to a desired level.
- If almost all students miss one problem, consider giving a short quiz on the same type of problem and using the results to add points to the test grades.
- Return graded tests promptly to maximize learning.
- Consider a time limit for requesting re-grading (e.g., one week). Have students make all requests in writing explaining their case.
- To avoid having to create multiple make-up tests, announce that there will be one comprehensive make-up test near the end of the semester. The test will serve to make up for any test missed during the semester for any reason.

Tips for Quantitative Problem-Solving Tests

- You should be able to work out the test in 1/3 the time students will have to do it. If you can't, cut it down:
  - Eliminate questions
  - Present some formulas instead of requiring derivations
  - Ask for solution outlines rather than complete calculations. "Write in order the equations you would use to solve the problem. For each, circle the variable(s) for which you would solve."

- Set up multiple-part problems so that if students miss Part (a) they can still solve the subsequent parts.
  For example, tell them to begin with a specified (and incorrect) answer to Part (a), regardless of what they actually got. Tell them the specified answer is wrong.
- Closed-book exams test primarily memory, open-book exams test primarily understanding. Give the type of exam that tests what you want the students to emphasize. (Allowing summary sheets prepared by you or the students is a good compromise.)
- Beware of take-home exams, especially in undergraduate classes. It is too easy for students to cheat on them.
- Prepare a detailed solution key before giving the test. Give it to whoever proctors the exam and whoever grades it. Consider posting after the test is collected.
- Be generous with partial credit on time-limited tests.
- Even if you scale or curve, if the average is 35 think about the possibility that it's a lousy test.
- Give the lowest test grade less weight than the others.
  Advantages: Avoids make-up tests, keeps students from getting destroyed by one bad day.
  Disadvantage: Works against students who do much better than average on a particularly hard test. (Remedy: Scale all grades to a common high score or a common average.)
- Consider opportunities to rework the test (individually or in groups) for additional credit.

Tips for Multiple-Choice Tests

- Allow time to prepare. (hard to construct well, easy to grade)
- Write some items to assess higher levels of thinking.
- Options (brief, simply written, plausible)
  - Put most information in stem, minimum in options
  - List options on separate lines
  - Distribute correct answers randomly among option positions
  - The correct answer should not always be the longest one
  - Avoid negatives in stem, "all of the above," "none of the above," "always," "never"
- Consider using short paragraph, chart, or graph followed by several test items. (Leads to questions at a higher level of thinking)
- Encourage students to explain answers to questions that seem tricky or confusing. (Reduces test anxiety, helps you locate unfair or poorly worded questions)
- Tally incorrect responses. (Helps locate weak options and common student errors)

For more information on multiple-choice tests, check out FYC 8: Improving Multiple-Choice Questions, a short monograph from the University of North Carolina-Chapel Hill, available online at ***http://www.unc.edu/depts/ctl/fyc.html***

Tips for Essay Tests

- Preparing your class
  - Discuss types of questions and show sample answers
  - Announce how spelling, grammar, and handwriting will affect essay grades
- Designing the questions
  - Only try to test one or two objectives per item
  - Reserve essay questions for Bloom application level or higher
  - Have a colleague read each question for clarity
  - Indicate on test the point value and an appropriate response length or time
  - Allow students three times longer to answer a question than it takes you to answer it
- Grading essay questions
  - Outline a model answer with point values
  - Keep student identities anonymous
  - Score all Question 1's, then all Question 2's, etc.
  - Shuffle papers between grading of different questions
  - Provide written feedback and/or model answers

For more information on essay tests, check out FYC 7: *Writing and Grading Essay Questions*, a short monograph from the University of North Carolina–Chapel Hill, available on-line at

http://www.unc.edu/depts/ctl/fyc.html