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GETTING STARTED

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The first day of a course may not determine how well the rest of the course works, but it goes a long way. A good start can carry the instructor through several weeks of early shakiness, and a bad one can take several weeks of damage control to overcome.

Instructors have come up with many ways to get courses started---some effective, others less so. A relatively ineffective way is to stride into class, announce your name, the course, and the course text, and start to write differential equations on the board. Following is an alternative approach with somewhat better prospects.

Opening formalities. Introduce yourself and hand out the following items:

1. *A syllabus containing the course name and catalog description, your name, office number, and office hours, the course prerequisites, and required and supplementary texts*. In addition, if you plan to use email or a list server for student conferencing (a fine idea), include the necessary information on the syllabus or a separate handout.
2. *A list of instructional objectives---the things you expect the students to be able to do (calculate, estimate, explain, design, create,...) by the end of the course.* This list serves several purposes. It helps you plan lectures and class activities and prepare homework assignments and tests, helps the students understand the course structure and prepare for exams, and tells faculty colleagues who teach subsequent courses exactly what students who pass this one should know.[1] The list may be nontrivial to construct initially but it is easy to modify in subsequent course offerings.
3. *An assignment schedule with dates for all reading and problem assignments and examinations*. Handing out a complete assignment schedule on the first day can help you stay on track during the semester, and setting all exam dates on Day 1 cuts down considerably on the griping about time conflicts that always occurs when instructors schedule tests a week or less in advance.
4. *A statement of policies and procedures*. Answer questions like “What counts toward the final course grade and by how much?” “How many tests?” “Open-book or closed-book?” “Is the lowest test grade dropped or given less weight than the other test grades?” “What happens if a student misses a test with a valid excuse? Without one?” “Will homework be accepted late?” “May students work in groups on homework?” “Must they do so?” “What's the attendance policy?”

Spend time in class only on Item 4, concentrating on policies that may be new and unfamiliar to the students. Putting all of the information in Items 1–4 on handouts and not taking up class time for most of it buys time for some of the first-day activities to be suggested.

We strongly recommend putting your policies and procedures in writing and handing them out on the first day of class. Students will accommodate to any set of rules you give them up front, as long as the rules are clear, reasonable, and consistently enforced. It's when you make them up as you go that the lawyers come out of the woodwork, and you end up spending much more time on explanations and arguments during and after the course than it would have taken you to prepare the handout before the course.

Do something that will help you learn the students' names. For example, circulate sign-up sheets by rows and ask the students to keep their seats for at least a few weeks. Prepare a seating chart after the class and use it thereafter to associate names with faces. In small introductory or elective classes where the students are mostly unknown to you and possibly to one another, you might have them all give their names and state a hobby or something unusual about themselves while you take notes.

Do something to motivate the students' interest. Following are possible things you might do in the first one or two class periods.

- *Show a graphic organizer (concept map, flow chart) for the course, perhaps linking the topics to topics from prerequisite courses and/or to the instructional objectives.* Reference 2 contains an illustrative organizer for the stoichiometry course. A visual outline of a course is particularly helpful for students whose learning styles are visual (most students) and global.[3]
- *Have students anonymously write and hand in a list of things they know about the course content and questions they have about it.* Reading their lists will help you decide how to begin the presentation of the course material. This exercise is particularly useful in a course that draws students from different backgrounds.
- *Have students anonymously write and hand in rumors they've heard about the course or you. Next period, address the rumors that need addressing.* The ideal chemical engineering course for this exercise is the stoichiometry course, about which horror stories abound among the rising sophomores. Expect to get many responses to the effect that (1) an explicit objective of the course is to weed out the bottom (fourth, third, half) of the students taking it (not true, at least at N.C. State); (2) most grades in the course are D's and F's (not true at N.C. State, and putting last year's grade distribution on the board proves it); (3) the homework load is ridiculous and the problems are harder than anything they've ever seen (true).
- *Share advice from previous students collected at the end of the last course offering.* This is also a great exercise for the stoichiometry course. If the idea appeals to you, next time you teach that course collect suggestions on index cards during the final week, compile them, and use them at the beginning of subsequent course offerings. You'll find that the suggestions will be pretty much the same ones you would make, the difference being that the new students are more likely to hear them when they come from other students.

- *Have students write goals for themselves (grades, intention to keep up with assignments,...).* Collect them and pass them back as reminders a few weeks into the semester.
- *Present some problems—preferably with real-world connections—that the students should be able to solve by the end of the course.* The sensing and global learners[3] in the class will all benefit from this stage-setting. You might then choose one of the problems and get students to work in groups to generate ideas for solving it. Assign the same problem near the end of the course, at which point they should be able to solve it and so get a better appreciation for how far they've come.
- *If you plan to use much cooperative (team-based) learning in or out of class, say something about why you're doing it and run an introductory team-building exercise.* (See Johnson, Johnson, and Smith[4] for ideas.) Some students will initially be uncomfortable or hostile when they find that they have to work in teams[5]; a little preliminary salesmanship can be invaluable in countering their resistance.

Don't attempt to implement all of these ideas in a single class: it would take too long and would overwhelm most students. Rather, glance through the list before the course begins, pick one or two activities that look like they might be appropriate for your class and your students, and give them a try. Afterwards write a few notes on how well or poorly each exercise worked and what you would do differently next time. It should only take a few iterations to find the optimal combination of exercises for each course you teach.

References

1. P. Wankat and F. Oreovicz, *Teaching Engineering*. New York, McGraw-Hill (1993), pp. 47–48.
2. R.M. Felder, "Knowledge Structure of the Stoichiometry Course," *Chem. Engr. Education, 27*(2), 92-95 (1993).
3. R.M. Felder, "Reaching the Second Tier: Learning and Teaching Styles in College Science Education," *J. Coll. Science Teaching, 23*(5), 286-290 (1993)
4. D.W. Johnson, R.T. Johnson, and K.A. Smith, *Active Learning: Cooperation in the College Classroom*. Edina, MN, Interaction Books, 1989.
5. R.M. Felder, "We Never Said It Would Be Easy." *Chem. Engr. Education, 29*(1), 32–33 (1995).