Guidelines for using technology in the classroom.

OK, let's suppose you have decided to go ahead and implement technology in your calculus classroom. This may involve using a graphing calculator, a spreadsheet, Geometer's Sketchpad, or a computer algebra systems such as Maple. Then there are some general guidelines which should be followed in order to optimize the classroom experience. Below, we itemize the most important with brief explanations.

**EXPLAIN** to your students why a technology system enhances and enables them to explore and understand mathematics to a higher level than before. Rationale: Convincing students that a technology system is important for their studies and careers certainly relaxes apprehension and anxiety and eases your job of asking the students to learn even more.

- **DO** use the technology appropriately. Rationale: Aside from introductory examples and simply learning how to use the technology, students should develop an appreciation of when to use the technology. They should not be required or expected to use the technology for routine computations, unless very complex. They should view the technology as a valuable tool, not a crutch.

- **DO** prepare your technology demonstration carefully. Rationale: Students are often very "professional" about their expectations of technology interactions, with computers in particular. Their acquaintance with computer software is likely very sophisticated, though it may just be with games. They expect perfection.

- **DO** count the students' technology work as a part of their overall course assessment. Rationale: This enhances student motivation to study what needs to be learned. It also carries the implication that the instructor views it as valuable.

- **DO** peg the demonstration/example at the students' level. Rationale: Students are not necessarily amazed at the same things you are. Overly snazzy or complex technology demos may bewilder and intimidate all but the best students.

- **DO NOT** make your demonstration longer than the attention span of your students. Rationale: Demonstrations can encourage passive participation. The student that turns off in the middle of some lengthy point you are making profits little or nothing at all.

**MAKE AVAILABLE** to students any worksheets and demonstrations used in the classroom.

- **DO NOT** "wing it" in the classroom until you are an expert. Rationale: You risk losing more than you can gain if you foul up a demonstration. Students may interpret the technology as being perhaps too hard for them to learn. They may also diminish their trust in you as an expert source of knowledge.

- **DO NOT** make technology assignments in a manner so that students regard them as "added-on" work. Rationale: the students will view them as added drudgery and any integrative benefits will be lost.