

HANDBOOK FOR TEACHING ASSISTANTS IN CBS INSTRUCTIONAL LABORATORIES

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2009-2010

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INTRODUCTION

Teaching Assistants are an important part of the university's instructional staff. The university relies on you to disseminate knowledge, to stimulate and excite students, to act as a university resource for your students.

This handbook was written to help you while you are teaching in the laboratories of the College of Biological Sciences. We have included in this booklet information ranging from how to begin your first class to how to deal with a student in crisis. This is not intended to be a fully comprehensive treatise on teaching; for those who wish to pursue further reading on teaching philosophy, principles, and methodology there are a large number of books available both in libraries and in bookstores. You might begin with:

The Center for Teaching and Learning website:
<http://www1.umn.edu/ohr/teachlearn/>

The TA resource pages: http://genbiol.cbs.umn.edu/teach_resources.html

Allen, R. R. and T. Reuter. 1989. Teaching Assistant Strategies: An Introduction to College Teaching. Kendall/Hunt. Dubuque, Iowa.

Fuhrmann, Barbara S. and Anthony F. Grasha. 1983. A Practical Handbook for College Teachers. Little, Brown and Company. Waltham, MA.

In addition, see the selection available in the CBS Reading Room (406 Biosciences) and that available in the Resource Center of the Center for Teaching and Learning Services in 315 Science Classroom Building Hall.

We encourage you to discuss problems, ideas, and approaches with more experienced teachers including faculty, other teaching assistants, and the coordinator of the College's laboratory facility (that's me... Jane Phillips). We also encourage you to connect with University-wide resources for teaching enrichment, starting at:

Center for Teaching and Learning Services
Office of Human Resources
315 Science Classroom Building Hall
Minneapolis, MN 55414
612-625-3041

e-mail to teachlrn@tc.umn.edu

Web page: <http://www.umn.edu/ohr/teachlearn/>

The Center for Teaching and Learning Services works to enhance the culture of teaching and learning on the Twin Cities campus of the University of Minnesota. The program supports departmental, college, and individual initiatives to increase the effectiveness of faculty and teaching assistants at the university and actively shares the responsibility for teaching and learning improvement. The Center for Teaching and Learning Services seeks to build partnerships with other units to collaborate on issues surrounding teaching and learning. This program replaces the Teaching Enrichment Opportunities for Faculty, the TA Development Program, and the Faculty and TA Enrichment Program.

Training of teaching assistants is a shared responsibility of departments, colleges, and central administration. TAs should contact the offices of departmental chairs and college deans to find out what is available from those sources. Human Resources, through the Center for Teaching and Learning Services, sponsors many facets of training on a University-wide level. Workshops, lectures, orientations, conferences, a teaching consultant, the Resource Center, and the TA English Program are all aspects of the TA training available. Almost all programs are offered free of charge. For more information, contact the Center for Teaching and Learning Services at the address/phone/e-mail/web site listed above.

What you are/what you are not

As a teaching assistant, you have a number of roles to play:

--You are a guide to students who are learning new information, new thought processes and new ideas in the subject area in which you are teaching,

--You are an authority figure in both the positive and negative sense of the phrase, that is, you are someone the students look to as a role model, as a source of information and guidance, as an anchor in a sometimes confusing university, and as the "person-in-charge" in a crisis situation. You are also someone who represents the established order. This can sometimes be a very uncomfortable position to be in when the student is rebelling against that order. It is doubly uncomfortable when you are also not convinced that the established order is all that great...

--You are a scientist and as such act as a role model to students who are just entering their career in science. While you are not the only scientific role model a student will encounter during their training, your attitudes toward safety, scientific integrity, laboratory work, and the greater scientific arena may strongly influence your students.

--You are yourself. How you handle and project yourself in the previously mentioned three roles will be dependent on how you feel about yourself and take of your own needs. If you are exhausted or sick, you are unlikely to be able to function well in your other roles. Take care of yourself... and be sure to ask for help when YOU need it.

As a teaching assistant, you are *not* expected to be:

--the expert in all things about the subject area you are teaching. While you are expected to be prepared for class, you will be unable to be ready for every question that a student may ask. In fact, having students come up with questions outside the prescribed material or questions which indicate that the student is looking at the material from a different perspective is often a sign of an open, inquisitive learning environment. When you don't know the answer, say so, and get the answer (e.g. from reference material, the faculty member in charge of the course, other TAs) and get back to the student as soon as possible.

--an academic advisor. While you may have considerable experience at this university or in the subject area, you may put the student in jeopardy by attempting to act as an academic advisor. If the student has questions about his/her program, s/he should be directed to the appropriate office (see Appendix 10).

--a counselor. During your time as a teaching assistant, you will likely earn the respect of your students. Because of this, they may come to you as a friend when they are deeply troubled. As a

friend, it is certainly appropriate for you to listen and talk to them. However, you must remember that you are not a trained counselor, psychologist or psychiatrist. Help the student get to the appropriate resource for help (see Appendix 10).

How to get started

The following topics may be of interest to you as you begin your role as teaching assistant:

Who are the students and how do I treat them?

There has been much written and discussed about who college students really are and how they should be treated. We cannot recap all that material in one paragraph, but a quick summary may help you to think about this important area. The students you will see will range in age, maturity, and independence. What each has in common with the other is that given the opportunity and the encouragement, each will work to his/her highest potential. This potential is sometimes limited by overwork, stress, personal situations, or illness. A good teacher can encourage and stimulate his/her students while being sensitive and responsive to individual situations.

What am I doing here?

This seems like a facetious question, but it is not. Learning is often lost in the quicksand of busywork, inane requirements, and useless rules. What ARE we doing here? Are we teaching facts? (What *are* facts?) Are we teaching process? Are we teaching creative and analytical thinking? The answer, of course, is a balance of all three. How can you decide what the proper balance is? Obtaining balance requires significant thought on your part and, because proper balance changes dependent on the material being taught, requires continual attention. It can be a very useful exercise to ask yourself as you prepare for each laboratory: What are we trying to teach in this exercise? How does this fit into the goals of this course? How does this relate to the subject area in general? How can this material be taught most effectively?

Is the classroom atmosphere important?

YES. Learning is stimulated in environments which are encouraging, enthusiastic, and exciting. Learning is inhibited in atmospheres of condescension, derision, and harassment. Be careful of inadvertent wording which could alienate. Harassing language (sexual, racial, etc.) does not belong in the classroom.

What do I need to know to proceed?

The following material should help you feel informed and help you organize yourself for your classroom. The appendices contain information for future reference. Your next step then, is to prepare for the individual laboratory exercises. For this you need a laboratory manual, ready reference sources (e.g. textbook, faculty member, other TAs), and time.

THE LABORATORY SECTION

Within the laboratory section, you will be lecturing, leading or facilitating group discussions and group learning activities, assisting students with laboratory work, and summarizing material. Additional information about lectures, discussions, and group learning activities is given after this section.

The general format of a laboratory period consists of three parts:

1. Introduction to the day's work.

This part of the lab is usually thought of as the "pre-lab lecture". The purpose of it is to prepare the students for the lab work. This preparation should give them the broad context of the work as well as an explanation of the theoretical and practical aspects of the lab. Repetition of material they have already heard in a lecture portion of a course can be useful if not too extensive. In fact, reference to the lecture portion adds strength to the material being studied. Outlines of how to proceed with the work of the day are also useful (e.g. "Start with viewing the microscope slides of the nervous system, then proceed with the dissection as outlined in your manual. Return to the microscope slides to further strengthen your understanding of the relationship between the macro- and micro-anatomy of the nervous system.") Avoid reading the lab manual to the students. If they are not reading the material ahead of time, encourage them to do so (e.g. point out how much more they will learn from the lab if they come in prepared and how much faster they will be able to do the lab work.... or threaten them with pop quizzes?). Keep in mind as you prepare the lecture that a good pre-lab lecture is brief, giving the students plenty of time to perform the laboratory work.

2. The day's work.

This is the "hands-on" part of the lab. Students may work individually, in pairs, or in groups, depending on the material being covered. In some cases, each student (or pair or group) will be performing the same work. It is often useful, however, to have each work on related but different projects and have them compare results at the end of the lab (or the next period). For example, if studying the proteins in blood, give one group cow's blood, one sheep's blood, and one horse's blood. Then have the groups analyze their own results, report them, and have the class do a comparison. Or, if studying leaf structure, assign different leaves to different groups, with an expectation (that the students know about) that there will be a discussion at the end of the period about similarities and differences in anatomy. It is helpful in these situations to give the students a list (on the board or in a handout) of what specific items you expect them to pay closest attention to. This will facilitate the class discussion at the end.

In other cases, students will be doing their own investigation. While unstructured investigations can sometimes be fun, usually structure is required to get meaningful results and experiences. Provide this structure by requiring students to prepare (either ahead of time or before they begin work) written material such as the question/hypothesis they are testing, the materials/methods/procedure they are using to test it, and the expected results. Often, a handout with plenty of blank space for writing can facilitate getting this information on paper.

3. Summary of the day's work.

Give closure. At the end of each lab or at the beginning of the next lab, plan time to summarize what the students learned (or should have learned) from the lab work they have

just completed. It is often possible to do this with both a retrospective and prospective view (e.g. "Last lab you learned about the anatomy and physiology of the algae. The characteristics of this group are.... (have them help you list them). Today you will be studying the fungi. They are similar to the algae in that (describe or list some similarities) but different from the algae in the following general ways..... ").

Appendix 2 has some helpful questions outlined for you as you prepare for each lab. In addition, here are some specifics about laboratories that you should consider:

1. Be prepared. Know where equipment and materials are kept, how they work, what problems may arise and how to deal with them.
2. Pre-run the exercise, if possible. This will help prepare you for questions.
3. Students will look to you for instruction on how to "be a laboratory person", that is, they look to you to learn how to arrange materials for safe and efficient work, how to record data accurately and in an organized fashion for further data manipulations, and how to manage lab time effectively. To help them, you may wish to end your introductory remarks in lab with some helpful hints, drawing on your experience in the laboratory. (e.g. "If I were performing this experiment, I would first obtain needed materials, then label tubes, ...")
4. Emphasize safety precautions. See Appendix 3 for tips. You should understand that you are personally liable for the safety of each student in the laboratory. This does not mean, for example, that you must personally attach their safety goggles to their faces, but it does mean that you must remind them to wear them when appropriate. You should go over safety rules with the class, then you can gently remind them individually as they work.
5. While students are conducting experiments, your role is as a facilitator. Watch them. Gently but immediately correct safety violations. Interrupt (but do not disrupt) their work to help them learn more efficient ways to perform tasks or to stimulate thought about what they are doing and why. Make sure underlying theories are not lost in the manipulations of the laboratory.
6. Answer student questions in a way to stimulate thought... but do not say "what do YOU think?" (it aggravates them!) Try a thoughtful answer (e.g. Student Question: "What is this tissue?" Your Answer: "Well, if we look at the tissues around this, we should be able to narrow down the possibilities...")
7. As time grows short, let them know when they can interrupt the experiment in progress and save material for later. (Can they come back? When? Know the answers to these questions every day.)
8. Be ready to react to accidents in the laboratory. Be sure YOU know where the safety equipment is and how to use it. Be prepared to render assistance or to make the judgement that all should leave the area. Accept accident reports from the students.
9. Keep your finger on the pulse of the class...

For individual students: illness, stress and frustration all affect the ability to learn and work. Some days... ease off. If the student poses a safety hazard, gently step in and offer help, reminding them that a classroom is, in a way, artificial. In real life, you can postpone work easily.

For the whole class: Be conscious of general feelings of confusion, anger, and frustration. These may be due to poor instructions or too much work to do. If the former, stop work... and reinstruct. If the latter, reduce the load if you can, or at least let them know you are aware of the problem, offer your help, and assure them of your intent to prevent this from happening in the future. Be aware that the laboratory has the greatest potential for accidents when people are hurrying, nervous, frustrated, confused, or angry.

On the positive side, when the energy level of the classroom is high, take advantage of this time to pose problems or to give additional information.

LECTURES

The lecture itself

Organization is the key to effective lectures. Good organization requires that you are clear about the objectives of the lecture and how this lecture is relevant to the work about to be done and to the course in general. If you are not clear on these areas, STOP. Do not proceed until you are.

Next, you must be aware of the time available to present the information. Remember in a lab situation that the students must have sufficient time left not only to manually perform the lab, but also to think about it while they are doing it. Leave time for real hands-on work!

Next, arrange the information you wish to convey in a logical order. Logical? An order with a discernible pattern to it... such as in sequential order (this leads to this leads to this), in order of importance (the most important response to low light intensity is...), chronological order (first the spore takes on water, then the hydrated enzymes begin to produce proteins, this leads to visible increase in size, etc.), in order of discovery (first you will cut through the epidermis, underlying this you will find a layer of fat, etc.), causal (adding the salt to the water causes dissociation of ions, which in turn causes...), or problem solving (here is the problem, here are some possible solutions, let us analyze each in turn...). This ordered information will serve as the central part of your lecture.

Finally, add enhancements to the lecture:

1. *Relevance.* Add points of interest that will help students anchor the information onto work they have done, experiences they have had, etc. It is nice to occasionally add relevance to the outside world (art, music, traffic, etc.), but it is not necessary to unduly stretch a point to do this.
2. *Body.* A good lecture is usually preceded by a short introduction and ended with a summary to help focus the information. An easy way to remember this is "Preview what you will be telling them, tell them, then review what you told them." For complex material, subsets of "preview, tell, review" are often helpful.
3. Consider adding *audiovisual aids*, as appropriate, to help convey your message. The most likely audiovisual aid you will use is the blackboard. Write legibly, large enough for people to read, label graphs, title lists, write left to right, and leave the material on the board long enough for note-taking. Use slides, overhead transparencies, videotapes, digital images, computer-aided materials, live material, etc. in useful ways. Be sure to leave enough room in your lecture for use of these materials (e.g. allow at least 1 minute per slide). Distribute handouts if there is complex material on which the student will later be examined.

4. Pay attention to your *delivery*. Speak clearly, loud enough to be heard, slow enough for students to take notes and listen, and varied in tone so to be interesting. Be aware of nonverbal signals to the student. Be sure you are projecting the image you wish to (e.g. eye contact signals confidence in the information, facial activity can indicate enthusiasm, open body language signals an openness to questions). Watch mannerisms that can detract from an effective lecture (such as using "um" or "okay" too much, or pacing, or fumbling with notes).

5. Plan *participation* by the student. Plan questions or activities that will require the student to be involved in the lecture material. Active participation is by far the strongest learning tool. In large classes, questions are the usual format for involving students; in smaller classes and labs, more hands-on or interactive activities can be planned. For questions, try to ask questions which require collection or synthesis of the material (e.g. "What if..." or "What are all the ways..." or "Looking at another organism, what would you expect..."). Be sure to give them time to think about an answer and respond (count to 30 silently).

Questions and answers in the lecture

Questions from you; answers from them:

If you follow the above advice and plan questions within your lectures, you then need to know how to respond to their answers. If students answer the question correctly, always say something to encourage their further participation; a simple "Right" or "Good" is sufficient. If students are having difficulty with the question, try rewording it or try beginning the thought process for them (e.g. "How could we approach this question. One way would be to...").

What do you do with stupid answers to a question? What is stupid? The student certainly is not trying to act stupid (usually....), so you should try to deal with where the answer came from. (e.g. Your Question: What are some actions of hormones? Student's Answer: Nerve transmission. Your response: Well, while hormones can affect nerve transmission, they are not responsible for the event itself... can you clarify your answer by identifying what their involvement might be?)

Questions from them; answers from you:

While still allowing spontaneous questions during the lecture, plan space and time for question periods during your lectures. With straightforward material or short lectures, a single question period at the end may be sufficient; with complex material or long lectures, plan question periods during the lecture also. During these question periods, you may simply ask "Are there any questions?" or you may actually elicit questions by asking some of your own. In any case, be sure to give the student sufficient time to think about the material and to formulate a question. This requires at least 30 seconds... so count to 30 silently. (Without this silent counting, you are likely to give them only 3-4 seconds!)

What do you do with questions from the students? First.... consider yourself successful if you get questions. If nothing else, you have created an environment in which they feel free to ask questions. At its best, you have stimulated creative thinking!

Now, how to deal with the question. First, don't get flustered. It is only a question. It usually is not an attack on your authority nor an attempt by the student to make you look inadequate. (If it is either of these, perhaps you need to reevaluate the atmosphere you have projected in your classroom to have produced such a response by the student.)

Second, determine how to respond. Think about whether you can answer the question without disrupting the flow of the lecture for the other students or whether *not* answering the

question will mean mass confusion because this student is asking a question on everyone's mind. Some guidelines:

1. If the question is simple... ("can you repeat that?" or "what exactly do you mean by 'interstitial?'"), reply immediately (e.g. supply a repetition or definition, respectively, in these examples).
2. Postpone the answer if the lecture will lead to it anyway (e.g. "You are obviously thinking ahead. Good work. I plan to cover that area in a few minutes, but let me finish this topic first."). Then be sure to signal to the student when you are embarking on the answer to his/her question ("Now, to return to the question asked earlier....").
3. Postpone the answer to the end of class if it is only peripherally related to the material or too advanced to answer in class. ("That is an interesting question, but one which I cannot take the whole class's time to answer. Why don't you and I discuss it after class or in office hours. OK?") A word of warning here.... by doing this, you may be squelching the creativity a classroom should have. Be sure that the price you will be paying is worth keeping the lecture on its predetermined track!
4. Quickly answer questions that indicate a lack of background or preparation on the part of the student who asked. (e.g. Q: "What does oxidized mean?" A: "Well, I'm sure you have had this concept before in your chemistry classes, but a quick review is that the chemical has either lost electrons or gained oxygen and is now less able to lose more electrons. If you need more review than that, why don't you stop by after class or review your chemistry text.") Notice that you have dispatched the question quickly, you have not denigrated the student for asking it, and you have helped them find the answer by giving them a mental recall note ("...had this before in chemistry class...") and resource for more information ("... stop by or review your chemistry text..."). Be sure while you are answering questions such as these that you look at other students to see if they are intensely interested in the answer (in which case... you need to take more time in lecture to answer the question... *everybody's* confused). If you have trouble "reading" the students, ask! ("Do others need a more detailed explanation?")
5. If it is a good question... relevant, proper level, etc.... compliment the student for asking it ("That's a very good question."), repeat the question, and ANSWER IT IN FULL! This may be a perfect time to involve classroom participation by repeating the question and asking students for their ideas.
6. Notice in the above examples that each answer sets a tone of encouragement for more questions because you did not make the student feel stupid for asking the question.

DISCUSSIONS

Effective discussions require as much preparation and organization as lectures. The following points may help you design and lead effective discussions.

1. *Identify goals.* You must be clear on what the goals of the discussion are and you must share this with your students. It is very helpful if you let students know of the discussion and its goals a day or more earlier so they can prepare for the discussion. For example, they may want to review lecture material relevant to the discussion. It is also helpful if you can give them a few example questions they could try to answer or problems to solve in preparation for the discussion.

2. *Determine arrangements.* Primary discussions with 20 people are nearly impossible to do successfully. Instead, consider arranging the class in 5 groups of 4. You may then assign a group leader (or let each select their own) for the discussion. (Another option is to assign roles for every participant, e.g. reporter, recorder, facilitator, time-keeper... see more on this in group learning section following this section.) During active discussion, you can circulate around to monitor and stimulate discussion. Finally, you may wish to draw the class together to summarize the conclusions of each group, asking each in turn to contribute.

3. *Control participation.* As discussion leader, it is appropriate that you lightly control participation. You should encourage the quiet and manage the dominant. How do you do this? Direct questions toward the quiet (e.g. "Joe, what might be one result of decreased soil nitrogen?") and lightly blunt the dominant (e.g. "Jill has been generous with her ideas, but can I hear from some others? How about you, Joe, what do you think?").

4. *Intersperse leading questions* to help discussion along. Questions should generally be used to stimulate interpretation, analysis, predictions. Generally, questions which have a simple one word answer stifle the discussion unless the question is the really grand one around which all discussion is to be based.

After you ask a question, give the students time to think about it before jumping in with a rewording of the question or with the answer. (How much time? Count to 30. It seems like a long time to you, but is not for those struggling with the question.) Still no answer? Try rewording it. Still no answer? Evaluate the question. Was it too obtuse? Clarify it. (If by clarifying it, the answer becomes too obvious, then the question is probably also too obvious to ask. Obvious questions are usually viewed by students as condescending ones.) Still no answer? Answer it.... but be sure to verbalize your thought processes in coming up with that answer and try to use your answer to ask another question (e.g. "The answer is that the organism would not notice the variation because the chemical concentration added was below the threshold required to either stimulate the nerve endings or penetrate the skin. How would we determine which of these reasons was the correct one? ")

5. *Encourage interaction.* Remember in a discussion, that while you are the guide of the discussion, you are not the sole participant. Encourage students to respond to each other and not to look to you for approval or for determination of rightness or wrongness of an answer.

6. *Summarize.* Just like a lecture, a discussion is more effective when ended with a summary. This may be done by you or by a student. It should restate the original problem(s) or question(s) and summarize the overall solution(s) or conclusion(s).

GROUP LEARNING ACTIVITIES

There are a number of effective ways to teach students, but it is generally accepted that activities that require active participation from the student (rather than passive listening or viewing) are the most effective (i.e. result in better understanding and retention of the material). This is one reason that laboratories are so useful. However, even in a lab, the learning can become quite passive if the student is only viewing slides or demonstrations. To help increase the ACTIVE participation of the student, group learning activities are often used.

The main characteristic of effective group learning activities is a clear signal from the instructor of what is to be accomplished. That is, what are the expectations for the group (e.g. what are they to study, at what depth, what is available to them to do so, how much time do they have, and what are they to do as a conclusion to the group activity such as report to the class or

to the instructor). A list or summary of these expectations should generally be given in a written form (on the board or in a handout). Additional discussion on some points may be necessary. Once the students start working as a group, you will be free to circulate to assist or motivate the groups as needed.

In order to be sure the group stays on task, you may wish to set up specific assignments for group members. For example, an effective technique is to ask each group member to perform one of the following duties:

- Recorder – writes down what the group is discussing or learning
- Facilitator – manages the work to keep the group balanced so that all students participate
- Timekeeper – watches the clock to be sure the group is finishing its task in a timely manner
- Reporter – responsible for reporting the group's progress to you or to the entire class

These activities can be rotated among group members during different class periods and helps all learn social interaction skills that will help them in the future.

A very popularized group learning technique is called cooperative learning. This technique includes group activities tied to group and individual incentives to participate in the activities (e.g. the group receives one grade for the work performed rather than having individuals in the group remain autonomous; this gives a strong incentive for the group to work together). Because of this change in grading structure from the traditional individual grades, you may not be able to incorporate this level of group learning activity into your classroom without approval from the instructor in charge of the course.

EVALUATING STUDENT PERFORMANCE

In its purest form, evaluation of student performance is intended to help the student to improve his or her skills and knowledge. In this purest form, the result of the evaluation affects only the individual in that the individual chooses to accept the evaluation and to act on those areas the individual sets as highest priority or to reject the evaluation entirely. As you well know, we do not exist in a utopian world. In most educational systems in the United States, evaluating student performance is usually taken to mean "grading". It is used in today's educational systems to rate and rank students. This rating and ranking affects the student's future. This section of the handbook was written to help you with grading tasks. However, keep in mind that while grading is usually part of evaluation, it is certainly not the only way to evaluate students. In the laboratory, you are in a good position to give students individual and frequent evaluation in its more pure form. Also be aware that evaluation and grading systems can stifle learning if used improperly. You may wish to read an article on this issue (Wyatt, H. V. 1973. Examining Examined. *J. Biol. Education* 7:11-17.) or refer to the books listed at the beginning of this handbook.

Format

Generally, the format for evaluating student performance will be determined by the faculty member in charge of the course. Common formats are quizzes, examinations, written or oral reports, projects, papers, and homework assignments. You should discuss the evaluation format, expectations, and grading scale with the faculty member. In addition, there is some additional information about grading scales in Appendix 8.

How to write quizzes (or exams)

Before you begin to write a quiz, you need to decide how much you can effectively cover on this one quiz. The answer to this depends on the number of quizzes in the course, the structure of the course, and the time available for the students to actually take the quiz (see below). Generally, you need not ask a question on every single topic, but rather choose questions that will, in the overview, allow you to determine how well the student understands the material.

If possible, it is preferable to have the quiz require the student to use the material rather than just regurgitate memorized facts. For example, rather than just asking "What wavelength of light is used to measure pure nucleic acids in solution?" (answer = 260 nm), set up a situation to analyze which would require the student to know that wavelength: "You have isolated chromosomal DNA from *E. coli* for a transformation experiment. You determine the concentration of DNA using two methods: absorbance at 280 nm and the diphenylamine assay. The values you receive do not match. What is the most likely reason?" (Answer: 280 is the wrong wavelength of light to use to measure DNA; 280 is used for protein.) This requires both factual information and problem-solving skills. Sometimes, however, this approach is NOT possible without being too obtuse (e.g. if you are simply asking a student to give the genus name of a plant specimen on the table).

It is often useful to write many questions, then pick and choose among them for the best questions and the number which can be answered in the time allotted. It is also helpful to have a colleague (e.g. fellow grad student, etc.) read the questions to give feedback on confusing or unclear language.

The time allotted to a quiz depends on what else you need to accomplish during the period. Quizzes generally should not take up more than 25% of the lab period. After you decide how much time you can afford to allot to the quiz, a general rule of thumb for how long the quiz should be is that you should be able to physically read and write the answers to all the questions in 1/4 to 1/5 of the time allotted (that is, if you allotted 30 minutes for the quiz, it should take you only 6-8 minutes to read and write complete answers to all the questions). In this way, you allow enough time for the students to think about the answers, and you quiz them on what they know, not how fast they can read or write.

The quiz should be scheduled appropriately within the laboratory period; typically this means at the beginning (Remember being a student? Could you concentrate on or learn anything from the material covered in the lab if you were sweating about a quiz coming at the end of the period?).

See below for tips on grading.

Papers, reports and homework assignments

The course in which you are teaching may use papers, written or oral reports, or homework assignments as a mechanism to teach the material and how to communicate as a professional in the discipline. The format of these written assignments is typically determined by the faculty in charge of the course, perhaps in consultation with you. Check with the faculty member in charge if you have questions. It is your responsibility to be sure that you understand the format and expectations for these papers, reports, or homework assignments and to communicate these expectations to the students. This communication is typically most effective if the student gets both written and oral instructions. If you wish to give students additional information about writing skills, Jane Phillips has a number of different handout materials you may wish to use or you can look for resources available to you and the student at

Center for Writing
<http://writing.umn.edu/>

Plagiarism vs. legitimate use and citations
<http://writing.umn.edu/tww/plagiarism/index.htm>

The grading process

While you are grading students' work, you should try to grade consistently, accurately, and informatively. Consistent grading often requires you to keep notes on a separate piece of paper about how many points you have given or taken away for specific answers on one student's paper so you can be consistent if you see a similar answer again. Accurate grading requires you to have an in depth knowledge of the subject matter. Remember that many of your students may have significant relevant coursework or experience which will enable them to answer correctly, albeit differently. If you are unsure of the correctness of an answer, check your resources (texts, faculty member, other TAs). Informative grading turns the evaluation into a better learning experience. For example, while grading, explain the reasoning behind loss of points, give examples of correct answers, attempt to clarify obvious confusion. This does not mean that grading must turn into a large commitment of time... posting a key will help trim some time, as will offering to give more detailed explanations verbally... but a little extra effort will be very helpful for the student.

Another idea is to offer to students the chance to rewrite their answers to questions they got incorrect in order to recover some of the points (e.g., 25%) lost. This helps turn the testing process into a learning process, not just a grading one. Note that, if you are a lenient grader, this will boost the class average even more.

Caution to TAs in multi-section courses:

Consistency of grading across sections becomes a critical issue in large courses. If there are multiple graders of the same assignment or quiz, you should plan to have some discussion with the other graders about how the grading should be done. In addition, you should have agreement by all the TAs about what "help" students will get in preparing for the quizzes or reports. For example, if study guides are given out in one section, they should be given out in ALL sections. Weekly lab meetings are good times to schedule these discussions.

Records

Be sure to keep accurate and duplicate records of student grades if you are responsible for this facet of the course. Keep these records secure and separate to ensure that, at the end of the semester, you and only you will have the records needed to assign final grades.

Confidentiality of records

Since student grades are considered confidential information by both Federal Law (FERPA, 1974) and University policy, exams and papers should be returned only to the student who wrote them and returned in such a way that others cannot see the grade (e.g. turn the papers over if putting them at the student's lab bench). If exam scores are posted, they must be identified by something other than the students' names, such as by student ID number. Do not post the list of ID numbers with students in alphabetical order. For more discussion on this, see Appendices 5 and 6.

OFFICE HOURS

Why have them?

The purpose of office hours is to efficiently schedule your own time and to allow students to organize theirs. Without office hours, you are at each other's mercy... (your research or study time is interrupted; they have to keep coming back until they can find you).. this generates anger on both sides. Set your office hours at a time convenient to the majority of students (and at a time they have free access to where you are... be sure outside doors are open!), then be somewhat flexible for student appointments for those students whose schedules conflict with your office hours. In a course with many sections, it may be possible to share office hour responsibilities with other TAs.

How to effectively use them?

Be there. Give the student your full attention. Answer questions quickly and succinctly when there are others waiting. Do not socialize when there are others waiting. Do not answer your phone... these hours are scheduled for your students. If you cannot give them full attention in the hustle of your busy research lab, reserve a conference room for your office hours or contact Jane Phillips about reserving instructional lab space.

SPECIAL SITUATIONS

There are a large number of situations you may encounter while you are a TA. We cannot cover each in detail here, but will cover a few of the most commonly encountered. For these and for all others, feel free to ask for help from more seasoned instructors. Even seasoned instructors discuss difficult situations with others. A few helpful hints:

1. You can avoid many unpleasant situations if you set ground rules early. For example, before you return graded materials, discuss with the students what you will accept (e.g., "Before I return these, I want explain my ground rules about discussing individual grades. First, please understand that I have not purposefully sought to punish anyone with a poor grade nor have I singled out any one of you for mistakes in grading. Neither have I purposefully designed the exam to weed out some percentage of the class or to teach you all a lesson. I entered the exam-designing and writing with the goal of determining what you have learned in the class. I have graded the exam with the purpose of determining what you have learned in the class. No underlying sneaky intentions. I say all this to assure you that you have no reason to be angry. Now you MAY be angry when you see your test. You are, after all, human. And it is human to react to some exam grades angrily. But if you come into my office angry... I will react just as humanly to anger at me... I will be defensive and angry. Neither of these reactions will create an environment for open discussion of the grading or the question. So... my rule is... if you are angry... sleep on it. Think about what I have said here. Let the anger dissipate before you come to see me. I am open to and look forward to discussion with you... as rational and controlled human beings.")
2. When a student is talking to you, listen. Listen attentively and intently. Then, to be sure you have heard what they have said, reflect what you are hearing. Often this reflection is more than just repeating the words you have heard, but also recognition of the body language you can see. (e.g. "You say that the lab moves too quickly for you and you want to know what to do about it, but I see that you look clearly distressed. Is something else affecting your ability to work in this course? Do you have the right prerequisites? How did you do in them? Are you carrying too many courses this semester?").

3. Respond to what you can.... but recognize when either you need more time to think about the problem posed OR the student needs help beyond your abilities. In the first case, tell the student that you need more time (e.g. " You have brought up points I had not considered {or the issues you raise are complex} and I need time to think about them, can we meet again tomorrow?" OR "I am new at this and I need to discuss department or college policies on this issue with a more experienced colleague. Can we meet again tomorrow?"). In the second case, if the student needs help beyond your expertise, see Appendix 10 for assistance in determining what next office or person the student should see. If you are unsure, feel free to contact a more experienced colleague by phone to ask for help. The College's Office of Student Services is a good resource for additional information.

4. Cheating and plagiarism? <http://writing.umn.edu/tww/plagiarism/index.htm> for policies and ways to avoid the problem. Be sure your students are aware that you consider scientific and personal integrity important. Act as a role model.

5. Student in crisis? See Appendix 10, but if you are really sure that the student is in serious and immediate difficulty (that is, in CRISIS), you can call 911 to get immediate help from the mental health community. If you are less than sure, try asking the student to walk with you to a more experienced colleague's office... a colleague you would feel comfortable baring your soul to... remember, the student is fragile right now.

6. You in crisis? See Appendix 10, talk to experienced colleagues...a colleague you would feel comfortable baring your soul to... remember, you are fragile right now.

7. Be aware of University policies on Sexual Harassment and Consensual Relationships. (see URL <http://www1.umn.edu/regents/policies/humanresources/SexHarassment.html> for more complete policy information)

Sexual Harassment is a specific form of discrimination and is defined as follows: "Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitutes sexual harassment when (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or academic advancement, (2) submission to or rejection of such conduct by an individual is used as the basis for employment decisions or academic decisions affecting such individual, or (3) such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment." Since Sexual Harassment is viewed as a violation of the 1964 Civil Rights Act, it carries with it defined legal liabilities. For more information, contact the Office of Equal Opportunity and Affirmative Action (4-9547).

Consensual Relationships of concern to the university are romantic, amorous or sexual relationships in which both parties have appeared to consent, but in which there is a power differential between the two parties (for example, relationships between counselor and client, faculty member and student, supervisor and employee, teaching assistant and student). In relationships between instructor and student, it is believed that the trust and respect accorded the instructor, as well as the power exercised by the instructor in giving grades, etc., greatly decreases the actual freedom of choice the student may have in consenting to this relationship. While the University of Minnesota's policies do not specifically forbid these sort of consensual relationships (it cannot, after all, control human emotions), it does however warn the person with the greater power that s/he is taking substantial risks in entering into these relationships. For example, if the student should wish to file a formal sexual harassment charge against the instructor, it is very likely that the university administration and the Sexual Harassment Board will be unsympathetic to a defense by the instructor based on consent. Therefore, the instructor

must be aware that s/he bears a special burden of accountability in this case. *It is strongly advised that you do not enter into consensual relationships with students currently enrolled in your classes.*

8. Finally, how do you handle the big mistake? What do you do if you have completely misled the students or given totally inaccurate information?

Well... take responsibility for the error and correct it. That simple? Yes, that simple. Admit your mistake and correct it. As soon as possible. It may be a bit difficult to swallow your pride and you may initially feel like a fool trying to correct the first error, BUT (and it is a **big** but), recall what you are actually here for...to help, teach, and guide the students. If you are honest with them, they will respect you for it... as long as your mistakes are not too frequent.

What do you do if you think you have made a complete fool of yourself in front of your students? It helps to admit both to yourself and to your students that you are human... then see the paragraph above.

SPECIAL INFORMATION FOR TAs NEW TO THE UNITED STATES

As a TA new to the United States, it may be helpful to you to know a bit about U.S. students and how they act. The following information has been excerpted, with permission and some modification, from a TA manual from the College of Letters and Science at the University of Wisconsin-Madison. It was taken from this manual because it covers the information well. Notice that both you and your counterparts at other universities are learning to deal with teaching in a different culture.

U.S. students and the U.S. educational system

In contrast to many countries, the United States does not have a federal system of education. Instead, public education is the responsibility of the fifty separate states. As a result, the U.S. does not have a standard school leaving or college entrance examination. Students in the United States enter college after completing twelve years of elementary and secondary school. Except for specialized high schools in major urban areas, students planning on entering a trade, other job, or vocational training immediately after high school attend the same school as students planning on attending college, although they may take different courses. The quality of public education systems varies from state to state and even from community to community within a state. Private schools (both religiously affiliated and independent) are also common.

Colleges and universities in the U.S. vary in terms of their entrance requirements. College attendance in the United States has expanded greatly in the past 35 years and most young people plan on attending some form of postsecondary education. Women are as likely to attend college as men. Students from all economic levels are encouraged to seek out educational opportunities, and federal and state financial aid is available for many students in the form of grants, loans, and work-study jobs. In addition, many students work from a few hours a week to full-time while attending school.

As a result of the above factors, you will probably find your students much more heterogeneous in terms of socio-economic background, preparation for college, age, and motivation for college attendance than students in your home country might be. It is also possible that you will find that freshmen and sophomores in the United States are not as advanced in some subject areas as comparable students in your country. U.S. schools rely less on principles of rote learning and more on principles of inductive and deductive thinking than do schools in many parts of the world. Thus, you may find that your students appear to be lacking

in factual knowledge, but seem very perceptive in terms of developing an argument or working through problems.

U.S. attitudes in the classroom

Americans are noted for their casual styles of behavior and dress and these attitudes extend to the college campus and classroom. Your students may dress in any number of ways: from military uniforms for those participating in reserve training, to clothes resembling those seen on rock stars, to those of young business people. Almost all styles of dress are possible and acceptable. Some of your students may not wear shoes in nice weather; this is not considered strange or a sign of disrespect (it is NOT, however, acceptable in the laboratory). Professors and teaching assistants are not expected to conform to any particular style of dress and you may find that your colleagues exhibit a wide range of taste in clothing styles.

There are few rigidly prescribed manners of address or forms of showing respect in the United States. The role of the teacher is not as inherently connected with authority and respect as it is in many countries. Rather, your students will give you the respect and courtesy expected of one individual in her or his dealings with another and show their respect for you as a teacher in this way. You should tell your students how you prefer to be addressed (usually either by Mr., Miss, Ms., or Mrs. in conjunction with your last name or, very commonly, by your first name). Your students' behavior may at first seem to you to be somewhat unacademic in terms of speech, posture, or lack of acknowledgement of you as the teacher. Very frequently, students will speak up without first signaling to you for permission. This is normal behavior and should not be viewed by you in any way as a personal affront or insult.

In terms of your own general classroom behavior, you may find that very formal behavior on your part will probably not be extremely well accepted by your students. You may need to develop interpersonal skills not generally deemed necessary for a university level teacher in your own country. You should, however, set your own limits of permissible behavior with which you are comfortable within your classroom and share these expectations with your students. A good idea would be to observe the class sessions of some of your American colleagues to get an idea of the normal give and take in the classroom.

Many U.S. students will be quick to tell you if they feel you are assigning too much work or your exams are too difficult. You should always be willing to discuss such concerns, either in the classroom or with individual students, and to explain the reasons for your policies. Do not, however, make any major changes in these policies without first consulting your course supervisor, and do not feel obliged to change your policies if they are well-grounded. You and your faculty supervisor, not the students, are in charge of the class.

Communication skills (verbal and nonverbal)

Many Americans have had little experience with or exposure to languages other than English. As a result, sometimes their immediate reaction to any foreign accent is to make an unconscious decision that whatever is said cannot be understood. This is unfortunate and very frustrating for the non-native English speaker whose command of English may be highly developed. If this is a problem for you, it will probably work itself out within a few days as students realize that they can, in fact, understand you.

Some non-native English speaking teaching assistants, however, do have difficulty communicating with their students. Unfortunately, high-level abilities in reading and writing academic English do not automatically guarantee a command of the colloquial language at the level required of a college instructor. If, after the first few days, your students frequently tell you or otherwise signal that they do not understand you or if you repeatedly find it difficult to understand or respond to their questions, you should think seriously about taking steps to improve your English. Contact the English as a Second Language office (esl@umn.edu, 624-4000, 201 Wesbrook Hall) for help.

Each culture has developed a unique nonverbal as well as verbal language. This nonverbal language is sometimes referred to as "body language". Americans generally feel comfortable talking to one another while standing two to three feet apart. Americans vary greatly in the amount and type of arm and hand gestures they use while speaking. By and large, those of you from Asian countries may feel that Americans gesture a great deal; those of you from the Middle East, southern Europe, or Latin America may find Americans very restrained in this regard. In the U.S., it is considered courteous to look directly at another person while speaking to her or him and also to look directly at a person who is speaking to you. People shift their focus for a brief second from time to time to avoid the impression of staring, which is considered rude. In personal conversation with another person, it is considered acceptable to touch her or him briefly on the arm or shoulder to indicate that you are in sympathy with the person. In the more formal situation such as the classroom, this would not generally be acceptable. Women expect and should be given the same respect and consideration in conversation as men.

DIVERSITY

The section above was devoted to introducing the TA new to the United States to the habits of American students. All TAs should, however, be aware that the university is a diverse environment -- one in which people from different countries, different cultures (from within and outside the United States), different backgrounds, and different perspectives are free to interact with and learn from each other. In order for this free exchange to take place, each individual should feel freedom from bias and harassment. In addition, our responsibility to teach students in our classrooms does not require all students to learn and act alike. It is YOUR responsibility to make your classroom a place of free exchange and active learning. This will sometimes require you to take extra time to understand students unlike yourself. It is an investment in time which will pay you, and our society, back many fold.

STUDENTS WITH SPECIAL NEEDS

There are a number of students in each course with special needs. These needs range from special accommodations for disabilities (including learning disabilities), special attention because of cultural differences (e.g. international students who are new to the U.S. or having

some difficulty adjusting to our education system or culture), or additional assistance because of difficulty with course material. Students with emotional problems or in crisis have been discussed earlier under "Special Situations".

Students with disabilities are encouraged (by the Office of Disability Services) to identify to you their special needs and what accommodations they need to give them equal access to education in your classroom. The Americans with Disabilities Act (ADA) requires that you make reasonable accommodations to provide this equal access to persons with identified disabilities (in our case, that means the student would have a letter from the Office of Disability Services). Within the category of reasonable accommodations we would include alternative testing sites, times, and formats, alternative formats for course materials, and physical accommodations not requiring extensive physical remodeling of the space. You are not putting other students at a disadvantage by providing reasonable accommodations to those with disabilities: you are providing the disabled person with equal access. You can check with the course instructor or Jane Phillips if you are unsure of what is "reasonable". Should you need additional assistance (or if you think there is a student who has not identified themselves and should have), you should call the Disability Services (626-1333, V/TTY) for help. They will give you information and guidance in this area.

In addition, don't forget that some students have special needs (not usually classified as a "disability") in the classroom such as sitting in the front of the room because of diminished hearing or sight capabilities. A nice way to handle this is to say on the first day "If anyone who is not currently sitting in front needs to do so in order to see or hear better, please let me know and I am sure that I and your student colleagues can accommodate your needs with a change in seats."

Some students, especially those who are new to the U.S. or whose personalities make it difficult for them to adjust to a new culture, may require special attention from you. This attention includes an awareness that different is not bad. They may be quiet, have difficulty asking questions, have difficulty expressing themselves in English, give you little feedback about whether they understand the material, or have other problems of communication. It is important that you identify these students as early as possible and ask for help from the faculty, experienced TAs or Jane Phillips about how best to approach the problem. The goal is to assist the student so that the learning environment they experience is the best it can be. There are times when other offices such as that of English as a Second Language may be able to give considerable insight and assistance.

Students who are experiencing difficulty with course material (for whatever reason) need to be identified as early as possible. You may only see this difficulty on the first quiz, but if you can recognize it earlier, great! For large lecture courses with multiple lab sections, the professors will find it very helpful for you to let them know about students having difficulty. Once identified, you (or you and the professor, or you and another seasoned instructor) can have a conference with the student to determine what the problems appear to be and how they may be solved. Questions such as the following will be helpful to ask: does the student have the appropriate prerequisites, how did the student do in the prerequisite courses, does the student have and read the text, how much time does the student spend preparing for and studying for the course, what other commitments does the student have that interfere with his/her commitment to this course, etc.

THE FIRST DAY

Well, now you have read all this (or not....), how do you prepare for and be successful in your first day in the classroom? Believe it or not, it is exactly what you would expect:

1. Be sure you are clear what the objectives of the course and the laboratory are and what your expected role in the class is. If you are unclear, see the instructor in charge of the course. Talk over the objectives with other TAs if the course has multiple sections or with TAs who have taught the course before.
2. Read the written material such as the lab manual, course notes, and early reading assignments in the text. If there is a TA manual for the course, read this also.
3. Design and practice your introduction for the first day. Items that should be in the introduction are:
 - your name, office hours, phone, e-mail address, and office room number (some background for the students about your professional strengths and interests is a nice addition)
 - a review of the prerequisites of the course and a brief description of the expectations you have of the students (e.g. read lab manual ahead of time, be on time to class, clean microscope at the end of each lab, whatever....)
 - the policies of the classroom relating to make-up of lab time, quizzes, etc.
 - information about lab safety, location and use of safety equipment, fire evacuation routes
 - any other rules or information the students need to perform well in the class
 - a brief discussion of the syllabus, including the rationale for the order in which the course has been organized

Items that probably shouldn't be in the introduction are:

discussions on how to write reports, etc.; typically these discussions should take place at a time closer to them actually writing them
anything (ANYTHING) derogatory about the course or its contents. If you do not agree with the way the course has been designed, discuss this with the instructor in charge, not with your class.

4. Deal with enrollment issues (students adding the course. See Appendices 4 and 5 for further information.
5. Finally, prepare the students for the day's work: see earlier material about running a laboratory section.

APPENDICES OF INFORMATION

APPENDIX 1: COURSE RESPONSIBILITIES

Course Responsibilities CBS Courses with Laboratories

(modified with permission from form provided by TA Development Office, Human Resources, 1994)

This form is intended to facilitate a meeting between TAs, their supervising professors/instructors, and the Lab Services Coordinator from the CBS Instructional Labs. Its purpose is to clarify expectations and responsibilities. You may want to customize the questions to meet the requirements of your specific position. Each person should retain a copy for reference.

Course Title: _____

Instructor name: _____

Office: _____ Phone number: _____ e-mail: _____

_____ Any other means for contact? (e.g. home phone)

Any dates Instructor will be unavailable during semester?

Who is in charge when Instructor is away?

TA name: _____ Appointment % _____ Hours/week _____

Office: _____ Phone number: _____ e-mail: _____

_____ Any other means for contact? (e.g. home phone)

Any dates TA will be unavailable during semester?

What are the arrangements to cover the lab?

If the TA is sick, who do they call?

Who makes the arrangements to cover the lab in cases of illness?

Lab Services Coordinator's name: _____

Office: _____ Phone number: _____ e-mail: _____

_____ Any other means for contact? (e.g. home phone)

Date of initial meeting _____

Course overview:

What are the course Goals/Objectives?

Who are the students (background with subject, level, etc.)?

Names of other TAs assigned to this course:

What is the workload distribution among TAs assigned to the course?

Who should we ask questions regarding duplicating, keys, a.v. etc.?

What is the lab manual?

Who supplies TA with one?

What is the text?

Will TA get a desk copy? If so, by whom?

An introduction to working in the CBS Instructional Labs:

The CBS Instructional Lab staff serves classes in all the departments of the College of Biological Sciences. Most classes have a Lab Services Coordinator assigned to them to provide laboratory support for the class. This should help the Instructor and TA concentrate on teaching.

Because many of our lab rooms have classes before and after your class, it is important that your students finish lab on time and clean-up their workstations. Here are some guidelines to facilitate this:

1. Start and end your lab session on time.
2. Reserve the last 10 minutes or so of lab time for the clean-up. Begin reminding students to clean-up as the end of lab approaches. Clean-up guidelines will be posted in the lab. The Lab Services Coordinator will inform you about any special situations (e.g. special hazardous waste) during the weekly meetings.
3. Stress to your students the importance of clean workstations, not just in a teaching lab, but as a good habit to acquire for good science.
4. Be familiar enough with the lab exercise, the lab room, and the materials used to lead the class and answer questions. This may mean running the experiment ahead of your students so that YOU know how to do it. Talk to your Lab Services Coordinator to set this up.
5. Talk to the Instructor, other TAs and the Lab Services Coordinator to get hints about what might go wrong during the class and how to fix/solve/deal with it..
6. Be aware of the time. If the lab will run over, you may have to make arrangements to move to a different room or to have students stop at a different stopping place than planned.
7. Be sure all equipment is off or in standby mode, as appropriate, before you leave. This saves bulb life in spectrophotometers and microscopes and prevents fires in heating equipment such as water baths.

It is difficult to schedule make-up labs. Are make-up labs allowed in your course? yes no
If yes, here are a few guidelines to help:

1. Stress to your students the importance of attending all lab sessions. Stress punctuality also.
2. Have a plan in mind before the course begins to cover what students who work in pairs or groups will do if a partner is absent (e.g. continue the lab, providing partner with data; continue the lab, leaving some part to be completed by partner, etc.)
3. If at all possible, students should arrange to attend a different lab section later in the week.
4. If a make-up lab is necessary, the TA must make arrangements with the Lab Services Coordinator who will provide materials and reagents at an agreed upon time. The TA or Instructor is responsible for supervising the students during the make-up lab time.

Although the Lab Services Coordinator is often very knowledgeable about the course because of past experience, s/he is NOT the TA. Students should come to TA or the Instructor with questions. Should TA have questions about the lab or its set-up, the TA may ask the Lab Services Coordinator. However, s/he may refer the question to the Instructor, especially if the question relates more to course content, format, etc. rather than laboratory support.

Finally, the CBS Instructional Labs welcomes suggestions for improvement.

Primary responsibilities in this class:

Indicate who is responsible: I = instructor (usually the faculty member)
T = Teaching Assistant
L = Lab Services Coordinator

In many cases, there will be shared responsibility, but the sharing process must be discussed.

- blots) setting up laboratory materials
- cleaning up laboratory materials
- pre-running experiments
- preparing cultures
- protocol steps between labs (e.g. refrigerating students' plates, washing
- ending the class on time, including getting the students out in time
- providing safety equipment
- providing safety warnings/instructions to students
- assigning course grades
- holding office hours. If so, when and where?
- grading/providing feedback on assignments and exams
- ordering, obtaining AV equipment/materials
- leading discussions/answering questions
- duplicating materials
- running recitation or lab section
- keeping section records
- keeping whole class records
- demonstrating procedures or setting up demonstrations
- creating/selecting class materials
- preparing lab manual
- presenting new material/lecturing in lab
- conducting review sessions
- holding tutorial sessions with individual students
- assigning course grades
- handling academic misconduct (including academic dishonesty)
- arranging for reserve materials at the library
- arranging for field trip transportation
- others:
-
-

It is helpful to put in the approximate time percentages for any of the tasks above that are identified as the TA's responsibility.

Course Staff Meetings:

How frequently will you meet with the professor/instructor? Regular meetings? (where and when?)

How frequently will you meet with the Lab Services Coordinator (and other TAs)? Regular meetings? (where and when?)

Class Lecture Meetings:

How often are you expected to attend the lecture portion of the class? ___ every class; ___ exams only; ___ not required to attend any classes, ___ other:

If you are expected to attend classes, at what time are you expected to arrive?

What responsibilities will you have with respect to the class meeting?

- ___ answer questions at the beginning, middle or end of class
- ___ ask questions to stimulate discussion
- ___ take notes on lecture
- ___ lead discussion, facilitate activities
- ___ notify students of class cancellations
- ___ set up/run AV/lab equipment
- ___ lecture/present material (Will professor be available for assistance?)
- ___ clarify class/university policies (latenesss, assignment/test make-up, cheating, etc.)
- ___ participate in the end-of-semester evaluations for the instructor/course

Duplicating:

Are you expected to duplicate materials for the lab? ___ yes ___ no

If so, what materials will need to be duplicated and where are they located?

How many copies are needed?

If you are responsible for duplicating, where should it be done?

- ___ in Departmental office? In College office? (Is autotron used? copy card?)
- ___ by duplicating service on campus (Which one? How much lead time is needed?)

Is there a limit to duplicating materials? If so, what is it?

Assignments:

Will students be doing lengthy written assignments for the class? ___ yes ___ no

Are due dates and late-acceptance policy specified in syllabus?

Do all due date changes have to be agreed upon by ALL sections/ALL TAs?

Are you responsible for

- ___ preparing?
- ___ collecting?
- ___ grading/recording scores?
- ___ giving feedback?
- ___ instructing students about specific formats?

Quizzes and Exams:

When will quizzes and exams be held?

Approximately how many questions and of what type will you be expected to create for each quiz or exam? By when?

Will the professor/ instructor review the questions you create? yes no

What resources are available to assist you in preparing questions (e.g.: sample questions, old quizzes and exams, test banks)?

Are you expected to score/grade quizzes? yes no When?

Are you expected to score/grade exams? yes no When?

Who establishes grading criteria?

Will you be expected to interpret Measurement Services' scoring sheets?

Are you expected to proctor exams? yes no. Will professor/instructor attend exams ? yes no

Are you expected to bring exam to the exam session? Other materials?

Administration/Grading:

Are you expected to enforce academic misconduct rules?
 assign grades/make recommendations for grading?
 keep class records? If so, when must they be turned in?
 tabulate grades? If so, when must they be turned in?
 fill out and/or submit grade sheets? If so, when must they be turned in?
 post scores /grades? If so, when and where?

TA Performance Evaluation/Feedback:

What manner of performance evaluation can you expect?
 formal observation/evaluation from faculty/instructor?
 peer observation?
 observation/consultation by Faculty and TA Enrichment Office staff?
(Call 627-4327)
 observation by faculty mentor as part of TOPDS program? (Call 627-4119)
 observation by the TA English Program (Call 624-4079)
 student ratings

When will evaluation be given?
 at midsemester?
 at semester's end?
 at your request?
 when there is a problem?
 informally during the semester as part of regular meetings?

Student evaluation of your performance will be:
___ at mid-semester? How? Who will receive copies of the results of evaluations?
___ at semester's end? How*? Who will receive copies of the results of
evaluations?

*Note: Official University Evaluation forms are available in Department Offices.

Other questions:

APPENDIX 2: PLANNING SHEET FOR A LABORATORY

Before class -- Prepare yourself

What is the purpose of this lab?

- to demonstrate a principle or concept?
- to learn a skill or technique?
- to review previously acquired skills or knowledge?
- to teach vocabulary or classification schemes?

How does this lab relate

- to previous and future labs in the course?
- to the general course content?
- to the academic discipline?
- to the student's life and the world in general?

Are there other outcomes you want to achieve?

- get students acquainted with each other?
- get students used to working in groups?
- increase student's independence in their work?
- generate enthusiasm for the field?
- introduce potential careers or areas of research?
- increase curiosity?

What methods can be used to teach these concepts/skills and achieve desired outcomes?

- class participation activity?
- group activities?
- demonstration?
- discussion?
- writing?
- game?
- lecture?
- question and answer (Socratic method)?

What relevant material should the students already know?

- from prerequisite courses?
- from previous labs?
- from lecture or textbook assignments?

How can MY understanding/knowledge of the field specifically be applied in this lab?

- add anecdotal information about my research or those of my colleagues?
- if I am weak in this area, what do I need to do to be ready for questions?
- if the technique requires complex manual manipulations, can I help them by showing them how I do it?
- can I give them hints for successful completion of the lab ("If I were doing this lab, I would first gather the tubes I need and label them properly. Then I would....")?

How will I manage the lab?

- groups?

- individual work?
- how will each student or group be responsible for the material?
- will each student or group be responsible for ALL the material or only a part?
- how much time is available and how will it be structured?
- will all material be introduced at once or can some be introduced later in the lab?

What physical needs are there?

- visual aids (projector, VCR, etc.)?
- handouts?
- demonstration equipment/materials?

Are there any special logistical problems to be considered?

- access to materials and equipment?
- moving of tables, chairs, people?
- effective transitions during the lab?
- forming groups?
- information overload?

Starting class - Focus attention

Class announcements (e.g. change of due dates for reports, time of review session, opportunities for students such as special scholarships or seminars that you have been asked to announce)

Attendance

Review of previous lab, including time to exchange/discuss data or answer questions

Introduction of today's lab - Focus for today

Begin with a statement of the 2 to 5 most important concepts/techniques the students should learn from this lab.

Outline/overview of today's lab

- short overview, including this lab's relevance (see above in "Before class")
- identify changes from the written instructions (do not read the written instructions to the students. Expect them/require them to read and comprehend written materials you have provided.)
- highlight problem areas or techniques that are especially difficult
- demonstrate techniques if appropriate (e.g. complex technique or costly repair if equipment not handled correctly)
- outline of timing for successful completion of lab

Description and organization of groups/activities, if appropriate

- assign groups
- be sure groups understand what is expected of them
- describe how group activity fits into the whole class (e.g. reporting, summarizing activities)

During the lab - Facilitate learning

How can you best facilitate learning?

What areas do you especially need to monitor?

- correct use of equipment?
- safe use of materials?
- group dynamics/division of labor?
- time management?
- comprehension of lab ideas?

How will I monitor these areas without interfering with student's work?

- observe and intervene only if there is a safety hazard?
- observe and intervene to demonstrate a better way to accomplish the task?
- circulate and ask questions (and which questions should I ask)?

How will I respond to general confusion or frustration?

- interrupt the class and reiterate short verbal directions or give quick demonstration?
- involve myself in each group and steer them in the correct direction?
- drop hints that will help students find their own way?
- stop the class for a more in-depth, lengthy discussion?

How can I compliment my students for jobs well done?

Summary and conclusions - Cement the learning that has occurred

How much time is available for closure?

Can you do it at the end of the lab or will students be finishing at different times?

If the latter, can you arrange small groups (e.g. the four students who worked together) to reach some closure and share at the beginning of the next class?

Will students be summarizing and reporting results?

How can you effectively wrap up the lab and reiterate the important points and relevance of this lab?

- individual writing assignments or written summaries?
- have each student write down what s/he did and learned today?
- large group discussion?
- shorter summaries during the lab?
- small group discussion?

Preparation for next lab - Looking ahead to the next period

Any announcements you need to make? (such as material to read, supplies to bring, activities to be completed before coming to the next lab)

APPENDIX 3: SAFETY IN THE LABORATORY-A STUDENT HANDOUT

This sheet of safety information is intended to make you aware of safety considerations in the laboratory. It is NOT intended to be a complete training manual.

The primary point in discussing safety is that YOU ARE ULTIMATELY RESPONSIBLE FOR YOUR OWN SAFETY! No matter how much information or training you are given, only you control whether you will in fact implement safety precautions.

Accidents are usually caused by poor or improper preparation for the work being done. A good laboratory maxim to remember is "prepare yourself, then protect yourself". What this means is to educate yourself about the potential hazards in each laboratory, then use the appropriate safety precautions to prevent injury to you and others and to prevent damage to the building.

During your career in science, you will be exposed to a large variety of dangerous materials: e.g. caustic acids and bases (e.g. H_2SO_4 , HCl , NaOH), carcinogenic and neurotoxic chemicals (e.g. ethidium bromide and acrylamide, respectively), explosive chemicals (e.g. perchloric acid, many chemical mixtures, H_2 gas), chemicals which cause cumulative damage over long-term exposure (e.g. acetone, chloroform), flammables (e.g. acetone, toluene, natural gas used for bunsen burners), high pressure gasses (e.g. N_2 gas tanks on a gas chromatograph), infectious agents (e.g. enteroviruses, bacterial pathogens), high speed rotary equipment (e.g. centrifuges), ultraviolet light sources (e.g. transilluminators used to view gels), and others. Many of these can injure, permanently damage or kill you. YOU DETERMINE WHAT THE OUTCOME OF THEIR USE WILL BE. You determine if you will retire gracefully at 65.... or.....

So how do you prepare and protect yourself?

1. **Never use any chemical or equipment of which you are unsure.** Find someone or some source of information about it to instruct you in its proper use.
2. **Plan ahead.**
3. **Work with materials safely.**
 - Read warning signs and labels on equipment and chemicals.
 - Wear eye protection (e.g. goggles for protection against splashing chemicals, face shields for protection against ultraviolet light, protection for exposed surfaces (gloves for hands, lab coats for clothing), and inhalation protection appropriate for the hazard. (Don't know? See #1 above.)
 - Know where the safety showers, eye washes, fire extinguishers, first aid kits, and cleanup kits are and how to use them.
 - Some chemicals are unsafe only after being added to others – be aware of which chemicals "don't mix".
 - Use volatile chemicals and extremely hazardous chemicals in a laboratory chemical hood.
 - Do not work with hazardous or toxic materials alone.
 - Be careful attaching glass tubes or tubing to rubber. This includes attaching propipettes to pipettes.
 - Any dirty glassware, including pipettes, with caustic or harmful materials in or on them should be rinsed out before being put in your lab's discard area.

If you break anything with harmful material in it, including material harmful to paint and floor tiles, clean it up, carefully. If you are unsure how to clean it up, ask for help.

Keep all volatile liquids away from heat or flames. Some have a low flash point (point at which they burst into flames), others form toxic gasses when heated.

Do not eat, smoke or drink in the laboratory.

Do not use mouth suction for pipetting operations.

Wash your hands after any suspected contamination and before leaving the laboratory (even when you are "just" going to the rest room).

Label all materials well.

Dispose of chemicals in the appropriate area. (Don't know? See #1 above.)

Practice good housekeeping skills.

Look at equipment before use to evaluate safety hazards (e.g. frayed electrical cords).

Slow down. Work deliberately. Bad day? Cancel lab work or ask for assistance.

Feeling ill? Cancel lab work or ask for assistance.

Don't let anyone intimidate you into working unsafely.

4. **Have insurance.** Seriously.

What if an accident happens?

So, you have tried to prepare and protect yourself.... and the unthinkable still happens... an accident. What now?

Embarrassing as it may be to have had the accident, don't try to pretend it didn't happen.

Use the backup equipment as necessary (eye washes, safety showers, fire extinguishers, first aid kits, cleanup kits).

Freaking? Ask (yell? whine?) for help. The person responsible for the accident (or injured in it) is often shocked a bit and unable to think clearly. Don't be embarrassed if this is you; be ready to give aid if it is not you. In class, an instructor should be handy to lend assistance.

Quickly determine if the accident could lead to more injuries; if so, respond appropriately (e.g. limit movement in the area if there is an acid spill by shouting "STOP. Don't come near here."; evacuate the area if a fire or reaction is out of control or if escaping gasses are quickly filling the air space by shouting "STOP. Leave the room, leave the building.", pull a fire alarm on your way out, and go to another building and dial 911 to summon assistance. Be ready to give the name of the building, room number, and a description of the problem.).

Seek medical aid if necessary (Boynton Health Service behind BSBE in Mpls or across from the St. Paul Student Center in St. Paul between 8 a.m. and 5 p.m. Monday through Friday, phone #5-8400; UMHC emergency room at other hours, phone #6-2700; or for serious injuries, fires, or situations, call 911); if unsure, you should seek medical aid -- have a medical professional evaluate your injuries.

Clean up or seek help in cleaning up any spills.

Be sure to report the accident to your laboratory supervisor.

DO NOT chastise or ridicule the person responsible for the accident. Doing so sets up a vicious circle where people try to hide accidents because of embarrassment or because of the fear of future chastisement or ridicule. Break this circle here.

And finally, learn from mistakes... yours or others... in causing the accident and in the reaction to the accident. A group discussion may be appropriate.

Notice the order of the above information.... it is given in order of importance.

1. Act to prevent further injury.
2. Seek medical aid if necessary.
3. Clean up and deal with the paperwork.
4. Learn from mistakes.

If you have any questions or concerns about safety in the laboratory, ask your lab instructor.

First aid

For chemicals taken internally:

Acids - do not induce vomiting
do not give bicarbonates (baking soda)
give milk of magnesia in large amounts followed by milk.

Alkalis - do not induce vomiting
give large amounts of dilute acetic acid (1%) followed by milk.

Other liquids – give 2–4 glasses of water
(except induce vomiting with finger or salt water (1 teaspoon
petroleum per glass).
products) continue until vomit fluid is clear.

In all cases: 1) Never administer liquids to an unconscious person.
2) Identify the chemical.
3) Call a physician – tell him or her what the chemical is and all first aid steps taken.

Burns – flush with cold water for 15 minutes to reduce tissue damage.

Gases – remove victim from area, being careful not to inhale fumes; if victim has any difficulty breathing, begin artificial respiration or resuscitation; continue until victim can breath normally or until a physician says to stop.

Bleeding - Apply pressure to stop the bleeding. Continue until the bleeding stops.

APPENDIX 4: COURSE ENTRY PROCEDURES

CBS Instructional Labs Instruction sheet for TAs: All CBS Lab courses

How to handle class admission the first two weeks of class.

1. BEFORE your first class meeting:
 - a. Get the class roster AND the waiting list from the faculty member in charge of the course.
 - b. Determine if your section is Closed to further registration.
 - c. Check with the faculty member to see if any students have contacted her/him about not attending the first class. Check again immediately before your class meets.
 - d. Be sure you know the maximum enrollment limit of the class.

If you are missing ANY of these important pieces of information AND you cannot connect with the faculty member in charge of the course before your class begins, contact the department that manages the course in which you are teaching. NOTE: In the absence of information about any student contact with the faculty member, you will need to hold the seats for students currently registered even if they do not show up for the first class.

2. AT the first class meeting, take roll.
3. If there are students waiting to enroll (either on the waiting list or attending but not registered), here is information you need to know:
 - a. According to University policy (see pages in Class Schedule labeled “The First Week of Class”), attendance at the first class meeting is MANDATORY:

“You must attend the first class meeting of every course in which you are registered, unless you obtain approval for your intended absence before the first meeting. Without this prior approval, you may lose your place in class to another student. If you wish to remain in a course from which you have been absent the first day without prior approval, contact your instructor as soon as possible. Instructors have the right to deny you admission if the course is full. You must *officially* cancel any course to which you are denied admission.”
 - b. Students who are on the waiting list MUST attend the first session to hold their position on the waiting list. They are told this at the time they sign up on the waiting list, and it is in the Class Schedule (“Gaining Admission to a Closed Course”) right after the paragraph on Mandatory Attendance.
 - c. Students may add classes on the following schedule:

Week 1: Students can add the course, but students need a permission number (see #4) if the section is closed.

Week 2: Students can add the course, but need Instructor’s approval during and after week 2)

Weeks 3-15: Students may be allowed to add the course, but need Instructor's approval and must go their own College's office for Scholastic Committee approval.

4. So, how do you let students enter a class if you have room?

If the course is NOT Closed, the student can register without any assistance from you.

If the course is Closed, the student will need permission to register. At the end of the first meeting, you may proceed to fill empty seats in the following order:

First allow students on the waiting list who have attended the class to enroll in place of absent students on the class roster. Admit students according to the approved CBS policy (see following pages) from the waiting list. (Note that a student who has gotten prior approval to miss the first session still retains her/his place on the class roster.)

To enroll students, check with the department that manages the course in which you are teaching to get a permission number sent to the student.

Second allow those wishing to transfer sections to do so. Students are responsible for making the official change of section, but you may need to facilitate this with the departmental course contact.

Third allow students attending but who are not on the waiting list nor in other sections to enroll.

NOTE: The student must complete the registration process. You cannot complete their registration.

5. After the first class session, you may not give away the place of ANY student who is enrolled in the class. You may check with Student Services in 229 Snyder if you want to find out if a student has officially dropped the course.

CBS Waitlist Guidelines

Approved by EPC, 3/24/06

Introduction

Courses with limited enrollment should use waitlists to control access to the course by registration queue. This departmental control ensures that the available space in the course is allotted in a way that supports student graduation and other departmental and college priorities in a fair and equitable manner.

The College or individual departments may choose to allow priority registration to CBS students or students in particular majors for some part of the registration queue. This will mitigate the impact of closed courses on completion of CBS and major course requirements. Questions regarding priority registration should be directed to the Director of CBS Student Services.

To enable control of student access to the course once the course has filled, the course enrollment limit will automatically go to zero. At that point the waitlist is the sole source of student access.

Waitlist Management Guidelines

Once a waitlist is begun, CBS departments should follow the guidelines described below.

In A1-3 below, the liaison for each department in Student Services can help departmental contacts prioritize who should receive permission numbers from the waitlist. This may help in cases where students do not self-identify, have not yet added a second major, or who do not understand their options for taking other classes toward graduation.

A. Enrollment preference should be given in the following order if students make a reasonable effort to add themselves to the waitlist on or soon after their assigned registration queue date:

1. **Graduating seniors in the major** who need the course to graduate (who must self-identify, since the waitlist will tell you they are second term seniors but not that they have registered for graduation that semester).
2. **Majors** in the department who need the course to stay on track in the major (e.g., a fall semester course that is prerequisite for a spring semester course or a course only offered once per year and the student is a senior).
3. **Graduating seniors in other CBS majors** who need the course to graduate (who must self-identify, since the waitlist will tell you they are second term seniors but not that they have registered for graduation that semester).
4. **Degree-seeking students** in CBS or co-sponsored majors (BSE, Biology or Microbiology in CLA).
5. **Other degree-seeking students** outside of CBS or co-sponsored majors
6. **PSEO** (Post-Secondary Education Option) students.
7. **Non-degree-seeking students.**

If all other characteristics are equal, honors students should be given preference before non-honors students and students taking the course for the first time should be given preference over students retaking the course.

B. Departments should monitor waitlists at least weekly during the regular registration period, and frequently enough afterward that:

1. students can be added to existing sections rapidly;
2. addition of a section is possible if it can be done in a timely way.

C. Course limits determined before registration began must be adhered to so that no more students are allowed into a course than the room or laboratory holds. Whenever a waitlist opens, the department may want to consider a change of rooms if that is the only barrier to access.

D. Departments should keep track of enrollment limits in sections to determine whether another section can and should be added and to determine how many students should be added from the waitlist.

E. Student Services will lower the course limits on courses needed for Orientation to accommodate incoming freshmen and transfer students. Student Services will download a list of permission numbers to be used at Orientation. Student Services also will work with departments to reserve seats by transfer student group (CBS New Advanced Standing Students, NASS). Departments will download their list of permission numbers to be used for students who are on the waitlist. Student Services will work closely with staff in the Departments who manage waitlists to make sure that there is no duplication of effort or and that no seats go unused.

F. Students and faculty will be referred to the appropriate website for information about waitlist policies.

G. Departmental staff and/or waitlist coordinators can confirm that a student is on the waitlist, but should NOT disclose the student's position on the waitlist. Instead, students should be referred to the website for waitlist policies.

H. Once a student receives a permission number he or she is given an appropriate time to use it. During registration, this time frame may be 24 hours. If it is not used within 24 hours, it is given to the next student on the list. After registration, and especially during the student breaks, departmental staff will need to use their best judgment about the time frame to use. For example, during break between fall and spring semesters, it is likely that students will not be checking their University e-mail often. Thus, a timeframe of a week may be appropriate. The deadline for using the permission number should be clearly stated in the e-mail to the student. Students should also be asked to remove their name from the ONLINE waitlist if they no longer want a seat in the course.

APPENDIX 5: HOW TO DOWNLOAD YOUR CLASS SECTION LISTS

How to download your class section lists (includes e-mail addresses):

- Connect to website: <http://www.umreports.umn.edu/>
Warning... this site can be SLOW.
- Click on User Login button
- You will be redirected to a secure site, say OK to both dialog boxes telling you that.***
- Log in using your U of MN X.500 user ID (e.g. phill547) and password. Student accounts do not have access to this site.
- Click on Login button.
- You may get another dialog box telling you that you are in a secure site. Click on OK.
- Click back to the Management Reporting Page (it will be open somewhere on your desktop) and scroll to find the list titled Student and Instruction. Click on Class Lists.
- Under Instructor Reports, click on "Class Lists" ("My classes" probably won't work for you because we may not get the TA names into the system until the semester is running.)
- Then click on the info that will get you to this semester at UMTC, the course you want (e.g. Biol and 2005), and your section number. Be prepared to wait to load each screen, especially the last one.
- Use "Save as Excel" button to save the list to your hard drive. Wait for the dialog box so you can tell it WHERE to save it.
- Be sure to return to the Logout screen (should be open on your desktop somewhere) and logout.
- You can then open the data in Excel. If you open it and don't see anything, you may need to use the Window menu, choose New Window, then resave the file.

***This IS a secure site because it contains information protected by the 1974 Federal Data Privacy Act. You are responsible for following the rules of this act, including

- accessing only the information that you have the need to know (e.g. class lists for classes you TA, but not classes you are in),
- not sharing the information with anyone who does not have the need to know (e.g. the students in your class), and
- maintaining the information you get from this site in a secure location.
-

Any instances of inappropriate use of this site or data from it will be subject to University disciplinary actions that could result in termination of your employment.

APPENDIX 6: CLASSROOM PROCEDURES

The following information was taken from a CBS Faculty Handbook. Because University policies change, you may want to look at the most current information available on the web at the following link for ALL policies affecting education and student life:

<http://policy.umn.edu/categories/esl.html>

a. Establishing Course "Ground Rules"

Instructors should present sufficient background information in a written form during the first class meeting so that students will know what to expect. A written syllabus or outline could include most of the information. Instructors should provide at a minimum:

1. Introduction of the instructor and teaching assistants.
2. Announcement of office locations and office hours. If changes become necessary, students should be notified in advance.
3. Help that students can expect from the instructor and assistants; tutorial services, if available. This is particularly important in an introductory course.
4. A statement requesting students with disabilities to identify any special accommodations they might need in order to have equal access in the course. (See also **Counseling for Students with Special Needs** below.)
5. Outline the general nature of the course; texts and outside readings, number and types of tests and/or papers; dates work is due and tests are scheduled.
6. Expectations for class participation and attendance, and effect on the student's grade.
7. For 5-level courses, a description of the different work expectations and grading procedures for graduates and undergraduates.
9. Grading standards, methods of evaluation, and factors entering into grade determination; conditions under which "I's" rather than "F's" may be awarded, performance standards for "S". (See **CBS GRADING SYSTEM**, below for definition of grades and use of "I.")
10. Background preparation or prerequisite work required for course enrollment.
11. Review of CBS policy on scholastic conduct, of the expectation for academic honesty, and of sanctions that may be imposed for dishonesty. (For procedures for handling scholastic misconduct see below).
12. Relationship of the course to other courses in the department and the relationship of the discipline to liberal and professional education.

Instructors are expected to use fully the first meeting hour rather than to dismiss class after a few minutes of announcements.

b. Academic Freedom and Responsibility

The University statement on Academic Freedom and Responsibility (available from the U website: <http://www1.umn.edu/regents/policies/academic>) outlines instructor's rights and responsibilities, as well as grievance and appeals procedures. Questions may be directed to the CBS Grievance Review Officer, who may be contacted through the Dean's Office, 624-2244.

c. Quantity of Work

The University Senate describes the quantity of work necessary to earn a credit. One conventional credit is defined as equivalent to three hours of learning effort per week, averaged over an appropriate time interval, necessary for an average student taking that course to achieve an average grade in that course. The manner in which the course is taught determines how much of the work will be in the classroom, laboratory, library, or independent study and research. A student should expect to spend about 12 hours a week, including class time on a 4-credit course.

d. Class Attendance, Participation, and Evaluation

Instructors, guided by the policies of their departments, set their own attendance regulations and rules for late work. Students are held responsible for meeting all course requirements and for observing deadlines, examination times, and other procedures. Instructors should inform students as early as possible in the semester of dates for testing and deadlines for papers and reports. Students should be told the first day of class if unannounced quizzes are part of the evaluation process.

Students who must miss class or exams because of scheduled activities of official University student organizations should be allowed to make up missed work to the same extent as students absent because of illness. They should, however, notify the instructor in advance of their absence. When necessary the Director of Student Services (624-9717) will certify activities qualifying for such accommodation. Other acceptable excuses include subpoenas, national guard service, and confirmed medical excuses.

e. Student Complaints about Teaching

Each department should have a designated member who will listen to and act upon student complaints about teaching. Students should be told to whom to express dissatisfaction about teaching concerns.

f. Note-taking Services

Although the University does not endorse or approve note-taking services on campus, the University does not deny access to such organizations nor does it prohibit faculty from freely using such services. Faculty should be warned that the quality of the notes produced varies greatly both within and between services. Those faculty who choose not to cooperate with a note-taking service may deny access to individuals who are not registered students. Faculty may claim copyright protection and should be aware that originality in tangible work is protected; ideas and facts are not. If faculty intend to claim copyright protection on lectures, notice should be given to students both verbally in class and in writing on the class syllabus. Questions about copyrights or agreements faculty might be asked to sign by note-taking services may be directed to the Office of the University Attorney (624-4100).

g. Field Trips

Field trips are important components of many biology courses and precautions must be taken to ensure the safety and welfare of all participants. Students sued because of actions on a field trip are not covered by the University liability policy; however, faculty are protected, assuming they act within the scope of their employment and do not commit malfeasance, if a student on an official trip does something to incur liability. If transportation is by private vehicle, the owner rather than the University is liable. The most effective way to minimize the University's risk of liability for field trip injuries is to arrange for transportation through University Transportation Services (625-5878). Participants are discouraged from signing waivers of indemnification, which are sometimes requested by organizations to be visited.

h. Counseling for Students with Special Needs

--Minority Students

Students are encouraged to meet individually with the Coordinator of Minority Affairs to explore potential interests in biology, to seek academic assistance (including individual tutoring when necessary), and to get help in overcoming barriers to academic success. Students should be encouraged to ask about financial aid and scholarship opportunities. The current Coordinator of Minority Affairs can be contacted through the Student Services Office in 229 Snyder (624-9717).

--Students with Disabilities

The Federal Rehabilitation Act of 1973 (and the Americans with Disabilities Act of 1990) requiring colleges and universities to provide equal access for disabled but otherwise qualified students, supports a long-standing University policy of integrating students with disabilities into regular classes.

Students with sight, hearing, mobility, learning, or psychological problems may need accommodations for physical and program access. It is their responsibility to contact faculty regarding their needs.

Some of these students, however, are reluctant to identify themselves or ask for special assistance. Faculty can help alleviate their discomfort by including on course syllabi an invitation to students with disabilities to come forward and arrange reasonable accommodations. See **Establishing Course Ground Rules** earlier. These accommodations may include classroom relocation, notetakers, adapted testing and assignments, time extensions, lab assistance, taped lectures, texts, and exams, sign language interpreters, tutoring, or early access to course syllabi.

The Disability Services, 230 Gateway (V/TTY 626-1333) assists in ensuring **equal access** for students with disabilities. The office publishes "A Guide for Faculty and Staff" that discusses various disabilities and academic accommodations. This manual is available upon request.

Faculty seeking guidance about reasonable accommodations and students needing assistance in dealing with a reluctant faculty member should contact Disability Services for suggestions.

APPENDIX 7: STUDENT CONDUCT

The following information is based on the CBS Faculty Handbook.

a. Suggestions for Reducing Classroom Problems

During the first class meeting, make a brief statement about academic integrity and your expectations regarding student behavior and responsibility. You may be pleasantly surprised by the positive response this will elicit from students. You might end your discussion with a statement like: "While I certainly don't anticipate any problems with academic dishonesty in this course, I want you to know that my response to cheating or plagiarism is sure and swift discipline." Elaborate briefly about situations that may be unique to your class. For example, in lab courses, how much collaboration is encouraged or allowed for lab work and reports? On take-home exams give examples of appropriate sources. Is any amount of collaboration permitted? See the website on plagiarism for help with this:
<http://CISW.cla.umn.edu/plagiarism.html>

If you do encounter dishonesty in your class, inform the faculty instructor BEFORE you confront the student directly. There are university rules to follow, as well a legal issues of due process that must be met, should any sanctions be levied on the student.

If you suspect dishonesty, but are not certain, confront the student and let him or her know that a specific behavior suggests cheating during an examination. If you do not inflict "punishment" (e.g. failure on the exam) at this point, you are not open to risk of any legal action by the student.

Explain early in the semester that a grade of "I" is awarded only in cases where a student is doing passing work and specifically arranges to complete the remaining coursework at another time. Students requesting a grade of "I" should submit the appropriate forms that can be obtained in 229 Snyder or the departmental offices. The appropriate grade for a student who quits attending class and fails to take the final is an "F".

Do not return student exams or papers simply by leaving them in the hall outside classrooms. Federal and state laws prohibit making grades public. This creates special problems with the return of final exams at the end of the semester. One possible solution is to use the last four digits of the student I. D. numbers (or assign numbers to all registered students) to identify exams. (You CANNOT use the entire student ID number!) If you chose to post grades by the last four numbers of the student identification number, students should not be listed in alphabetical order in the case of small enrollment courses.

b. Class Disruption

Instructors are responsible for maintaining order and a good learning environment in the classroom. Students whose behavior is disruptive either to the instructor or to other students should be asked to leave. Students whose behavior suggests the need for counseling or other assistance may be referred to their College Office (or the Director of CBS Student Services). Students whose behavior may violate the University Student Conduct Code may be referred to the Director of the University Office for Student Conduct and Academic Integrity <http://www1.umn.edu/oscai/> (624-6073). University Police can remove students who are especially disruptive or violent.

c. CBS Policy on Academic Dishonesty

The College of Biological Sciences has adopted the University's definition of scholastic dishonesty, stated in the Student Conduct Code as follows:

submission of false records of academic achievement; cheating on assignments or examinations; plagiarizing; altering, forging or misusing a University academic record; taking, acquiring or using test materials without faculty permission; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement.

Each instructor is urged to discuss these issues and probable disciplinary action with students at the beginning of each course.

Procedures

An instructor suspecting a student of scholastic dishonesty should, when possible, discuss the alleged violation with the student and suggest appropriate disciplinary action. Such action will usually affect the grade earned in the course.

All incidents of academic misconduct should be reported to the Director of Student Services on the forms available from Student Services. The university has instituted new procedures campus-wide - please see the updated faculty handbook at <http://www1.umn.edu/ohr/teachlearn/> or go directly to the website of the Office for Student Conduct and Academic Integrity <http://www1.umn.edu/oscai/> , for more information.

Reported violations involving CBS faculty will be referred to the responsible academic department.

APPENDIX 8: EVALUATING STUDENT PERFORMANCE

The following information was taken from the CBS Faculty Handbook and University policies.

A. Examination Procedures

a. Administering Examinations

The following may help minimize cheating by those who take advantage of poorly administered exams.

1. Seat students as far as possible from one another. If classroom isn't large enough to accommodate alternate seating, request a larger room for exam periods from Room Scheduling (St Paul: 624-3244 or Minneapolis: 625-6030) several weeks in advance of exam date.
2. Require students to write seat numbers on exams or answer sheets.
3. Provide different sets of questions for adjacent students if the type of exam permits. (The same questions can be presented in different order on different forms of the exam with minimum effort from the instructor.)
4. Require that books and notes not needed for the exam be left on shelves away from student's seats. Books and other belongings left outside of classrooms in public areas **will disappear** if unattended.
5. Proctor the exam carefully.
6. Require on each exam the student's signature and some piece of personal information (e.g. I.D.) to guard against substitute exam-takers. (This is especially important in high enrollment courses.)

b. Rescheduling Examinations

Final Examination schedules are set by the Office of Classroom Management's University Scheduling (625-6030, ocmsched@umn.edu). Final exams may not be moved to the last day or earlier meetings of a class, except for lab courses that do not follow the regular schedule. No "midterms" or other tests may be scheduled for the last week of classes, nor are examinations permitted on Study Day. This day, which was instituted at student request, must remain free for review before examinations begin.

The final examination schedule and regulations for each semester are printed in the **Exams and Grades** section of each Class Schedule. These are determined by both lecture times and college.

By Minnesota state law, the University may not schedule any event, including examinations, which takes place after 6:00 p.m. on the day of a major political party precinct caucus. These usually occur in March.

In some cases--for example, to facilitate administering a common final examination in a multiple-section course--students and the instructor may see advantages to rescheduling an exam. In very large courses (enrollment over 250) administration of the exam early in the examination period may facilitate completion of the grading within the exam period. (Contact University Scheduling for guidance.)

If you wish to change the final exam in your course to a different time, you first must have the unanimous consent, via written secret ballot, of the students, and concurrence of the department chair. Then, the Director of CBS Student Services, as the Dean's designate, must concur and the Scheduling Office approve of the time change. If a student cannot make the newly scheduled time, instructors are obligated to provide an alternative time for that student. Requests for rescheduling are made on Form A163

available in departmental offices. Requests should be submitted at least one month before the end of the semester to assure a room assignment and adequate time to notify students. The Scheduling Office promptly informs departments of its action on requests.

c. Make-up Examinations

Instructors are obligated to provide make-up exams for students who miss exams because of scheduled activities of official university student organizations (see **Class Attendance, Participation, Evaluation**, earlier). Instructors are further obligated to schedule make-up exams within the final examination period for students who have three final exams in one calendar day, especially if instructor rescheduling causes conflicts.

Instructors should also provide make-up examinations for students who have acceptable excuses, e.g., verifiable medical problems, personal emergencies, etc. for missing the final. The make-up exams for such students need not be scheduled within the examination period but should be as early in the following semester as possible. Instructors are encouraged to reschedule exams for students with sincere religious objections against taking an exam on a scheduled day.

B. CBS Grading System

There are two distinct grading systems on each campus of the University of Minnesota, A-B-C-D-F (with pluses and minuses) and S-N. The S-N system is a self-contained alternative to the A-F system and the two may not be combined for a particular student in a particular course. Students may receive grades or symbols only from the grading system under which they have registered for a course.

CBS limits students in their application of D grades toward graduation requirements. This restriction and the grading policies described below apply to undergraduates in CBS courses. Graduate students are held to certain other policies of the Graduate School, e.g. when grading systems may change and how. (See the Graduate School Bulletin for specific policies and procedures). CBS students may not complete courses in the Major on the S-N system except in the case of S-N only courses.

a. Faculty Determination of Standards

University grade definitions establish the qualities of performance expected at different grade levels. Instructors define grade standards for their courses in conformity with their departmental policies. Grade definitions assume that instructors, knowing their courses' basic requirements, can determine when students meet or exceed them. When most students semester after semester exceed the basic requirements or, conversely, fail to meet them, the implication is either that the instructor has misjudged reasonable expectations or that the course is inappropriate for the students enrolled. Some readjustment would be indicated.

b. Definition of Grades by the University

Grades describe levels of achievement. University legislation prescribes the grades and symbols that will be reported on the student's transcript:

There are five permanent grades given for a single course for which credit shall be awarded, which will be entered on a student's official transcript. A-B-C-D-F grades include pluses and minuses, as follows, and carry the indicated grade points. The S grade shall not carry grade points but the credits shall count toward the student's degree program if allowed by the college, campus, or program.

These definitions apply to grades awarded to students who are not enrolled in graduate programs, but the grade points are the same no matter the level or course of enrollment.

A 4.00 Represents achievement that is outstanding relative to the level necessary to meet course requirements.

A- 3.67

B+ 3.33

B 3.00 Represents achievement that is significantly above the level necessary to meet course requirements.

B- 2.67

C+ 2.33

C 2.00 Represents achievement that meets the course requirements in every respect.

C- 1.67

D+ 1.33

D 1.00 Represents achievement that is worthy of credit even though it fails to meet fully the course requirements.

S Represents achievement that is satisfactory, which is equivalent to a C- or better.

F 0 Represents failure and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I (see next section on assigning the Incomplete grade.)

The F carries 0 gradepoints and the credits for the course do not count toward any academic degree program. The credit hours for the course shall count in the gradepoint average.

N Represents no credit and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I. The N carries no gradepoints and the credits for the course do not count toward any academic degree program. The credit hours for the course do not count in the gradepoint average.

Academic dishonesty in any portion of the academic work for a course shall be grounds for awarding a grade of F or N for the entire course.

Students who enroll for a course on the A-F grading system shall receive an F if such grade is warranted;
students who enroll for a course on the S-N system shall receive an N if such grade is warranted.

Other grades

"I"--The I will be assigned at the discretion of the instructor when, due to extraordinary circumstances (as determined by the instructor), the student who has successfully completed a substantial portion of the course's work with a passing grade was prevented from completing the work of the course on time.

The assignment of an I requires a written agreement between the instructor and student specifying the time and manner in which the student will complete the course

requirements. The student seeking an "I" and the instructor should understand clearly before the semester's end whether the student will receive an "I" and under what conditions the work may be completed. Students assigned "I's" have the right to complete the work remaining in the course during their next semester of registration and are expected to make up the work on their own. Instructors have the option of changing an "I" to an "F" if the student doesn't meet the terms of the agreement for making up the incomplete work. If students choose to reregister, the "I" from the initial registration if taken Fall 1988 or after, will lapse to an "F" and the grade from the next semester will stand. A completed Incomplete form must be placed on file for each I grade assigned.

"T"--A grade **transferred** from another institution is preceded by "T" on the transcript.

"V"--Registration as **visitor** or auditor, which permits attendance and, with the instructor's permission, participation in course activities. No credit or grade is earned, and a course in which a "V" has been posted may not subsequently be retaken for credit. Regular attendance without registration is not authorized.

"W"--Official **withdrawal** from a course after the second week of classes. Cancellations through the first two weeks of class are not recorded. The "W" is posted by the Records Office on the basis of the cancel-add slip; **the instructor does not report it.**

"X"--Continuation in a course or courses is necessary because grades cannot be determined until the full sequence is completed. The instructor must submit a grade for **each** "X" when the student has completed the sequence.

"K" -- assigned by an instructor to indicate the course is still in progress and that a grade cannot be assigned at the present time.

c. CBS Policies and Practices for Various Grades

Instructors please note that these policies are in force for students registered through the College of Biological Sciences. Each U of M college has its own set of policies regarding D grades, etc. The policy to be followed is determined by the student's college of enrollment, NOT the college that offers the course.

The **"S"** is not related to the A-F continuum. "Satisfactory" work is defined in the same way that values for other grades are determined. The standard may differ among course levels--a graduate course, an introductory course, an honors section, a major prerequisite. The instructor may set different tasks or establish different criteria for S-N and A-F registrants. Because students frequently have difficulty understanding that "S" is used differently between and even within courses, it is important that instructors clarify the standards they require for "S".

The **"D"** and **"D-**" carry limited acceptability toward a CBS degree. Courses with "D" grades may be used to fulfill distribution requirements, or prerequisites, and may be used for credit toward graduation. However, each credit of "D" must be balanced by a credit of "A" or "B" in a course at the same level. Each credit of "D" earned in courses meeting specific science or math requirements must also be balanced by a credit of "A" or "B" in courses at the same level that meet those requirements.

Credit will not be awarded twice for the same course or for two substantially equivalent courses. Students may repeat courses that have **not** been completed satisfactorily, including courses in which they received "D" or "F" grades. Both the old and new grade will be included on the

academic record. Students are **not required** to repeat a failed course unless it is needed to meet a prerequisite or other requirement.

Repeating a course that has already been completed satisfactorily requires college approval. The first passing grade (C or better) is used in calculating the student's grade point average.

"I's" earned Fall 1988 and thereafter will lapse into "F's" (if the student was registered on the "A-F" grade base) when coursework is not completed within the student's next semester in residence. An instructor who permits a student to complete a course after an "I" has lapsed can change the "F" to another grade upon completion of the coursework.

The "W" is always assigned when a student drops a course after the first two weeks of class. To receive a "W" the student must submit a Course Request before the end of the sixth week of classes; the instructor's awareness of the student's leaving the course is not enough to insure cancellation (see **Course Cancellation** earlier).

d. Choice of Grade Base

Although most courses should be taken on the A-F grade basis, the S-N system has the advantage of freeing students to some extent from the pressure of grades. It was designed to encourage students to take a greater variety of courses. With college permission, the S-N system is also used for certain courses in which it is impossible or undesirable to evaluate student achievement precisely. According to U of M policy, changes in registration base from A-F to S-N or vice versa may not be made after the second week of the semester. Biology students in CBS and CLA may not register on the S-N basis for courses used to satisfy **specific college graduation requirements in mathematics and the physical or biological sciences**, unless such courses are offered on the S-N **only** basis. Exceptions may be authorized by petition.

Students who intend to apply to graduate or professional school should plan to register on the A-F grade system for almost all work relevant to their proposed specialization.

C. Grade Reporting and Records

a. Submitting Grades

Instructors in 1000 level courses are required to submit Midterm Alerts for all students earning a D, F, or an N by midterm.

Instructors are required to submit final grades online within *72 hours* (including weekends) after the final examination for the course (not 72 hours after the close of the examination period for the semester).

Go to <http://onestop.umn.edu> and click on the Faculty button to follow the links for both midterm alerts and final grades.

Grades must be submitted when due in order to be included on students' grade slips. Serious inconvenience to students and to College Offices result when deadlines are not met. Examples of serious inconveniences to the student include delayed financial aid or graduation, or missed deadlines for admission to special programs, graduate or professional schools, etc. These ARE serious!

b. Use of Grade Report List

Grades must be reported for every name on a course list. If information on a student is not available, the appropriate grade to report is "F" or "N" (depending on the student's registration) rather than "I". "I" grades require submission of an Incomplete form to CBS Student Services.

c. Unregistered Students

While instructors should not accept work from students whose names do not appear on the course list, extenuating circumstances may exist and a grade can be submitted for such a student who has been allowed to attend class despite being unregistered. If you have permitted an unregistered student to participate fully in your class, it is important that you submit the student's name in a written supplemental Grade Report sheet and report a grade, even if the grade is unsatisfactory (D, D-, F, or N). The student's name and when possible, I.D. number should be added at the bottom of the Grade Report sheet. These sheets are available in CBS Student Services.

When the Records Office receives a final course grade for a student whose name is not on the course list, that student is billed for the course, receives a transcript notation of an unauthorized registration, and receives a "V" grade without credit for the course. The student may subsequently change the "V" to the reported grade and credit only with the approval of the Scholastic Committee Representative in the student's college office. This procedure prevents degree credit from being awarded to students who have been suspended or expelled, who owe the University unpaid fees, or who are otherwise ineligible to register officially for courses, but who nevertheless may attempt to sit in on classes.

d. S-N Grades

The instructor may not enter an A-F grade for a student registered S-N or vice versa. No grade except "S" or "N" (or "I," if appropriate) may be entered for a student registered on the S-N system. "I" grades require submission of an Incomplete form.

Should a student's grading base and grade be at odds, the Records Office posts no grade on the transcript and notifies the student of the discrepancy by mail. The student must contact either the

instructor to request a grade on the correct grading base or the student's College Office to seek a change in the grading base (requests for late changes in grading base are rarely approved). Thus, to avoid inconveniencing students as well as themselves, instructors should submit only grades correctly reflecting student registration.

e. Directed Study Grades

University Senate policy on evaluating and reporting participation in directed studies projects is that credits, student workloads, and grades for an individual project follow the same guidelines used in evaluating student performance in a regular course. Each directed study registration must include a written contract filed at the time of the registration. This contract, outlining the objectives, methods, evaluation procedures, and credits to be awarded through the project, becomes the basis for evaluating the student's work. Departmental approval of the project is required. Instructors who wish to supervise projects outside their own discipline are asked to obtain approval from the relevant department. Departments are expected to monitor all directed studies instruction provided by their faculty or taught within their discipline by others.

f. Change of Grade

After final grades have been submitted, grade changes are made on supplementary grade report slips available from and submitted through departmental offices. Grade changes require signatures of the instructor and the departmental chair. Grade changes should be accompanied by a brief note of explanation on or attached to the grade report form.

Changes may be made when an "I" has been made up, or when the grade originally assigned is incorrect. Neither additional work (unless everyone in the class has that opportunity) nor special pleas by students should be the basis for grade changes.

If the student is retaking the course, the new grade will **not** replace the earlier one.

g. Student Review of Examinations and Papers

Students are entitled to request a review of their grades from instructors. Therefore, materials submitted by students, if not returned to them, must be retained by instructors for a *reasonable period of time* (at least one semester in the academic year is suggested as a minimum; when "I" or "X" grades are assigned, longer periods may be necessary to permit determination of final grades). Instructors should notify students of the opportunity for reviewing examinations and papers and the period of time during which such review will be provided.

h. Confidentiality of Grades

Since student grades are considered confidential information, exams and papers should be returned only to the student who wrote them. If exam scores are posted they must be identified by something other than the students' names (see **Suggestions for Reducing Classroom Problems** earlier).

i. Student Grievances

Students are entitled to file grievances if they believe they have been unfairly evaluated and graded. Students are expected to use the established channels of appeal. Most problems can be resolved between student and instructor. If necessary, the departmental grievance committee, and, in rare cases, the College grievance committee, may be called to assist. Grievance committees have authority to recommend that the chair (or the Dean) direct re-evaluation, further examination by other instructors, or other steps to insure fairness if they believe the original evaluation was deficient. Direct questions to the Director of Student Services who may be contacted at 624-9717.

j. University Transcripts

The official transcript includes a complete record of a student's course registrations after the tenth day of classes each semester and the grades or symbols assigned for those courses.

APPENDIX 9: CONFIDENTIALITY OF STUDENT INFORMATION

The following information was based on the CBS Faculty Handbook.

a. Background

Students assume, with reason, that the University will protect personal information from improper disclosure. In addition, state and federal legislation pertaining to students' rights to privacy places explicit constraints on those maintaining student records. The law permits students access to their own records but prohibits release of such information to anyone else, except authorized university personnel.

CBS defines educational records as any records that the educational institution maintains about a student. This includes all collegiate and departmental, graduate and undergraduate student records, Scholastic Committee, Conduct Committee, admission and placement files and other records upon which educational decisions are based.

b. Release of Directory Information

Instructors considering assembly of a class list for distribution, or sharing student information (e.g. phone numbers or e-mail addresses) must be sure to verify that students have not requested suppression of directory information.

c. Release of Information Other than Directory Information

All requests for information other than directory information should be referred to a Student Services staff member. Signed consent from the student is required to release information (other than unsuppressed directory information) to third parties, including parents. Consent forms are available from the Student Services Office, 229 Snyder, 624-9717.

Students may review anything in their own files except advisers' personal notes that have been kept separately. A student who wants to inspect his/her file formally should be encouraged to make an appointment and must sign a request form, available in 229 Snyder.

Faculty and other University of Minnesota personnel may be given information when a "legitimate educational interest" exists. Call the Student Services Office with questions.

Release of information outside the University is more strictly controlled than internal release. CBS is a secondary source for such information; outside requests should be referred to the Student Relations Unit, 150 Williamson, 625-5333.

When in doubt about whether to release information to a third party--parent, instructor, adviser, employer, etc.--staff should consult with the Director of Student Services who can contact the University Attorney's office, if appropriate, for advice.

d. Telephone Requests

Within the above guidelines, information may be released over the phone to the student, but the identity of the caller must be verified by asking the student for information only he/she would know, for example, the student's Social Security number or University I.D. number.

Phone requests from faculty or other University personnel may be filled if, as stated above, legitimate educational interest exists and the identity of the caller is verified, for example, by calling back the inquirer at an office number.

It is recommended that if a student requests a grade be sent by e-mail that these only be sent to the student's university account (e.g. phil3678@umn.edu) not to any other account (e.g. yahoo or hotmail) where it is impossible to verify who actually owns the account.

e. Emergency Requests

Even in an emergency, e.g., a death in the family, a sick child in day-care, accidents, and emergency operations, staff should not disclose information otherwise protected. Rather they should request the name of the caller, the nature of the emergency, and a return number for the student to contact, and then they should phone the student or ask the University Police or the departmental office nearest the student's current location to relay the message.

f. Employees' Responsibility to Protect Educational Records

Federal, state, and Regents' legislation holds employees directly accountable for the careful protection of student educational records. All employees--both permanent and temporary, full-time and part-time, including student employees--who enjoy access to student records have a responsibility not to disclose information inappropriately. Willful disclosure of student information is cause for dismissal. In addition, improper disclosure of student information may result in legal liability.

Copies of the Regents' policy on access to student records are available from the Student Services Office.

APPENDIX 10: DIRECTORY OF UNIVERSITY RESOURCES

University resource phone numbers and locations change occasionally. This list is a guide to services, but you may wish to consult the University's website for the most current information:

- One Stop: <http://onestop.umn.edu>
general site: <http://www.umn.edu/tc/siteindex.html>
directory: <http://www1.umn.edu/twincities/directory.html>
Policies on education and student life:
<http://policy.umn.edu/categories/esl.html>

Sites you may wish to visit before you begin teaching are:

- University Counseling and Consultation Services
<http://www.ucs.umn.edu>
Disability Services
<http://ds.umn.edu/>
Writing-intensive requirements
<http://writing.umn.edu/tww/policy/index.htm>
Plagiarism vs. legitimate use and citation
<http://writing.umn.edu/tww/plagiarism/index.htm>
Office for Student Conduct and Academic Integrity
<http://www1.umn.edu/oscai/>

University Information

On campus: 0 (7:45 a.m.-4:30 p.m.)
Off campus: 625-5000

St. Paul Campus

Registration: Office of the Registrar	
130 Coffey Hall (St. Paul Registration).....	624-3731
Admissions Information (Mpls. Registration).....	625-5333
Bookstore: Books Underground	
7 St. Paul Student Center	624-9200
Health: Boynton Health - St. Paul Branch	
109 Coffey Hall.....	624-7700
College Bulletins	
130 Coffey Hall.....	624-3731
Counseling & Consulting Services	
199 Coffey Hall.....	624-3323
Escort Service	624-WALK (624-9255)
Housing	

130 Coffey Hall.....	624-2994
Motorist Assistance Program.....	625-5533
Residency/Reciprocity 240 Williamson Hall.....	625-2008
Student Center, St. Paul.....	625-9794
Transcripts (written or in person requests) 130 Coffey Hall.....	624-3731
University Police 100 TSB, 511 Washington Ave SE.....	624-3550

St. Paul Libraries

Magrath Library.....	624-1212
Entomology, Fisheries & Wildlife Library 375 Hodson Hall.....	624-9288
Forestry Library B50 Natural Resources Bldg.....	624-3222
Plant Pathology Library 395a Borlaug Hall.....	625-9777
Veterinary Medical Library 450 VetS.....	624-4281

Minneapolis Campus

Admissions

Change of College, Transfer Information 240 Williamson Hall.....	625-2008
Hours: 8am-6pm Monday 8am-4:30 pm Tuesday - Friday	
Residency and Reciprocity Information 240 Williamson Hall.....	625-2008

Counseling

American Indian Learning Resource Center 125 Fraser Hall.....	624-2555
Asian/Pacific American Learning Resource Center 315 Sci Classroom Bldg.....	624-2317
African/American Learning Resource Center 315 Sci Classroom Bldg.....	625-1363
Chicano/Latino Learning Resource Center 315 Sci Classroom Bldg.....	625-6013
College of Continuing Education (CCE) Advising Services 150 Wesbrook Hall.....	624-4000
Counseling & Consulting Services 109 Eddy Hall.....	624-3323
http://www.uccs.umn.edu	
Crisis Counseling 4 th floor Boynton Health Service.....	625-8475
Disability Services, Office of Students: 180 McNamara Center.....	626-1333
(voice or TTY) http://ds.umn.edu/	
Employees: 230 McNamara Center.....	624-3316

(voice or TTY)	
Equal Opportunity & Affirmative Action 419 Morrill Hall	624-9547
HELP Center (for students who are parents) 133 Appleby Hall.....	625-0825
Office of International Programs 645 Heller Hall.....	624-5580
Learning and Academic Skills 104 Eddy Hall	624-7546
Mental Health Clinic 4th Floor Boynton Health Service	624-1444
Sexual Violence Center (The Aurora Center for Advocacy and Education) 407 Boynton.....	626-2929
24 Hr Crisis Line.....	626-9111
Student Dispute Resolution Center 107 Eddy Hall	625-5900
Veterans Certification 200 Fraser Hall.....	625-8076
Women's Center 112 Klaeber Ct.	625-9837

Employment

Student Employment Center Donhowe Building.....	625-2000
http://www1.umn.edu/ohr/employment/index.html	

Financial Aid

Student Financial Aid 210 Fraser.....	624-1665
Student Loan Collection 140 Williamson Hall.....	625-8007

Health and Public Services

Boynton Health Service 410 Church Street	625-8400
Boynton Emergency (after hours).....	612-622-5555
Dental Emergencies (after hours, M-F)	612-273-3000
Ask for Dental Resident on duty	
Dental School Clinic	624-8400
Emergency	911
Housing Information Comstock East	624-2994
Escort Service	624-WALK (624-9255)
Legal Service, Student 160 West Bank Union Skyway.....	624-1001
Motorist Assistance Program.....	625-5533
University Police 100 TSB, 511 Washington Ave SE.....	624-3550
University Relations (Tours) 6 Morrill Hall	624-6868
Women's Health Clinic, 410 Church St. SE, 2 nd Flr. Boynton H.S.	625-4607

Libraries

Biomedical Library	
205 Diehl Hall.....	626-5653
General Information.....	624-0303
Library Hours.....	624-4552
Music Library	
70 Ferguson Hall.....	624-5890
Science and Engineering Libraries	
Walter Library ref desk.....	624-0224
Walter Library circulation	
East Bank on the Mall.....	624-3366
Wilson Library (Humanities, Social Sciences)	
West Bank.....	624-0303

Registration and Student Records

College Bulletins

Williamson Hall Information Center
Coffey Hall Admission and Records

Bursar's Office

East Bank 145 Williamson.....	625-7535
West Bank 101A Anderson Hall, Washington Ave. Level	625-1383
St. Paul campus 107 Coffey Hall.....	625-8108

Fee Statement Duplicate

200 Fraser Hall
130 Coffey Hall (St. Paul Campus)

Identification Cards

825 Washington Avenue.....	626-9900
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Registration Center (Office of the Registrar)

200 Fraser Hall in Mpls, 130 Coffey Hall in St. Paul

Registration Information, Records Problems, and Questions

Student Relations	
200 Fraser Hall.....	625-5333

Transcripts <http://onestop.umn.edu/registrar/transcripts/index.html>

200 Fraser Hall (mail or in-person service only)
130 Coffey Hall (St Paul Campus)
130 WBS (West Bank)

College of Biological Sciences Offices (in St. Paul unless otherwise noted)

<http://www.cbs.umn.edu>

Department Offices:

Biochemistry, Molecular Biology and Biophysics:

 In Mpls: 6-155 Jackson Hall; 625-6100

 (In St. Paul: 140 Gortner Lab; 624-7755)

Ecology, Evolution and Behavior: 100 Ecology Bldg, StP; 625-5700

Genetics, Cell Biology and Development: Mpls: 6-160 Jackson Hall; 624-3110

Microbiology: Box 196 UMHC, Mpls; 624-6190

Neuroscience: 6-145 Jackson Hall; 626-6800

Plant Biology: 220 BioSciences Center; 625-1234

Student Services:

 Student Services: 229 Snyder Hall; 624-9717

Additional Facilities:

Office of the Dean: 123 Snyder Hall; 624-2244
External Relations: 123 Snyder Hall; 625-7705
CBS Instructional Laboratories – St. Paul: 210 Biosciences; 624-2789
CBS Instructional Laboratories – Mpls: 3-104 MCB; 624-2789
Biology Program: 3-104 MCB, Mpls; 625-2532
Biological Technology Institute: 140 Gortner Lab; 624-6774
CBS Computing Center : 247 Gortner; 625-9284
Cedar Creek Program: 100 Ecology; 625-5740: Cedar Creek Area: 763-434-5131
Imaging Center: 23 Snyder; 624-3454
Lake Itasca Program: 720 BioSciences Center; 624-6743
Plant Molecular Genetics Institute: 495 Borlaug; 625-2225

Special Office for Teaching and Learning

Center for Teaching and Learning Services
Office of Human Resources
315 Science Classroom Building Hall
Minneapolis, MN 55414
612-625-3041

e-mail to teachlrn@tc.umn.edu

Web page: <http://www1.umn.edu/ohr/teachlearn/>

The Center for Teaching and Learning Services works to enhance the culture of teaching and learning on the Twin Cities campus of the University of Minnesota. The program supports departmental, college, and individual initiatives to increase the effectiveness of faculty and teaching assistants at the university and actively shares the responsibility for teaching and learning improvement. The Center for Teaching and Learning Services seeks to build partnerships with other units to collaborate on issues surrounding teaching and learning. This program replaces the Teaching Enrichment Opportunities for Faculty, the TA Development Program, and the Faculty and TA Enrichment Program.

Training of teaching assistants is a shared responsibility of departments, colleges, and central administration. TAs should contact the offices of departmental chairs and college deans to find out what is available from those sources. Human Resources, through the Center for Teaching and Learning Services, sponsors many facets of training on a University-wide level. Workshops, lectures, orientations, conferences, a teaching consultant, the Resource Center, and the TA English Program are all aspects of the TA training available. Almost all programs are offered free of charge. For more information, contact the Center for Teaching and Learning Services at the address/phone/e-mail/web site listed above.