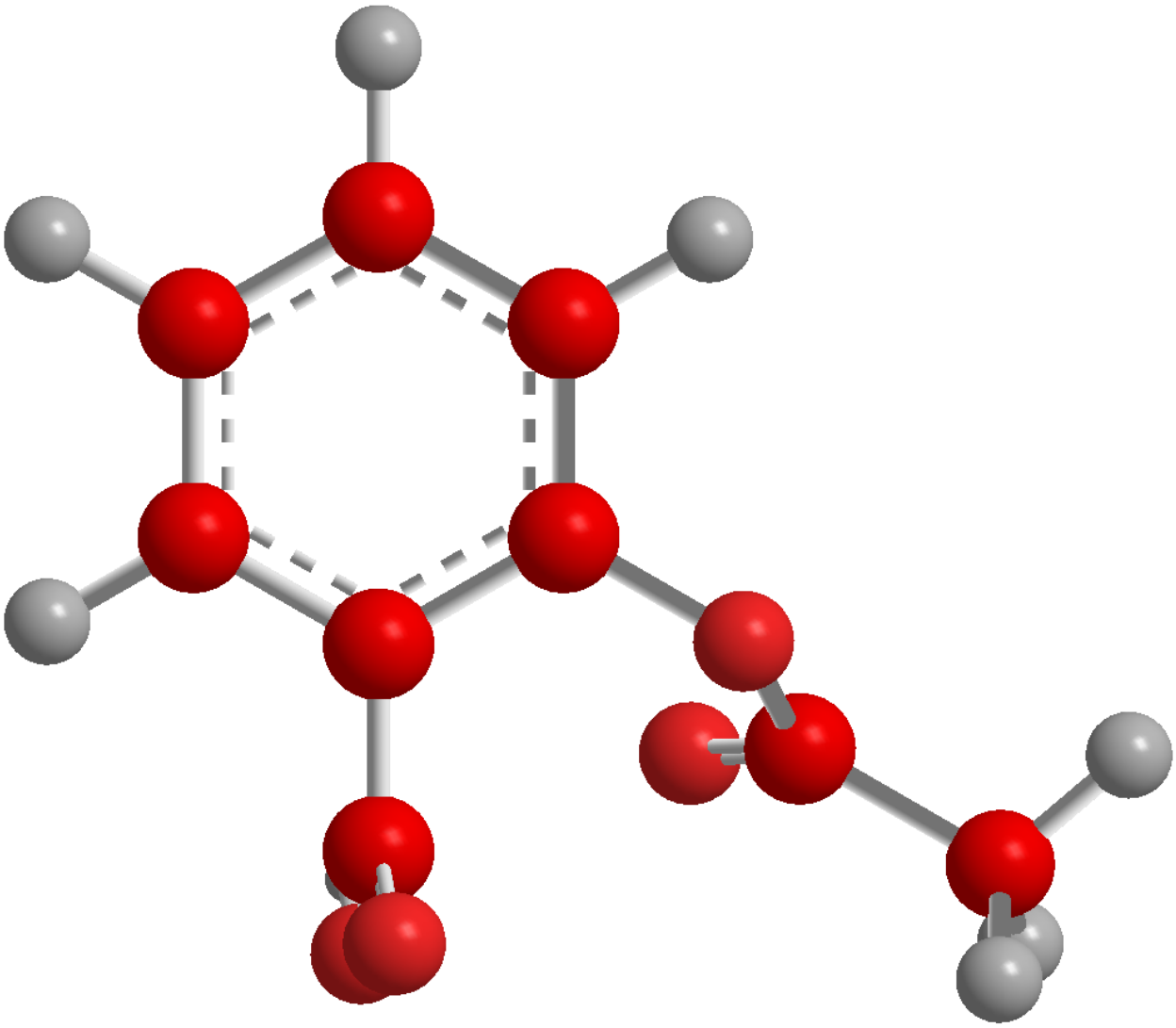
Teaching Assistant Manual



Eighth Edition
August 2012

Department of Chemistry
Michigan State University
East Lansing, Michigan 48824
Phone (517) 355-9715
http://www.chemistry.msu.edu

FOREWORD

Welcome to the profession of teaching. We who have planned and written this Handbook wish you every success in your role as a teaching assistant. For us, teaching is an integral part of our professional identity. Effectiveness in the classroom is, in our experience, among the most satisfying aspects of being a professor. Yet, like many of our colleagues, much of what we know about teaching we learned the hard way—on our own and through painful trial-and-error.

We can recall the mistakes and anxieties of our first weeks as teachers or teaching assistants: the dull lectures; the questions we couldn't answer; the errors on the board; the failed discussion sections; the poorly designed quizzes; the ambiguous exam questions; the insensitivity to student concerns; and so on. However, we persevered. We reflected on our mistakes and tried to eliminate them. We sought advice from those with whom we felt safe in admitting our worries and ignorance. We tracked down what little was written about college teaching and teaching in our respective disciplines. It was slow going, but gradually we improved. We became more competent, which increased our confidence, which (in a virtuous circle) further contributed to our competence.

A central aim of this handbook is to spare you from having to take weeks, months, or even years discover on your own what can be learned from the collective experience and careful research of others. What you find in these pages will enable you to avoid some of our mistakes and accelerate your development as an effective—inspired and inspiring—teacher. Your activities as a teaching assistant will, we hope, become among the most satisfying parts of your graduate education. Just as hindsight usually suggests ways to improve even the best courses, so too your thoughtful comments and suggestions will allow us to improve subsequent editions of this Handbook. As you are a beginning teacher, we are relative beginners at putting together a Handbook for New Teaching Assistants. Thus, we welcome your ideas about how the Handbook could be better adapted to meet your needs.

Best wishes for a terrific year—both as a student and as a TA.

—The MSU Handbook Editorial Committee and Karen Klomparens, Asst. Provost for Graduate Education and Dean of the Graduate School

ACKNOWLEDGEMENTS

This, the latest revision of the third edition of MSU TA, is the result of the efforts of many MSU faculty and staff. The original Handbook Committee, who shaped its direction and concept, and compiled, wrote, and edited MSU TA, consisted of Dr. Ann Austin, Dr. Martin Benjamin, Dr. Elaine Cherney, Dr. Jelena Gill, Dr. Karen Klomparens, Dr. Gail Richmond, Dr. Barbara Steidle, Dr. Marilyn Wilson, and Sherry Wynn. I am indebted to my predecessors, Mike George, Steve Chalk, Barry DeCoster, and to Dr. Bill Rittenberg, for their work on previous versions of MSU TA. A number of handbooks from other universities were immensely helpful in both the conception of MSU TA and its subsequent revisions, including: Mentor: A Handbook for New Teaching Assistants (Fifth Edition), U of Washington; Teaching at Ohio State University: A Handbook, The Ohio State University; A Handbook for Teaching Assistants, The University of Tennessee, and Teaching at North Carolina, The University of North Carolina, Chapel Hill. Finally, I would like to thank the Office of the Provost, the Assistant Provost for Undergraduate Education, June Youatt, The Graduate School, Denise Greenhoe, MSU TAP Office Manager, Zeynep Altinsel, our ITA Coordinator, and the rest of our staff for providing the financial, intellectual and cooperative support that continue to make MSU TA possible.

Kevin M. Johnston
University Director, MSU TA Programs

NOTE: This manual is adapted from MSU TA (Fourth Edition Revised, Copyright 2005) for use as the Department of Chemistry TA manual. The unabridged version is available at the Teaching Assistant Program website, http://tap.msu.edu/handbook/docs/2011-2012_handbook.pdf. Thanks to all who helped in this process: Liz Carson, Jaime Curtis-Fisk, Kate McCusker, Anne Fischer, Elizabeth McGaw, Melissa Meaney, Kathy Severin, and Katie Shelly.

Contents

INTRODUCTION

This handbook addresses the role of a Michigan State University Teaching Assistant (hereafter, TA).[1] We hope that this handbook will be a useful tool as you begin your career at MSU.

HOW TO USE THIS HANDBOOK

This manual is full of suggestions, pedagogical models, and resources. There is too much here to digest at one sitting. For quick reference, however, we have provided a selective bibliography of works addressing the issues covered in each chapter at the end of each section. We anticipate that our audience has varied teaching preparation and experience. We also know that assistantship responsibilities vary from course to course. Therefore, in order for you to best use the handbook, we have tried to provide enough variation to serve your different needs. Certain sections will become useful to you only after having taught. *We suggest that you give the handbook a good once-over, noting sections that are immediately useful to you based on your responsibilities at this time.*

Chapter 1: MSU student statistics, course information
Chapter 2: Improving your teaching strategies
Chapter 3: Day-to-day responsibilities of a TA
Chapters 4 and 5: resources and policies of MSU.

First-time TAs: Chapters 2 and 3 will be most useful in preparation for your first class.

The subsequent sections of this handbook have been written so that they will be generally useable by TAs throughout the Chemistry Department. The Department utilizes TAs in various ways with differing levels of responsibility. Below is a list of some of the positions TAs occupy. Some sections will be of particular interest to TAs in different positions, but we stress that for most TA assignments, the information presented in this handbook as a whole is applicable. If you have questions about the handbook, classroom procedures, testing, etc., check with your supervising instructor or course coordinator. Though you will find excellent general advice throughout this handbook, your first obligation is to heed the expectations of the instructor of record (the instructor in charge of teaching the course) with whom you work.

Recitation Section. The TA is responsible for one or more sections within a large lecture course. The lecture is usually given by a faculty member (the instructor of record) and may have an enrollment of up to 500 or 600 students. The lecture class is split into small recitation sections of 20 or 30 students who meet once or twice a week to clarify lecture topics or go over homework problems.

Lab Section. The TA is responsible for one or more sections of a laboratory class. The TA assists students with experiments and other hands-on assignments. Some courses may also require the TA to lead recitation sections where information pertinent to the laboratory is covered and students' questions are answered prior to carrying out the laboratory experiment.

Office Hours. The TA maintains designated times during the week to be available in a classroom to answer questions from students on a one-on-one basis. Sign-up for classroom locations and times is coordinated through the main office during the first week of classes. Holding office hours in your office or laboratory is strongly discouraged.

Helproom. For general chemistry courses and some organic courses, office hours are held in the Helproom (130 Chemistry Building). A TA will be in the Helproom with 3 or 4 other TAs, answering student questions about class material and homework.

Grading. The TA may be responsible for grading homework, laboratory reports, midterm examinations, final examinations, and/or other assignments.

1. As of May 2002, MSU teaching assistants voted to select the Graduate Employees Union to represent them in bargaining with the MSU Administration. As part of the bargaining process, the GEU requested that teaching assistants be referred to as "graduate employees." For the purposes of this handbook, we still use the terms "teaching assistant." Visit the GEU Website for more information: http://www.geuatmsu.org/.

ASSUMING THE RESPONSIBILITIES OF A PROFESSIONAL

For TAs at MSU, the "Code of Teaching Responsibility" (see Chapter 5) is a formal professional standard which creates a context, not only for the behavior of TAs but also for faculty. Some specific behaviors by new TAs will demonstrate that they are serious about their desire to develop professional competence. The following list is not exhaustive, but serves to illustrate the type of behavior expected of professionals.

1. Most importantly, learn and take seriously the policies regarding your role as a TA.
2. Learn to enforce the policies fairly. Be firm and uphold standards. This may involve making decisions that disappoint others.
3. Be a reliable worker. If a student, a colleague, or a teaching team is depending on your input, get the task done well and on time.
4. Know the context and the limitations within which you work. If you are not authorized to change rules or make decisions, do not act unilaterally. Confer responsibly with professional colleagues and faculty supervisors to determine what you may and may not do.
5. Respect the dignity of all students; put aside your personal biases.
6. Maintain proper boundaries between professional and personal relationships. In general, avoid personal relationships with non-peers—either your students or your professors.
7. Restrain your responses to student conflicts. Attempt to hear and understand their concerns in an unbiased way. Remember the ways in which you bear the greater responsibility in your relationship with students.
8. Deal responsibly with problems of course organization and sensitive relations with co-workers. In large courses served by teams of TAs, it is especially important that you take responsibility and ownership for the course, even if you are not in control of certain approaches or procedures and disagree with them. Make reasonable criticisms in planning meetings, not in class with your students. Deal maturely and ethically with the frustrations and difficulties that attend any large-scale project.
9. Be cautious and discreet about disclosure of information. Respect privacy. Know the limits of your authority, and the prerogatives of those requesting information. Knowledge and skill in one's discipline is the first requisite of being a teacher or a professor. In addition, you must adhere to a professional code of conduct, which demands skill and restraint, as you meet the challenges and difficulties of the profession with dignity and balance. It may take years to develop a sense of oneself as a competent, discerning professional, but it is important for new TAs to take the first steps of that journey.

Chapter 1:
WHO ARE YOUR STUDENTS?
MSU UNDERGRADUATES AND YOU

With an undergraduate population of about 36,100 students, Michigan State University has one of the largest single-campus populations of undergraduate students in the nation. Nearly 7,400 students made up the fall 2004 freshman class at MSU. As a Teaching Assistant, you will have contact with a broad spectrum of the undergraduate population. Students, especially freshmen, tend not to differentiate much between teaching assistants and regular faculty. They will rely on you for academic purposes, but they are also likely to raise a number of concerns external to the classroom or to seek sources of advice from you. We need to challenge our students—from their first days at the University—to engage actively in the learning community. Over the past few years, we have initiated a series of ventures to acclimate freshmen more effectively into the life of the University and to emphasize the connections among the academic, the co-curricular, and the residential aspects of their daily lives. To introduce them to the culture of the University, they have been greeted with a book of letters by faculty, addressing what they value in the University and their aspirations for their students. The freshmen, in turn, are charged with writing a "history of their future" at MSU, which they will later revise to reflect their actual experience. These essays are intended to get the students thoughtfully engaged in their education and may serve to launch their portfolios or to generate discussions about issues that excite, puzzle, or trouble them. Faculty, advisors, or teaching assistants may become sounding boards for such discussions. We hope that, having mastered the secrets of succeeding at the University, you will be generous in sharing that adventure with your students.

WHO ARE OUR GRADUATE STUDENTS?

Fact sheet compiled by Karen L. Klomparens, Dean, MSU Graduate School (SU 2003)

The national and international reputation of every great research extensive and Land-grant University is established through the research and graduate education enterprise. It is that scholarly and academic reputation that attracts the best faculty, who, in turn, contribute to the ongoing reputation. From this strong and excellent base flows quality outreach/engagement and undergraduate programs. Graduate students bring a richness of intellectual and cultural diversity to MSU and excellent graduate programs help attract the highest quality faculty. Graduate students and the graduate education enterprise form the serious intellectual core of any University, and in doing so, help establish a serious academic environment in which excellent undergraduate education can thrive.

Graduate students completing their programs have an in-depth content knowledge in a disciplinary field or sub-field, knowledge and skills required by licensing or accrediting bodies to become a practitioner, and/or, in the case of the Ph.D. student, the training for and completion of independent research/scholarship that is an original contribution to the body of knowledge in a disciplinary or interdisciplinary field. Graduate students not only have a commitment to life-long learning, they embody that characteristic.

Michigan State University enrolls approximately 3,000 doctoral students and 4,000 Master's degree students in a typical year (in Fall 2004 there were 2,977 doctoral students and 3,934 Master's students). In addition, in a typical year, there are approximately 1400 graduate/professional students (in Fall 2003 there were 427 Human Medicine, 534 Osteopathic Medicine, and 419 Veterinary Medicine students). MSU enrolls approximately 12 National Science Foundation Predoctoral fellows each year, as well as NIH Fellows, NIMH Fellows, EPA Star Fellows, USDA National Needs Fellows, and others. There are more than 3000 teaching and research assistants at MSU who contribute to the University's multiple missions and have a considerable impact on our research, undergraduate education, and outreach.

Graduate programs are offered by 14 colleges at MSU: Agriculture and Natural Resources, Arts and Letters, Broad Graduate School of Management, Communication Arts and Sciences, Education, Engineering, Human Ecology, Human Medicine, Law, Natural Science, Nursing, Osteopathic Medicine, Social Science, and Veterinary Medicine.

Master's degrees consist of coursework-based programs and coursework plus thesis–based programs. The Ph.D. degree is a research-based program that requires a dissertation, as an original contribution to the knowledge of the disci-

pline, and both a broad and deep understanding of the cutting edge of the disciplinary knowledge base. The Graduate School processes approximately 420 dissertations and 300 Master's degree theses in a typical year. During the last academic year (2003-2004), MSU granted 2091 Master's degrees and 441 doctoral degrees.

There is no "typical" graduate student profile, at MSU or elsewhere. At MSU, currently enrolled graduate students range in age from 15 to 65. Our graduate students come from every state in the United States and from 130 other countries. Just less than half are Michigan residents. Demographically, 47% of doctoral students are female, 62% of Master's degree students are female. In the total graduate student population, 30% are international students and 12% are ALANA (Asian-American, Latino, African-American, and Native American) students.

Along with the Master of Arts, Master of Science, and Doctor of Philosophy degrees, there are 10 additional graduate degree types (for example, Doctor of Musical Arts, Master of Fine Arts, Master of Arts for Teachers, Master of Public Administration), plus the Educational Specialist degree. The medical schools grant the Doctor of Human Medicine, Doctor of Osteopathic Medicine, and Doctor of Veterinary Medicine degrees.

WHAT DO WE KNOW ABOUT MSU UNDERGRADUATES?

We have been interested in studying the transition of students from their entry to the University through their college careers to derive a better understanding of the student experience and needs. The information that follows provides a perspective on the characteristics of MSU students, especially the freshmen. It incorporates information on the Michigan State student population learned from studies undertaken by MSU faculty researchers, along with some comparisons from the 2000 Cooperative Institutional Research Program, a nationwide study conducted by the Higher Education Research Institute at UCLA. While looking at the norms, keep in mind that student behaviors and characteristics range widely and that 35,000 MSU undergraduates span the entire spectrum.

Surveys of MSU freshmen and their parents indicate that they brought similar concerns to the University.[2] Both groups rated academic success and an existential concern over the meaning, value, and purpose of their education at the top of their lists. Parents were more concerned than their children about institutional size. For students, finances ranked third among their concerns. This is consistent with the national CIRP data reflecting a rising concern among students about their ability to pay for college and the availability of financial aid.[3] The marked rise in the number of hours MSU students worked for pay over the past decade seems to be a logical response. 25% of incoming freshman expect to work while in school and across the entire student population, MSU students tend to work more hours per week than students in peer institutions. A recent study reveals they will work an average of 13.4 hours per week, while seniors average 20.6 hours per week.[4] Freshmen are more likely to be employed on campus, which, according to the literature, generally has a positive impact on student persistence and satisfaction. After the first year, students gravitate to off-campus jobs, and often to multiple jobs. As work-for-pay has increased, student credit hour loads per semester have declined. The average semester class credit load for freshmen was 14.2 credits, dropping to 13.0 for seniors. About one-third of the students enrolled for 15 credits or more per semester, the number needed to complete most degrees in four years.

Faculty anecdotes often echo the CIRP conclusions regarding growing academic disengagement, as indicated by an increase in the number of students who report feeling bored in classes and the number of those who sleep through classes. In addition, the national survey found that the percentage of students who reported studying 6 or more hours per week remained nearly constant from 1997, at 34%. About 41% of MSU students (33% of freshmen, 50% of sophomores, and 40% of juniors and seniors) reported studying 10 hours or less per week. The proportion of MSU students who study 15 or more hours per week is around 53%, with 20% studying more than 21 hours per week. Nevertheless, only 10% to 13% of the students in each class met the two-hour per class hour studying standard traditionally advised by faculty. The data and the measures of engagement raise further questions. In focus group discussions, we discovered some revealing definitional differences of studying between students and faculty that lead to questions about the numbers reported in the survey. For many students, studying was reading, reviewing, or preparing for exams; it excluded writing assignments, searching for data, homework such as math problems, all of which seemed obvious

2. Aronoff, Joel and Stollak, Gary. Orientation Surveys of MSU Freshmen and Freshmen Parents, (September, 2002).
3. Cooperative Institutional Research Program. The American Freshman: National Norms for January, 2004.
4. Gardner, Philip. Survey of MSU Students Who Completed Success Skills 2000 Assessment. (Discussion Book, in progress).

forms of studying to faculty. We have also learned from students that they consciously optimize the use of their time in relation to the expected "pay-off." Students tend to study as much as they need to produce the desired grade. Thus, they invest more effort in courses in their major or that contribute toward entry into the major.

How students employ their learning time is perhaps more instructive than the number of hours they spend. We know that, even as they acknowledge concern about academic success at entry, students consistently underrate the difficulty of the transition from high school to college. Relying on old habits that have worked for them, they now find reading loads overwhelming and are uncomfortable or unaccustomed to higher levels of intellectual engagement. Using Bloom's taxonomy (memorizing, interpreting, applying, analyzing, synthesizing, and evaluating), Gardner found that MSU students allocate their learning time primarily to memorizing and interpreting, with sophomores and juniors even more likely than freshmen to prefer these modes. Students eventually invest more effort in applying and analyzing but seem to avoid the synthesis stage and move to some evaluation. A question that invites further analysis is whether there is something about the content and structure of the current curriculum that re-enforces these tendencies. Freshmen, who report more hours of study time, also report having a higher average number of assigned books and a greater number of paper assignments than students at other levels. All three measures show a decrease in the sophomore and junior years before rising a bit in the senior year, where capstone courses and senior projects may require greater investment of time and more challenging intellectual tasks. The number of essay exams increases from the freshman to the senior year, which may reflect class size, as well as content differences.

Consciousness about differences in learning styles is important in adapting teaching methods to the needs of students or in helping students learn to adjust to teaching styles that don't fit their learning styles. Utilizing "True Colors," an instrument that identifies learning styles and clusters students in color sets, Gardner found that the largest group of MSU students in the survey set fall within the orange and gold clusters. Students in these categories prefer a hands-on, tell-me-why-it's-important-now approach (orange) and traditional types of instruction, practical use of ideas and, technical tasks (gold). Only about 10% to 15% of the students fall in the blue (preference for performance/experience and sensitivity to the individual) and the green (preferences for abstract ideas and critical thinking) clusters. It is instructive that the green cluster students most resemble the faculty, and, most likely, the TAs. But it is also useful to keep in mind that graduates and their employers find their practical and technical skills a great asset in the workplace and believe that MSU does very well in developing these skills.

What do we expect of our students and how well do they perform? We need to address these questions more explicitly, and faculty must answer the first before we can respond adequately to the second. The results from the administration of Success Skills 2000, a criterion-referenced, performance-based instrument that asks students to respond to a variety of workplace situations, give us some insight into the strengths of our current population and some indications of areas for improvement.[5] MSU students performed best on the set of academic skills measured by the instrument, which speaks positively for their academic development. In the domain of applied critical thinking, they were good at gathering information and understanding relationships; they were less adept at evaluation, which is consistent with the dominant learning strategies they identified in the survey. Similarly, in the arena of problem solving, they were more facile at choosing strategies, which has a practical dimension to it, than at considering alternatives, which involves questioning assumptions and dealing with ambiguities. In the domain of interpersonal communication, MSU students performed best on items relating to influencing others. They showed greater competence in communicating for agreement and in justifying their positions than at persuasion. On measures of teamwork, they were more inclined to ask for help and less effective in contributing to the group effort. The third domain evaluated by Success Skills 2000 is accountability. Here, MSU students scored fairly well on measures of initiative but need to improve their self-management skills. Within that category, time management stood out as a particular problem. It may well be that the lack of structure in college life reinforces these behaviors and affects both their University performance and their transition to the workplace. Overall, MSU students did well on this assessment, which is compared to a group of new employees who performed in the top 10% of their peers.

Local studies mirror nationally based research in testifying to the importance of peer relationships in students' lives. Gardner finds that peers have much more impact than faculty on students' general satisfaction with Michigan State University and on their personal development. The most popular activity identified by students was "hanging out" with friends. One of the positive aspects of this is reflected in a strikingly higher percentage of MSU students (80% to 90%) than in the national CIRP sample who report occasional to continuing discussion on politics. With the exception

5. Gardner, Philip D. "Managing the Transition Experience," Workshop presented at Students in TransitionConference (Dallas, November 1995).

of international students, MSU students report that they interact fairly often or constantly with students from different racial and ethnic backgrounds. Here as elsewhere, socializing at parties and bars appears to assume a disproportionate importance. Fifty-two percent of the freshmen report doing this fairly often or constantly; the proportion rises to 61% of the sophomores and then declines to a threshold below that of freshmen in the junior and senior years. The decline probably reflects attrition among the younger students as well as a change of habits among the older ones. It is instructive to view these figures in relation to the CIRP data, which indicate that about 60% of incoming students nationally report patterns of drinking before they enter college. This figure is about 8% lower than reported in the 1997 CIRP survey.

Interpersonal relationships of all kinds are very important to student maturation and their satisfaction with the University. Students generally express positive views about faculty, advisors, and peers. Faculty are credited with having an impact on students' academic achievements. Faculty contacts are increasing through technology, e.g., email, as opposed to more traditional venues. Students' expectations of faculty are quite reasonable: they want their instructors to know their names and to be supportive; parenthetically, freshmen and sophomores report getting little praise or re-enforcement from their instructors. Students do not have a clear idea as to the purpose of their classes, individually, or their education as a whole (the existential concern noted above). Instructors can help students find connections by modeling strong academic values and being explicit about the relationship between curricular materials and their later lives. Aronoff and Stollak find strong evidence that engagement in tasks that are interesting, integrative, and doable will capture the imagination of the students and contribute positively to their level of achievement.[6] **Teaching assistants are critical links in this web of relationships**. You are often more connected to students, by virtue of age and experiences. You are their first lines of contact and will quickly gain insights that might be missed by others. We invite you, as teaching colleagues, to share what you learn and to let us know what else you would like to know about MSU undergraduates.

Quick Facts: A Freshman Class Profile (2009)

This information from the MSU Office of Planning and Budget Data digest, http://opbweb.opb.msu.edu and the MSU Student Profile at http://www.collegeportraits.org/MI/MSU.
MSU Facts in Brief, http://newsroom.msu.edu/snav/184/page.htm;
College Portraits http://www.collegeportraits.org/MI/MSU/characteristics

47,278 total: 36,489 undergraduate
10,789 graduate and professional
52 percent women, 48 percent men
8 percent African American
5 percent Asian/Pacific Islander
3 percent Chicano/Other Hispanic
1 percent Native American
7 percent international
2 percent other/undeclared

Freshman class profile (ranges for middle 50% of class):
High school GPA, 3.44-3.85
SAT combined score, 1030-1260
ACT composite score, 23-27

6. Aronoff, Joel and Stollak, Gary. "The Effect of Student Coping Capacities and MSU Academic Climate on Student Performance and Retention," July 1998.

WHAT DO WE KNOW ABOUT CHEMISTRY UNDERGRADUATES?

A typical freshman chemistry course at MSU will have an enrollment of over 1,000 students with lectures of as many as 500 students. Ninety percent of the freshman's contact with the Chemistry Department will be through the TA. It is obvious then, that the quality of teaching in this Department is, to a great extent, dependent upon the abilities and attitudes of the TAs; yet very few beginning graduate students have ever had any training or experience in teaching.

It is important to understand the backgrounds and educational goals of the students in the courses you teach. Many of the students who will be in introductory courses have very different educational backgrounds. Some students may have taken two or more years of chemistry prior to coming to MSU, while others may have never taken a chemistry course or laboratory. In addition, backgrounds in related subjects such as math may affect the ability of students to succeed in chemistry courses. As a TA, it is important to recognize these deficiencies and adjust the level of instruction to ensure that the majority of the students can follow your explanation. For students that may need additional assistance, please refer to the resources listed in Chapter 4.

CHEMISTRY DEPARTMENT COURSE DESCRIPTIONS

The following is the information provided by the registrar about the courses offered in the chemistry department.

141-General Chemistry

Prerequisites-introductory math class must be taken at least concurrently
Description- Elements and compounds; reactions; stoichiometry; thermochemistry; atomic structure; chemical bonding; states of matter; solutions; acids and bases; aqueous equilibria.

142-General and Inorganic Chemistry

Prerequisites-first semester of general chemistry (141, 151, 181, LBS 171)
Description- Kinetics; gaseous equilibria; acids and bases; pH; buffers; hydrolysis; titrations; heterogeneous equilibria; thermodynamics; redox and electrochemistry; transition metal chemistry; nuclear chemistry; main group chemistry.

143-Survey of Organic Chemistry

Prerequisites-first semester of general chemistry (141 or 151)
Description- Chemistry of carbon compounds. Chemistry of the main organic functional groups with applications to everyday life, industry, and biology.

151-General and Descriptive Chemistry

Prerequisites- introductory math class must be taken at least concurrently
Description- Atomic structure, chemical bonding and molecular structure; solid state; main group chemistry; acids and bases; transition metal chemistry; coordination chemistry and theories of bonding.

152-Principles of Chemistry

Prerequisites-151, 181H or LBS 171
Description- The mole concept and stoichiometry; solution stoichiometry; thermochemistry; gases, liquids, and solids; kinetics; chemical equilibria; acid-based equilibria; aqueous equilibria; thermodynamics; redox and electrochemistry.

161-Chemistry Laboratory I

Prerequisites-first semester of general chemistry at least concurrently (141 or 151)
Description- Experiments in general chemistry; stoichiometry, calorimetry, electrochemistry, molecular geometry, gas laws, kinetics, acids and bases, and inorganic chemistry.

162-Chemistry Laboratory II

Prerequisites-first semester of general chemistry and chemistry lab I
Description- Analytical and inorganic chemistry; redox and acid base titrations; spectrophotometric and gravimetric analysis; preparation and analysis of coordination complexes of nickel, iron, and cobalt

181H-Honors Chemistry I

Prerequisites-calculus at least concurrently

Description- Elements and compounds; stoichiometry; reactions; atomic structure and quantum mechanics, chemical bonding and molecular structure; spectroscopy; coordination chemistry and theories of bonding; structure of biochemical molecules.

182H-Honors Chemistry II

Prerequisites-first semester of general chemistry (151, 181H, or LBS 171)

Description- Thermodynamics and chemical equilibria; acids and bases; redox chemistry; main group elements; solid state; group theory and symmetry; molecular orbital theory; transition metal chemistry and spectroscopy.

185H-Honors Chemistry Laboratory I

Prerequisites-181H at least concurrently

Description- Spectroscopy and diffraction methods for the study of electronic structure and molecular geometry; synthesis and separation methods for the preparation and characterization of molecules; application to inorganic, organic, and biochemical molecules and materials.

186H-Honors Chemistry Laboratory II

Prerequisites-182H at least concurrently

Description-laboratory research

251-Organic Chemistry I

Prerequisites-first semester of general chemistry

Description- Common classes of organic compounds including their nomenclature, structure, bonding, reactivity, and spectroscopic characterization.

252-Organic Chemistry II

Prerequisites-251

Description- Continuation of CEM 251 with emphasis on polyfunctional compounds, particularly those of biological interest.

255-Organic Chemistry Laboratory

Prerequisites-252 at least concurrently and one semester of general chemistry lab

Description- Preparation and qualitative analysis of organic compounds.

262-Quantitative Analysis

Prerequisites-two semesters of general chemistry lab

Description- Preparation and quantitative analysis of chemical compounds.

311-Inorganic Chemistry

Prerequisites-one CEM 142 or CEM 152 or CEM 182H or LB 172

Description- Basic symmetry, molecular orbital theory, and valence bond theory applications to inorganic systems. Physical properties and reactivity of transition metal systems.

333-Instrumental Methods and Applications

Prerequisites-332

Description- Principles and applications of instrumental analysis of separation techniques.

351-Organic Chemistry I

Prerequisites-two semesters of general chemistry

Description- Structure, bonding, and reactivity of organic molecules.

352-Organic Chemistry II

Prerequisites-351

Description- Carboxylate derivatives. Conjugation. Aromaticity. Amino acids. Proteins. Carbohydrates. Nucleic acids.

355-Organic Laboratory I

Prerequisites-352 at least concurrently, two semesters of general chemistry lab
Description- Organic laboratory techniques. Distillation. Spectroscopy. Melting points. Recrystallization. Chromatography. Measuring physical properties.

356-Organic Laboratory II

Prerequisites-355
Description- Multi-step organic synthesis. Qualitative organic analysis. Separation, identification, and characterization of unknowns.

383-Introductory Physical Chemistry I

Prerequisites-two semesters of general chemistry and math up to calculus
Description- Physical chemistry of macroscopic systems: thermodynamics, kinetics, electrochemistry.

384-Introductory Physical Chemistry II

Prerequisites-383
Description- Physical chemistry of microscopic systems: quantum mechanics, spectroscopy.

391-Molecular Thermodynamics

Prerequisites-two semesters of general chemistry, calculus and physics
Description- Statistical mechanics and its use in classical chemical thermodynamics. Applications of thermodynamics to chemical systems at equilibrium. Introduction to chemical kinetics.

392-Quantum Chemistry

Prerequisites-391 and calculus
Description- Postulates of quantum mechanics and their application to model systems, atoms and molecules. Introduction to molecular spectroscopy.

395-Analytical/Physical Laboratory

Prerequisites-391 and honors chemistry lab or 262
Description- Chemical kinetics, thermodynamics, and computer-based data analysis methods.

410-Literature and Writing in Chemistry

Prerequisites-252 and 284, 333 at least concurrently
Description- Library research related to a topic in contemporary chemistry; thesis required.

411-Inorganic Chemistry

Prerequisites-383 or 391
Description- Principles of structure and bonding. Symmetry. Solid state chemistry. Acid-base and redox reactions. Main group chemistry: transition metal bonding, spectra, and reaction mechanisms.

415-Advanced Synthesis Laboratory

Prerequisites-411
Description- Methods of synthesizing inorganic and organometallic compounds.

419-Independent Study

420-Independent Research

434-Advanced Analytical Chemistry

Prerequisites-392, 395, and 352
Description- Instrumental methods of analysis, including spectroscopy, chromatography and electrochemistry.

435-Analytical Chemistry Laboratory

Prerequisites-434 at least concurrently

Description- Electronic and optical components of chemical instrumentation. Spectroscopic and chromatographic methods.

444-Chemical Safety

Prerequisites-142 and 352

Description- Prudent laboratory practices. Regulatory agencies' expectations of chemical industries and academia.

481-Seminar in Computational Chemistry

Prerequisites-two semesters of calculus and computer science

Description- Written and oral reports on selected journal articles in computational chemistry.

485-Modern Nuclear Chemistry

Prerequisites-general chemistry and physics

Description- Elementary nuclear processes and properties; radioactivity, its measurement and its interaction with matter.

495-Molecular Spectroscopy

Prerequisites-392 and 395

Description- Experiments in magnetic resonance, optical, and vibrational spectroscopies.

499-Chemical Physics Seminar

Prerequisites-Physical classical mechanics course and calculus

Description- Written and oral reports on selected journal articles in chemical physics.

811-Advanced Inorganic Chemistry I

Description- Principles of chemical bonding, electronic structure, and reaction mechanisms of main group and transition metal compounds. Concepts of group theory.

812-Advanced Inorganic Chemistry II

Description- Descriptive chemistry of inorganic compounds. Emphasis on synthesis, structure, and reactivity patterns of coordination, organometallic, and solid state compounds of transition metals and main group elements.

820-Organometallic Chemistry

Description- Organometallic functional groups. Principles of electronic structure, and bonding in organometallic species will be related to reactivity patterns in common systems. Preparation of complexes with applications to catalytic and stoichiometric organic syntheses.

832-Mass Spectrometry

Description- Instrumentation of mass spectrometry. Interpreting mass spectra of organic and inorganic molecules. Applications to analysis of large molecules and chromatography.

834-Advanced Analytical Chemistry I

Description- Principles of electronics, electrochemistry and statistics used in the interpretation of experimental data.

835-Advanced Analytical Chemistry II

Description- Principles of mass spectrometry, separations science and molecular spectroscopy.

836-Separation Science

Description- Physical and chemical principles of separations, column technology, and instrumentation for gas, liquid, and supercritical fluid chromatography.

837-Electroanalytical Chemistry

Description- Modern electroanalytical chemistry. Theory and applications to chemical and biological problems. Coulometry, voltammetry, ion-selective potentiometry, and other electrochemical techniques.

845-Structure and Spectroscopy of Organic Compounds

Description- Structural and stereochemical principles in organic chemistry. Applications of spectroscopic methods, especially nuclear magnetic resonance, static and dynamic aspects of stereochemistry. Spectroscopy in structure determination.

850-Intermediate Organic Chemistry

Description-Traditional and modern basic reaction mechanisms and principles and their synthetic applications.

851-Advanced Organic Chemistry

Description- Structure, reactivity, and methods. Acid-base reactions, substitution, addition, elimination, and pericyclic processes. Major organic intermediates related to simple bonding theory, kinetics, and thermodynamics.

852-Methods of Organic Synthesis

Description- Principal reactions leading to carbon-carbon bond formation and functional group transformations. Strategies and methods of organic synthesis.

881-Atomic and Molecular Structure

Description- Postulates of quantum mechanics, analytical solutions of the Schroedinger equation, theoretical descriptions of chemical bonding, spectroscopy, statistical mechanics, and statistical thermodynamics.

882-Kinetics and Spectroscopic Methods

Description- Rate equations and mechanisms of chemical reactions: reaction rate theory, kinetic theory of gases, photochemistry. Spectroscopic methods, and applications of spectroscopy in reaction kinetics.

883-Computational Quantum Chemistry

Description- Computational methods in determining electronic energy levels, equilibrium nuclear configurations, and other molecular properties.

890-Chemical Problems and Reports

899-Master's Thesis Research

913-Selected Topics in Inorganic Chemistry

Description- Chemistry of metal-metal bonds and clusters, organometallic chemistry, layered oxides, and complex layered oxides. Photochemistry. Solid state chemistry and applications of quantum mechanics.

918-Inorganic Chemistry Seminar

Description- Advances in inorganic chemistry reported by graduate students.

924-Selected Topics in Analytical Chemistry

Description- Advanced computer techniques, surface chemistry, analytical chemistry of polymers, or statistics for chemists.

938-Analytical Chemistry Seminar

956-Selected Topics in Organic Chemistry

Description- Heterocyclic and organometallic chemistry, natural products, photochemistry, free radicals, or reaction mechanisms.

958-Organic Chemistry Seminar

987-Selected Topics in Physical Chemistry I

Description- Topics such as kinetics and photochemistry, macromolecular and surface chemistry, molecular spectroscopy, electric and magnetic properties of matter, or applications of statistical mechanics to chemical problems.

988-Selected Topics in Physical Chemistry II

Description- Topics such as analysis and interpretation of molecular spectra, advanced molecular structure theory, magnetic resonance, X-rays and crystal structure, scientific analysis of vacuum systems, or problems in statistical mechanics.

991-Quantum Chemistry and Statistical Thermodynamics I

Description- Principles and applications of quantum chemistry. Partition functions, spectroscopic measurements, and thermodynamic applications.

992-Quantum Chemistry and Statistical Thermodynamics II

Description- Analytical and numerical methods for solving quantum chemical problems. Statistical mechanics of solids and liquids.

993-Advanced Topics in Quantum Chemistry

Description- Spectroscopic theory, properties of atoms and molecules in electric and magnetic fields, intermolecular forces. Many-body theory, molecular electronic structure, solid state chemistry, or molecular reaction dynamics.

994-Advanced Topics in Statistical Mechanics

Description- Nonequilibrium statistical mechanics and thermodynamics. Correlation functions and spectroscopy, light scattering, magnetic relaxation, transport properties of fluids and gases, or statistical mechanics of chemical reactions.

998-Physical Chemistry Seminar

999-Doctoral Dissertation Research

Chapter 2:
EFFECTIVE TEACHING STRATEGIES

Whether we teach courses in mathematics, science, English, or forestry, one of our goals as instructors is to provide students with opportunities to become active, critical thinkers who move beyond a view of learning as information-gathering to a view of learning as knowledge-building. Real learning is transformative. It changes the nature of what is learned because it involves the learner's ability to synthesize, evaluate, and accommodate new information into old systems of knowledge. We provide here a selection of strategies that encourage students' critical thinking, foster a sense of learning community, and empower students as learners.

STUDENTS' WAY OF KNOWING

In addition to the demographic portrait of the MSU undergraduate population, you need to be aware of how students are likely to differ in the ways in which they learn. One of the most widely known earlier works on the cognitive development of college students is *Forms of Intellectual and Ethical Development in the College Years* by William Perry (1970). Although Perry's study is somewhat dated and has been replaced by Kolb and Chickering's early 1980's work, and more recently, Lee Schulman's provocative approach challenging developmental stages of learning (2002), it remains a powerful theory on cognitive development. The scheme of development he describes has proven helpful in understanding students in many different settings. Perry concludes that students move through stages of cognitive development, each of which is qualitatively different and more complex than the previous stage. As students move through these stages, the ways in which they perceive, organize, and evaluate experiences and events in their lives change. In this study, Perry suggests that new or intellectually insecure students are often committed to a sense that information is right or wrong, factual or subjective. Uncertainty leads to discomfort and is often assumed to be the result of an error. In order to get students to move out of either/or dilemmas, instructors can:

1. Provide students with opportunities to choose positions and defend their choices.
2. Ask students to narrow choices and weigh pros and cons of alternative arguments or choices.
3. Draw upon course material that stimulates thinking about personal philosophy and life choices.
4. Set learning tasks that call for students to analyze, synthesize, and evaluate from personal perspectives and then progressively from more abstract or experiential perspectives, and call for students to apply learning from one context to problems in a different context.
5. Pose activities that ask students to generate new questions or evaluate assumptions inherent in how points of view are constructed.

Learning Styles. In the Executive Summary of *Learning Styles: Implications for Improving Educational Practices*, Claxton and Murrell (1987) state that information about style can help instructors become more sensitive to the differences students bring to the classroom. As teachers, it is important to keep in mind that the concept of style is one variable that may help you look at the complex issues involved in teaching and learning (Claxton and Murrell 1). If you are interested in furthering your understanding of style and how to use the construct in your teaching, the Claxton and Murrell book gives an excellent overview.

Type of Student	Prefer to learn by:	Best teaching approach:
Auditory	Listening	Lecturing
Visual	Printed material	Reading, chalkboard or overhead
Tactile	Manipulating objects	Hands-on, experiments
Kinesthetic	Experiences	Simulations, problem-solving

Principles of Learning and Motivation. The following principles are basic to effective teaching:

Principles of Learning and Motivation
Meaningfulness
Prerequisites
Modeling
Active, Appropriate Practice
Fade Prompts (Hints) Gradually
Novelty Simulates Attention
Open Communication
Pleasant Conditions & Consequences

Meaningfulness. The subject matter must be meaningful for the student. For subject matter to be meaningful, the student should be able to relate to it personally. Consequently, the teacher should relate material to: a) the students' past or present experiences; b) the students' interests and values; c) the students' future activities or aspirations; d) material to be covered later in the course.

Prerequisites. The level of the students' previous knowledge is one of the most important factors determining learning success or failure. Therefore, the teacher should: a) analyze each learning task to determine prerequisite concepts, principles, and skills; b) test student knowledge of prerequisites (do not assume knowledge). Testing may be accomplished by informal questioning in which the answer to the question demonstrates knowledge.

Modeling. A student is more likely to learn if he or she is presented with a model of the behavior to be learned. This is especially true of complex behavior like problem solving. When presenting the model, the teacher should: a) present the strategy or plan of attack before-hand; b) point out and label all steps; c) explain why all decisions were made and point out consequences.

Active, Appropriate Practice. No learning occurs without practice. However, the practice must be relevant to what is to be learned. Therefore, the teacher should require students to state strategies for solving problems, answer questions about the application of principles or theorems, and give examples. It is often better to space practice over a period of time.

Fade Prompts Gradually. Complex learning often requires starting with hints (prompts). As learning progresses, the teacher should withdraw prompts gradually.

Novelty Stimulates Attention. Teachers should: a) plan several ways of presenting the same material; b) use several different procedures during lesson. For example, modulating tone of voice, using several different examples, or lecture followed by discussion followed by question and answer.

Establishing Rapport
Create Comfortable Atmosphere
Remain approachable
Be open to questions
Respond with respect
Stimulate participation and discussion
Convey enthusiasm

Open Communication. Learning is facilitated if the class is structured and instructor's messages are open to students' inspection. Therefore, the teacher should: a) tell the students the objectives in each instructional unit; b) tell students the reasons for all his actions; c) permit students to ask questions.

Pleasant Conditions & Consequences. Learning is facilitated if instructional conditions are made pleasant, or at least not aversive. Therefore, the teacher should: a) avoid unpleasant physical conditions; b) set challenging tasks; c) give students feedback (to questions, answers, tests, homework) as soon as possible; d) reward (by recognition) students' efforts; e) avoid ridiculing or degrading students in any way.

INSTRUCTOR KNOWLEDGE

Effective teachers exhibit a breadth of knowledge, bring information together from a variety of sources, analyze concepts effectively, and stay up to date in their specialty.

Many new TAs assume that they can teach Math 101 because they took one course in statistics and two in quantitative analysis. However, an in-depth understanding of the subject is often necessary for dealing with the bright, inquisitive student who asks a relevant question that is not covered in the text: "Why didn't you use that same formula to solve the last problem?" Ideally, you will be assigned to a course in the area of your particular expertise, but you should still review material to refresh your memory, and you might try explaining it to someone else as a way of anticipating student questions and problems.

Just how you present your knowledge will depend on your approach to teaching in general, but you can take advantage of the expertise you have over mere textbook presentations by:
Revealing your thought processes and demonstrating and sharing your thinking so that students get a sense of what it means to think like a psychologist or a chemist or an art historian and tackle problems in the discipline.

1. Discussing current developments and their effect on present theory.
2. Being careful not to oversimplify; there is sometimes a tendency for TAs to summarize what students *need to know* from a course rather than invite them into the discipline and into academic inquiry as a process.
3. Staying at least a week ahead of the students, but remembering that you are not responsible for knowing all the answers or that you need not apologize for your lack of knowledge.
4. Helping your students find out answers to questions they have by agreeing to look them up later—and following through with this offer—or by helping them find out the answers for themselves.
5. Determining through evaluation procedures that are consistent with course goals and teaching strategies whether students have learned what you intended.

INTERACTING SUCCESSFULLY WITH STUDENTS

Effective teachers interact with students in a skillful manner by establishing a rapport with the class by:

1. Creating a comfortable atmosphere in which learning is enjoyable and where individuality and creativity are encouraged.
2. Remaining approachable, keeping office hours, and encouraging students to see you during those hours.
3. Being open to student questions by observing students' responses and sensing their confusions.
4. Responding to their questions with respect and being courteous in dealing with questions that are irrelevant.
5. Stimulating class participation and discussion.
6. Conveying your enthusiasm for the subject by being attentive to students, moving away from the chalkboard or podium, having eye contact with students to observe students' expressions, using humor appropriate to the subject, and indicating a genuine interest in their contributions and concern for their learning.

<u>Tips for presenting knowledge</u>
Reveal your thought processes
Discuss current developments
Don't oversimplify
Stay a week ahead
Look up unanswered questions
Evaluate what students have learned

DEMONSTRATING PROBLEM SOLVING

A major instructional goal in most courses is to develop students' ability to work with problems in the discipline. As a teacher, you are responsible for transmitting two levels of knowledge to your students. First, you need to explain how a member of your discipline perceives the situation and brings order to a maze of raw data. Second, you need to explain how these general principles apply to the specific case covered by a particular problem. It is important to keep in mind that your students are just beginning to learn the material and might have a naive, non-disciplinary view of the problem. Therefore, your job is to explain and demonstrate how you as a representative of your discipline approach the problem, from general conceptualization to specific procedures.

A little practice will help you decide which of the following techniques works best with your students the material to be covered in your class:

1. Demonstrate a problem's solution by systematically explaining the rationale for every step in a solution.
2. Ask members of the class to take the lead and explain how they perceive the problem.
3. Divide the class into small groups (3 or 4) and have group members take turns in leading a discussion on solving the problem, after which you can check their solutions as you lead a whole class discussion.

ACTIVE LEARNING: DISCUSSION[7]

Active learning is an approach that views the student as an active participant in the learning process. It is in many instances a viable alternative to and complement of the lecture approach. This section will talk about ways instructors can engage students actively through integrating instructional strategies into a lecture or using them as stand-alone methods.

Leading Effective Discussions. A highly effective way of promoting active engagement in learning is to provide opportunities for students to verbalize what they are learning in the classroom. Instructors are thus able to provide the feedback that is such an important part of the learning process at the time when it is most needed.

Discussion techniques are one way to get students to verbalize what they are learning. In addition, discussions can provide a socializing mechanism, can examine and clarify confusing concepts, and can raise value questions. Discussions can be invaluable for any of the following goals of instruction:

1. To help students learn to think in ways that are particular to the discipline
2. To help students learn to identify and evaluate the logic and evidence that forms the basis of their own and others' positions
3. To give students opportunities to formulate applications of principles
4. To help students identify, formulate, and solve problems using information gained from readings, lectures, and or life experiences
5. To use the resources of members of the group
6. To gain acceptance for information or theories counter to previous beliefs of students
7. To develop motivation for further learning
8. To get prompt feedback on how well objectives are being attained

Setting Discussion Objectives. Well-defined objectives are an important prerequisite to a good discussion. They also help determine the kind of discussion appropriate for the situation. It helps to view discussions along a continuum from targeted discussions, where the instructor carefully controls the discussion and asks questions requiring specific responses, to open ended discussions, where the instructor allows the students to formulate the questions and control the discussion. If the objective is to assess students' comprehension of course material or review or summarize content, targeted discussions will serve best. If the objective is to promote critical thinking, curiosity about the topic, or tolerance for opposing viewpoints, open-ended discussions are most appropriate.

An essential difference between a targeted and open-ended discussion is the kind of question asked. Questions asked in a targeted-discussion are often structured to produce short, convergent responses, while questions in an open-ended discussion provide more latitude for response.

<u>Targeted Questions</u>
What is the definition of an adjective?
What are the stages of cell division?

<u>Open Ended Questions</u>
What are some ways we might solve the energy crisis?
What should be the goal of politicians today?

In targeted discussions, the instructor wants to keep a tight rein on the direction. In addition to using convergent questions, other ways in which the instructor can focus the discussion include intervening after each response to comment upon it, summarize it, or redirect the question; mapping the direction of the discussion on the blackboard or overhead transparency; limiting the duration and number of responses, and moving quickly from one question to another. In contrast, the instructor in an open-ended discussion would act differently, using broader questions, allowing ample time to respond, encouraging a lateral rather than teacher directed response pattern, e.g., "Does anyone have a comment on X's response?" or "Feel free to jump in and respond to each other"; and reducing his or her role as authority by sitting down or remaining quiet.

7. This section of the handbook has been modified and reprinted with permission from Teaching at the Ohio State University: a Handbook. Center for Teaching Excellence, Faculty and TA Development, The Ohio State University, Revised 1998, pp. 47-54.

Although the type of discussion questions must be tied to the purpose of the discussion, there are findings to indicate that questions that are middle-range in their openness elicit the highest quality of frequency of response. John Andrews writes, "Perhaps the most important quality to grasp is a subtle blend of structure and freedom which gives a discussion momentum and yet does not let it wander indiscriminately" (1980, p. 147). In a study of questioning behaviors, he found that when instructors used what he called "playground" questions, questions that designate the intellectual sphere for discussion and then give students latitude for answering, they got better results than when they asked very open-ended 'brainstorming" questions, convergent "quiz show" questions, or highly unfocused "general invitation" questions, such as "So what do you think about Plato?"

Maintaining Discussions. Maintaining discussions often means dealing as smoothly as possible with the problems that arise. Here are some common problems that may arise during a discussion, and some suggestions for how to deal with them:

The student who talks too much. A way to approach the avid talker and pull in non-participants is to avoid looking in the direction of the persistent talker or to structure the discussion in a way that precludes that person's participation, e.g., "Let's hear from someone who has not yet contributed." Instructors might also ask one or more members of the class to act as observers for a few class periods, reporting back their observations to the class. Perhaps assigning the avid talker to the observer role would help sensitivity. Another technique is to talk to the student individually outside of class.

The student who will not talk. Instructors need to set clear expectations for participation, and to reinforce such expectations. A way to approach non-participants is to provide opportunities for small group discussions, because smaller groups may help put some students more at ease. A second strategy is to occasionally ask opinion questions such as, "How do you feel about this?" that may encourage participation by reducing students' fear of answering incorrectly. Another strategy is to have students write out their answers to a question. Having the words written out may make it easier for a shy or fearful person to speak up.

The discussion that turns into an argument. In good discussions, conflicts will often arise. If such conflicts are left ambiguous, they may cause continuing trouble. Here are some ways to resolve them:

1. If the solution depends on certain facts, the instructor can ask students to refer to the text or another authority.
2. If there is an experimentally verified answer, the instructor can use the opportunity to review the method by which the answer could be determined.

The student who attacks the instructor. When students argue for the sake of argument, instructors will usually lose if they take the bait. This situation often occurs when instructors are going over exams or assignments. Students who attack usually want attention, so simply giving them some recognition while firmly moving on often takes care of the problem. If students are simply trying to embarrass the instructor, they may seek to make him or her defensive with such comments as, "How do you really know that _____?" or "You're not really saying that _____?" Such questions can be handled by playing boomerang. The instructor might say, "What I'm saying is _____, but now I'd like you to share your perspective." Turning the question back to the questioner forces him or her to take responsibility for his or her opinion. Other ways to handle these situations include:

1. **Confrontation.** Instructors can confront the questioner with their reactions to his or her behavior. "I'm uncomfortable with the imprecision of your questions. What I really hear you saying is _____"
2. **Active listening.** Instructors can paraphrase the message they heard and check out the accuracy of their assumptions before responding.
3. **Locating.** Instructors can ask the questioner to explain the context behind the question.
4. **Reframing**. The focus can be on clarifying the assumptions behind the person's argument and then inviting her or him to see alternative possibilities. "Your argument is premised on the idea that people cannot be trusted. How would you restructure your position to reflect the assumption that people can be trusted?"
5. **Deferring.** Often, the best strategy is to invite students to come up after class and arrange for a time to talk about the disagreement further.

Creating Closure. Good discussions end with a summary so that students know what important points were covered. The advantage of active learning techniques such as the discussion is that students have the opportunity to verbalize

course materials for themselves and receive responses in class from the instructor on how well they understand that material. In addition to showing students why the discussion was important to their learning, a summary provides the opportunity to fill in points that were not covered and praise the class for the quality of their responses.

QUESTIONING SKILLS

Rationale. As a chemistry teaching assistant, you will ask questions for a variety of reasons. You may want to find out what your students have learned in lecture about a certain subject. You may want to find out how well your students have prepared a lecture or laboratory assignment. You may want to use questions to guide a student in solving a problem in a classroom or laboratory setting. In general, you will frequently encounter teaching situations in which asking an effective oral question is your most important teaching skill.

Level of Questions. The kinds of intellectual skills your students will develop vary in complexity. Sometimes you will be satisfied that a student simply know a fact through memorization. At other times, you will expect more sophisticated reasoning. For example, you may expect them to use evaluative criteria in selecting from among two or more synthetic routes to a compound.

Levels of Questions
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

A system of classifying educational goals into six broad categories according to a hierarchy of intellectual skills was developed in 1956 under the editorship of B.S. Bloom:

Knowledge. A simple recall of facts.

Comprehension. The ability to translate into one's own words using a given equation to solve a problem; translating a literal statement into an equation.

Application. The ability to apply concepts to a specific situation; recognizing and solving a problem where the equations are not given.

Analysis. Involves all that application does, and also requires that students recognize component parts within material; distinguish relevant from extraneous material; distinguish fact from hypothesis.

Synthesis. Requires that students assemble components into a form which is new to them; design a research plan; devise a synthetic scheme.

Evaluation. The ability to judge the value of materials in terms of internal and external criteria.

It is much easier to list these categories than to gain enough experience to use them effectively. As you question your students, you will want to keep in mind that there are different levels of questions. If most of your questions are at the knowledge level, many students quickly become bored and pay no attention. If most of your questions are at the synthesis or evaluation levels, many students will be unable to participate and will quickly become discouraged. The following are examples of the various levels of questions that you may ask your students.

Knowledge	State the atomic number of oxygen.
Comprehension	Define the term exothermic. Cite two examples of exothermic reactions.
Application	A student took a pink carnation and bleached it by placing it in a water solution of sulfur dioxide. Next, he took the bleached carnation and immersed it in hydrogen peroxide. The original color reappeared. Explain the sequence of observations.
Analysis	In the absence of gasoline, identify the products one expects from the thermal decomposition of tetraethyl lead.
Synthesis	Outline a possible scheme for converting coal, sulfur, air, and water into the drug sulfanilamide.
Evaluation	Assume that you are in a position to decide where limited financial resources should be spent in terms of developing the "breeder" reactor or basic research on the "fusion" reaction. Decide where you would spend the money, and justify your decision.

Formulating Questions. The way in which you state your question will often determine its effectiveness. Here are a few points to think about:

When formulating questions, avoid:
Ambiguous questions
"Yes" and "no" questions
Double-barreled questions

Avoid ambiguous questions. Ambiguous questions frequently can be avoided by using the corresponding written question as a model. A written exam question is best stated as a direction: name..., write..., balance...., devise a synthetic scheme..., etc. In each case, a "measurable" verb is used in the question. When you ask a question, you will use words such as what, how, and why. When you formulate your oral question, think of the corresponding direction you would give for a written exam question.

Avoid "yes" and "no" questions. For example, the question "Is carbon monoxide considered a pollutant?" is almost certain to be followed by "Why is carbon monoxide considered a pollutant?", so you might as well begin with the second question.

Avoid double-barreled questions. Questions which pose two problems simultaneously are confusing and are to be avoided. For example, the question "What is the difference between fission and fusion, and how is electrical power generated from these reactions?" is actually a three-in-one question.

Questioning and Responding Techniques. The manner in which you ask questions and treat responses is as important as anything else involved in questioning. Thus far we have dealt with the levels of questions, the strategy of selecting questions, and the phrasing of questions. Even though these aspects of questioning are important, the efforts you expend on these tasks is lost without follow-through in managing the questions.

Responding to questions effectively:
Wait-time
Distribute questions
Reinforce responses—do not ridicule
Use your students
Encourage student debate

Wait-time. After you ask a question, other than a memory or recall question, wait about three seconds before selecting a respondent, even if someone volunteers immediately. By waiting, you give everyone in the class an opportunity to think about a response. If you pick a respondent immediately, then other students are under no pressure to think about a response. They may listen to the respondent, or they may pay little attention. After a student responds, wait about three seconds before you respond to the answer. By waiting after a response, you give the respondent an opportunity to expand upon his/her answer. Frequently, the student responder will self-initiate an extended response, and thus you won't need to use a probing question to elicit the extended response.

Distribute Questions. Distribute questions among students so that many are brought into participation. You should choose from among volunteers, but you should also feel free to call upon students that are not volunteering.

Reinforce Responses. You may reinforce responses with verbal praise (good!, excellent!, etc.) and with non-verbal encouragement (smile, nod). You may also reinforce a student's response by repeating the response. **Never ridicule an answer**. You may be tempted to do this when a student makes a foolish response, one indicating that the students has been inattentive or has not prepared. The problem with such ridicule is that the act of responding is punished along with the response. The student subjected to ridicule is less likely to respond foolishly in the future. However, the entire class feels that their safety in responding to questions is threatened, and the overall response frequency is lowered.

Use Your Students. Use your students to reinforce one another and to help you eliminate erroneous responses. For example, ask the class to comment on respondents' answers both when they are correct and incorrect. This is a good way to allow a student's peers to deal with his or her foolish response.

Encourage Student Debate. When you are using divergent questions, it is particularly helpful to get students debating with one another. For example, when two students have each devised synthetic routes to a compound, debate between the two as to which is a preferred route is going to be a valuable learning experience for both them and the class. Such debate may be conducted at the evaluation level of the goals hierarchy.

Additional Considerations. Try to avoid embarrassing students in front of their peers. If a student seems embarrassed, try not to force him or her to answer a question. Recognize a partial correct answer, and consider answering his or her questions in private.

- When a student asks a question, find out how many other students have the same question.
    - If a large number of students have the same question, consider the following:
        - Review the material
        - Assign an exercise to provide practice in answering the question.
    - If few students want the question answered, consider:
        - Speaking to the student (or group of students) after class

        - Tutoring the student
        - Providing remedial exercises, help sessions
- In answering a student's question, don't tell him or her more than he or she wants to know.
- If the question asked by a student is important for future learning (e.g., a prerequisite), the question should be answered immediately.
- If a student's question indicates that he or she has not learned material previously covered, consider working with him or her privately after class. This should be done only after determining that the majority of the students don't also have the same question.
- If a student asks a question the instructor cannot answer:
    - Avoid bluffing an answer.
    - Tell student you will research the answer. Evaluate whether you should arrange for a prompt response, or if an answer by the next recitation is acceptable.

IN-CLASS COMMUNICATION TIPS[8]

Open communication is necessary to have a classroom that is conducive to learning. Good communication with your students will allow you to better assess and serve their needs. Misunderstanding, however, can occur if a TA fails to evaluate his or her own ability to communicate efficiently with students. The following lists contain suggestions and questions for self-evaluation.

Tips for All TAs

1. When students ask a question, start by stating the question back to them in the form of a question, "Are you asking whether the structure of _____ is affected by _____?" Ask students to stop you, or correct your interpretation of the question if that is not what they indeed asked.
2. Encourage students to stop you when they fail to understand something in your lecture.
3. Be careful of critical, negative comments. Offer specific suggestions for change, tactfully and constructively.
4. Keep a comfortable amount of distance between your personal life and those of your students. This makes issues of respect, grading propriety, and equitable treatment simpler.
5. To generate student interest, use personal stories, cartoons, popular culture, news, etc. to make the material more relevant to their lives and to show your own excitement about the subject.

Tips Specific to International TAs.

1. Try to become aware of common idioms and slang used by students on this campus; expressions can vary from place to place.
2. When you are not sure how to interpret student comments, ask for a more detailed explanation; when a remark seems strange or out-of-place, ask the student to clarify. Check with someone familiar with such language expressions to help you better understand what the student may have meant.
3. Use some humor when having problems with language and ask students to help correct your word misuse.
4. Remember that listening carefully to someone who speaks a little differently than one is used to can be tiring, especially when material is difficult.
5. Take your time and speak a bit more slowly than you usually do.
6. If unsure of the pronunciation of a word, write it on the board or overhead projector to help avoid confusion about the word.
7. Be aware of your students; if your students look confused, ask them if they are having difficulty with the material or understanding the way that you are presenting it.

8. Permission to reprint the Communication Tips, in modified form, was granted by Jerry D. Feezel, The Division of Research and Graduate Studies, Kent State University. It originally appeared in ON TAP (Orienting New Teaching Assistants Program) as "ITA 10 Tips," p.13 and "The Teaching Assistant Speaks and Listens," p.14, 1993.

Conducting Office Hours.[9]

It's recommended that office hours be held in a classroom rather than your office or lab to avoid students interrupting your research during inconvenient times. Also, it is best to have students only contact you by e-mail or office phone to arrange for extra help. You may reserve classrooms and times for office hours through the main office during the first week of classes.

Tips for effective office hours:
Do not hold in your lab or office
Be prepared for student frustrations
Become an active listener
Practice asking questions
Take student perceptions seriously
Propose several solutions
Prepare plan of action with student

Office hours can be a powerful vehicle for learning if you strive to get a feel for your students' mindset. Particularly in a time of perceived conflict, students may approach you feeling powerless, angry, and frustrated. You need to address their feelings first. The following guidelines will help you successfully negotiate with students during office hours:

Be prepared for student frustrations and allow students to vent. Do not let a student's anger, frustration, tone, etc. put you on the defensive. Student-instructor communication is not a competition. Avoid temptation to "show who is boss." Agree with students that they have a right to their feelings and strive to work for a solution. Although you may not understand the intensity of the emotion expressed, do not let this gap inhibit your role as a teacher and problem solver. Simply accept where the student is coming from and attempt to separate the problem from the emotion expressed.

Become an active listener. Repeat and summarize a student's comments. Paraphrasing allows the student to gauge whether or not you have understood the complaint, and it helps both student and instructor to frame the problem to be addressed. This also allows you to filter out some of the emotion and guide the discussion.

Practice the art of asking questions. Use open-ended, leading questions with students. If the student says, "You graded my paper unfairly. I didn't even know what you wanted, anyway," resist the temptation to reply "Why didn't you ask me before you started writing?" Nothing is gained when you launch into a lecture on sliding academic standards and your personal obligation to reestablish integrity in the university. Instead, ask the student how he or she arrived at this conclusion. Should you have given more feedback? Were your comments clear? What did the student think was unfair about your evaluation? The student's answers to your questions will both give you information about the immediate problem, and help you establish a picture of the student's mindset. Questions also help to separate issues. You could ask, for example, "Are you angry about the grade you received or about my comments on your paper?" The answer will help you work with the student toward specific solutions. Finally, in many cases asking questions diffuses student anger, because it shows the student that you are taking the concerns seriously.

Take student perceptions seriously. Try to eliminate statements like these from your conferences with students: "You are wrong," or "That is unreasonable," or "That is not rational," or "You are too emotional." Instead, accept students' perceptions and try to discover why they see things as they do. You might discover, for example, that students view education as a commodity: they pay their tuition, and they deserve a grade for it. Or they might believe that the time they spend preparing for a test or doing an assignment should ensure a particular grade. You may see things very differently, but if these are the student's perceptions, you must discover and address them before you can hope to resolve any differences with the student.

Propose multiple options to address student concerns. Demonstrate your willingness to help the student address the conflict. Aim for a win-win solution. For example, if a student has done well on homework but has failed a test, you might suggest having that student pair up with another to study for tests, or come to your office for help before the test. Perhaps you need to advise the student on test-taking skills—the student might experience test anxiety, which interferes with performance. Do not simply tell students it is their obligation to fix their own problem or accept the consequences.

End the session with a plan of action. After discussing options, reinforce the problem-solving nature of the meeting by creating specific agreements with specific actions expected on both sides. Students who leave with a plan in hand will feel validated and more open to future learning.

---

9. "Conducting Office Hours" was adapted from "Negotiating with Students During Office Hours," a workshop offered on behalf of the International Teaching Assistant Program by Dr. William Donohue, MSU, January 17, 1994. It was originally published in MSU TA 2:1 (Spring 1994): 3.

SELECTED BIBILOGRAPHY: EFFECTIVE TEACHING STRATEGIES

Allen, R. R., and Rueter, Theodore. *Teaching Assistant Strategies: An Introduction to College Teaching.* Dubuque, IA: Kendall/Hunt Publishing Company, 1990.

Blythe, Hall and Sweet, Charles. *It Works for Me: Shared Tips for Teaching*. Stillwater, OK: New Forums Press, 1998.

Boice, Robert. *First-Order Principles for College Teachers: Ten Basic Ways to Improve the Teaching Process*. Bolton, MA: Anker Publishing Company, 1996.

Brookfield, Stephen D. and Stephen Preskill. *Discussion As A Way of Teaching: Tools and Techniques for Creating Democratic Classrooms*. San Francisco, CA: Jossey-Bass, 1999.

Clark, Christopher M. *Thoughtful Teaching.* Teacher Development Series. London: Cassell, 1995.

Grasha, Anthony F. *Teaching With Style: A Practical Guide to Enhancing Learning by Understanding Teaching and Learning Styles*. Pittsburgh: Alliance, 1996.

Halpern, Diane F., and Associates. *Changing College Classrooms*. San Francisco: Jossey-Bass, 1994.

Johnston, Kevin M. *MSU Teaching Thoughts # 12: " Teaching Principles as Teaching Practice: Worthwhile, Or Not?" 2002.* http://tap.msu.edu/thoughts/tt12.pdf

Lowman, Joseph. *Mastering the Techniques of Teaching*. San Francisco: Jossey-Bass, 1995.

Marincovich, Michele, Jack Prostko and Fredrick Stout, Eds. *The Professional Development of Graduate Teaching Assistants*. Bolton, MA: Anker Publishing Company, 1998.

McKeachie, Wilbert J., Nancy Chism, Robert Menges, Marilla Svinicki, Claire Ellen Weinstein. *Teaching Tips: A Guidebook for the Beginning College Teacher*¸ 8th ed. Lexington, MA: D.C. Heath and Company, 1994.

Miller, W. R., and Marie F. Miller. *Handbook for College Teaching.* Sautee-Nacoochee, GA: PineCrest Publications, 1997.

Newby, Timothy J. *Instructional Technology for Teaching and Learning: Designing Instruction, Integrating Computers, and Using Media*. Englewood Cliffs, NJ: Merrill, 1996.

Nilson, Linda B. *Teaching At Its Best: A Research-Based Resource for College Instructors.* Bolton, MA: Anker Publishing Company, 1998.

Roblyer, M. D. *Integrating Educational Technology into Teaching*. Upper Saddle River, NJ: Merrill, 1997. *The Teaching Professor Newsletter*. ISSN 0892-2209. Madison, WI: Magna.

Weimer, Mary Ellen. *Learner-Centered Teaching: Five Key Changes To Practice*. San Francisco, CA: Jossey-Bass, 2002.

Yelon, Stephen L. *Powerful Principles of Instruction.* White Plains, NY: Longman Publishing, 1996.

Chapter 3:
INSTRUCTING RECITATION AND LAB SECTIONS[10]

In this section of the handbook, we attempt to anticipate your specific concerns and give you suggestions for conducting effective sections. Helping students to learn critical thinking skills and problem-solving skills as well as learning to communicate their knowledge through exams, lab reports, or oral presentations is a critical part of the TA assignment. It is important for you as the TA to help the student develop these skills as well as assist the student in learning the material specific to the course. For more detailed explanations of teaching techniques and philosophies, please refer to Chapter 2.

Changes in enrollment (drops, adds, and section changes) are processed by each student by means of the computer enrollment system. Changes in General Chemistry enrollment should be coordinated through the General Chemistry Office. The middle of the semester is the last day a student may drop a course with no grade reported (contact the Registrar's Office for the exact date—www.reg.msu.edu). At the beginning of each semester, you will receive a class list for each section you are teaching that will list the students enrolled in your section. If a student tells you that he or she is dropping your course and needs a grade, refer him or her to the instructor of record. Never supply a grade without being instructed to do so by the instructor. In no case does a student need your permission to drop your course. In addition, only the dean can authorize a drop after mid-semester.

Working with the Instructor of Record. The instructor of record may have very definite expectations about how you should instruct your session. This instructor might even give you an instructor syllabus that you are expected to follow, which includes problems to solve, instructional goals, etc. On the other hand, the instructor may expect you to develop the agenda/materials to complement the class. In order to plan your semester, it is important that you meet with the instructor to ask specific questions about the course, grading procedures, and your responsibility in lecture and in sections. This is typically done at an initial TA meeting held prior to the beginning of the semester. The following is a list of questions you may want to ask the instructor of record if he or she does not address these issues:

- Will you be expected to solve problems and answer questions about the lecture material in recitation or lab?
- Will you be expected to supplement the lectures with entirely new material?
- Will you have any lecture responsibilities in addition to leading your recitation or lab?
- Will you design your own exams and quizzes, or grade ones written by the instructor?
- Will you grade term papers or lab reports?
- Will you be responsible for proctoring exams or quizzes? Any special instructions? What do I do if I see a student cheating? Can I answer student questions about the exam?
- Will you be responsible for solution and sample preparation for the laboratory sections?
- Will you tutor students who need help beyond what you would normally offer during office hours?
- How does the instructor want issues of conflict handled? (See "Tension Points in Teaching, in Chapter 2)
- Will you be responsible for recording and maintaining grades for the students?
- How late can a student come to lab and still participate?
- If students did not complete a pre-lab can they still complete the lab?
- What are the clothing and safety requirements for the students? Am I required to have goggles or just safety glasses?
- What is the policy if students are not dressed properly for lab? Do I have the authority to make them leave? Can they make up the lab or come back after changing?
- What do I do in the case of a fire alarm?
- What is the policy for helping students outside office hours? What is recommended if a student can not make it to my office hours?
- What is the policy for late homework or lab reports? Are they accepted? Grade deductions? How do I note it was turned in late?

10. This section of the handbook was modified and reprinted with permission from Mentor: A Handbook for New Teaching Assistants (Fifth Edition). Maren Halvorsen, ed. Center for Instructional Development, U of Washington, 1992, pp. 30-31.

- Who do I inform or what do I do if I have an emergency (illness, family situation) and I can not teach my section?
- Do I need to attend lectures?
- Can I get a copy of lecture notes?
- How long do I need to stay if no one shows up to recitation?
- Where and how do I get supplies?
- Is there a copy code I can use to make worksheets for students?
- If students have questions about a grade who should I send them to?
- What is the attendance policy? Are students required to attend? Must a student attend his or her own section (important if there are quizzes given)?
- Can I tutor (for money) a student in another section of the same course?

Some instructors hold weekly meetings with their TAs during the semester to discuss problems and plan strategies and assignments for the coming week. Others wait for you to approach them with questions or problems. If you have any questions or concerns about procedures or the class in general, never hesitate to contact the instructor of record.

Lectures and Textbooks. It is generally expected that you will attend the instructor's lecture unless informed otherwise. This allows you to know what information you should supplement and clarify for the students. Even when you know the subject thoroughly, you will be unprepared for sections unless you know which problems were covered in class, the instructor's approach, etc. In addition, some instructors prefer that you cover the information in the same way that they covered it in lecture. For example, if there is a shortcut to some problem and the instructor only taught the long method, you should also use the long method. Attending lecture will help you determine the instructor's preferences in terms of ways to teach course material.

Listening from a student's perspective will help you understand why students may feel overwhelmed, bored, or confused during lectures. Similarly, reading textbooks from a student's perspective will help you decide which topics need the most review. Some "introductory" texts were written for a tenth grade audience, while others will baffle even you. Read everything your students are expected to read, because it is better to be baffled in your office than embarrassed in class. If, however, you are asked questions in your section that you are unable to answer, be honest with students. Tell them you will check with the instructor or you will consult a text and address the question in the next section. Textbooks are issued from the course instructor to all TAs. These books must be returned promptly at the end of each semester.

If maintaining students' grades is required of you, keep two sets of records—bring only one copy to the class. Grade books are available in the Subbasement Stockroom. If the records are also being processed by a computer, special forms will be provided to enter the grades. However, keep your own records in a grade book to ensure grades will not be lost. Details of computerized record keeping will be covered in the weekly TA meeting for the class. At the end of the term, one set of records (or computer printout) will be given to the instructor of record. The other working copy is yours, save it.

TEACHING ASSISTANTS AND THE LABORATORY ASSIGNMENT

If you are assigned to teach a laboratory, you will have multiple roles. Therefore, most of the material in this handbook will be applicable – you need only be creative in applying it. Laboratory assignments can be challenging, because they require combining the skills of lecturing, leading a discussion, and demonstrating techniques with helping students conduct experiments, interpret results, and prepare lab reports. You will also have the additional, very important responsibility of maintaining lab safety.

No matter what the specific lab assignment, you will be responsible for helping students to acquire basic knowledge in the discipline, as well as helping them to make connections between the experiment and the lecture material. Students will be learning methods of scientific investigation which include planning and execution of experiments, followed by analysis and interpretation of experimental results. Lab techniques and operation of equipment may be a part of your assignment. Conducting a "dry run" before your lab section helps to ensure that you have a clear understanding of all procedures, and that all equipment is working properly. TAs in prior sections may be very helpful in pointing out common "stumbling points" for students and other things to watch for.

Nyquist and Wulff (1996) point out an important difference between laboratories and other forms of teaching such as lecture and leading discussions: labs are active learning experiences. A good laboratory TA will work toward achieving a balance between telling students everything about an experiment and letting students discover information for themselves. It may take a little more effort to encourage students to learn for themselves, but the lesson is apt to stick with them longer and be more exciting and stimulating, even if the experiment does not work correctly every time. Nyquist and Wulff recommend using the technique of asking questions in order to elicit student interest and discovery: What is happening here? What do you observe about this experiment? Have you seen this before? What else have you learned about in lecture or past labs that might help explain your observations? What other experiments might you design to gather further information?

Labs are active learning experiences

Laboratory Instruction. First, you must be present at ALL TIMES when students are in the laboratory. During the lab period, you will work one-on-one with students, so you should get to know each of them personally. If you don't know all of them, you may be neglecting some of them—don't play favorites. Students should not be given extra time—the laboratory period should end promptly on time. You are not authorized to give students permission to attend other laboratory sessions. If a student has an emergency, he or she should talk to the course coordinator or instructor personally. If students have turned in laboratory reports, they should be graded promptly and returned at the start of the next lab.

Preparation. The best way to prepare for labs is to conduct the experiment yourself with the students' lab manual in hand. You will discover whether the directions are clear and whether students have the skills necessary to complete the experiment. Jot down notes as you proceed so that you can tell students how long the experiment will take, clarify confusing passages in the lab manual, and demonstrate new or difficult procedures. You may have done the same operation a dozen times, but most of the students in your section will find this to be a new experience. If you know in advance what to expect, what problems students are likely to encounter, and what questions they will ask, you will be able to make much better use of your time in the lab. It is important to make sure that you have enough beakers, stations, chemicals, etc., ready before the lab begins.

Safety. Safety in the laboratory is your first concern. The instructor of record should clearly demonstrate the location and use of all safety equipment in the laboratory to you before class begins. You will be passing this information on to your students, so if you are unclear about the use or location of any safety equipment, be sure to ask the instructor of record before the labs begin. Make sure students are aware of appropriate safety considerations and steps. Check to see that appropriate signs are posted in the lab. You should always wear safety goggles or glasses provided by the department for the course at all times and ensure that your students do the same. Soft contacts are not allowed, while hard contacts are conditionally acceptable. Shorts, sandals, and open-toed shoes are not allowed.

In case of an accident, send another student to the nearest stockroom (stockrooms are available on the first and second floors, as well as in the subbasement) for help immediately. If the accident is serious, use the red emergency phone in the corridor. Stockroom personnel can also telephone the Department of Police and Public Safety (DPPS).

Emergency actions should only be those that are essential to prevent further injury until professional help can be obtained. Four kinds of accidents call for immediate action:

1. For chemicals in the eye, hold the eye open and flush with water. Continue for at least five minutes or until professional help arrives.
2. For chemicals spilled on the skin, flush with large amounts of cold water. Do not use soap. Remember the location of the emergency showers.
3. For severe bleeding, have the student apply pressure with a clean dressing. Avoid touching another person's bodily fluids without gloves.
4. Extinguish a fire quickly with CO_2, water, or a towel. Burns should be treated with cold water only. Report any fire extinguishers with broken seals to the stockroom.

An accident report form must be completed for each personal injury, no matter how minor. Use a pencil or ballpoint pen and make sure that the bottom copy is legible. The departmental copy (green) is used to evaluate accidents and determine if procedural changes are needed. The white copy is given to the student, and you should STRONGLY AD-

VISE him or her to go to Olin for professional attention. The student will be billed for medical attention. If necessary, free transportation will be provided—ask the stockroom clerk.

First Lab Session. Before you meet with your laboratory section for the first time, obtain the section folder from the second floor stockroom. The folder contains a class list, safety sheets, and for classes with assigned lockers, information needed for check-in (see below). During the first lab session in *all* laboratory courses, you will discuss the key rules concerning safety in the laboratory (goggles, contact lenses, proper clothing, spills, and fires), as well as give a tour of the safety equipment in the laboratory. Each student must read, sign and date a safety sheet and provide emergency contact information. All safety sheets are returned in the folder to the second floor stockroom, at the conclusion of the first laboratory session.

In all of the general chemistry, quantitative analysis, and organic chemistry laboratory courses, students are assigned lockers which contain the glassware and equipment they will need to conduct experiments. Students in the advanced analytical and physical laboratory courses generally do not have lockers. Check with the instructor if you are not sure.

Courses with Lockers: Check-In, Check-Out, and Breakage Fees. As with all lab courses, before you meet with your section for the first time, obtain the section folder from the second floor stockroom. In addition to the class list and safety sheets, it will contain a locker (and perhaps combination) list and inventory sheets for your section. Each student inventories his or her locker on the first day of class, replacing broken or missing materials. The student should note shortages or defective equipment on the back of the inventory sheet, and after getting your signature of approval, they take the sheet to the stockroom for equipment replacement. On signing the inventory sheet, the student assumes responsibility for the inventoried equipment in his or her locker, and must pay for any glassware that is broken or missing throughout the semester.

At the end of the first laboratory period, all inventory and safety sheets are returned in the folder to the second floor stockroom. The locker list must have all students who check in listed beside their assigned lockers.

Throughout the semester, students will be billed for all losses and breakage. On the last day of lab, the students will check-out of their lockers. At this time, the students will remove everything from their locker, organize the equipment on their on the countertop, and replace anything missing or broken. You will check off the equipment on the inventory sheet as it is placed in the locker. Check students out very carefully, making sure that all equipment is accounted for. You will then lock the locker and sign the student's inventory sheet. Be sure each student has his or her full name, student number, and legal home address on the sheet. The sheets are then returned to the second floor stockroom.

You must check out any student that fails to do so before the end of the term. Students that fail to check out are charged a $25 fee in addition to breakage costs.

Student Preparation. In conjunction with the instructor, devise some means to ensure that students are familiar with the lab before they come to class. Some instructors feel that grades on lab reports are incentive enough, while other require student to complete a CAPA assignment, pre-lab quiz, or submit a statement of purpose, procedures, and/or an explanation of what and how the experiment is relevant to the course.

Supervising the Experiment. At the beginning of the lab, review the purpose of the experiment and deliver a brief lecture on the theory or concept explored in the lab. Go over the procedure and demonstrate or explain any new techniques and the use of equipment the students are unfamiliar with. Ask for questions and clarify any ambiguities you have found in the lab manual.

If you and your students are well prepared, you will be free to perform your most important role, that of guiding student development. Try to talk with each student at least once during the experiment. Technical and procedural matters can be handled quickly in a few words of advice or a very brief demonstration, but your primary role is to help students master the steps of scientific inquiry—recognizing and stating a problem so that it can be explored, data collected, a hypothesis formed and tested, and a conclusion drawn.

Attempt to allow students to solve problems for themselves, perhaps by rephrasing the question and reminding them of a concept they have forgotten. However you approach problem solving, refrain from giving outright answers or advice. If lab partners ask you, "Why can't we get this to come out right?"

Students may become frustrated if they cannot get an easy answer out of you, but they will also learn more.

try asking a series of questions that will lead them to discover the reasons for themselves. This is a much better solution than simply explaining why the experiment failed. Sometimes the reason will be relatively simple, but just as often the reason will be more substantial—a matter of timing, sequence, proportion, or interpretation. Perhaps the student has the necessary data but has overlooked an important step in analyzing the results or is unable to synthesize a solution. It is very tempting to help students by saying, "Aha, I see where you went wrong," but unless you resist the temptation, they are likely to falter at the same stage in the next experiment. Students may become frustrated if they cannot get an easy answer out of you, but they will also learn more.

The data gathered in a particular experiment by the student must be entered directly in the student's manual or notebook, and duplicate pages must be given to you (if required) at the end of each laboratory class. Duplicate notebook pages handed in later must not be accepted. You are also responsible for cleaning up the lab at the end of the class period. You should make sure that the students clean their own work areas, reagent shelves, and other areas of the lab they have worked in. It is your responsibility to turn off and close all utilities: lights, water, gas, steam, hot plates, and hoods, and this should not be left to the students. Lock and check all doors once all students have left, and report any equipment which is malfunctioning to the stockroom personnel.

Helpful Tips for Conducting a Laboratory Class. The laboratory is an essential phase in training the student in chemistry. It may be part of a course, the other parts being lecture and recitation, or it may be a course in itself. In either case, your responsibilities as instructor are likely to be numerous and varied. The following remarks can be helpful as a check-list of these responsibilities.

- Notations regarding assignments may be written on the board, including any changes, omissions, or substitutions. Be prepared to answer questions about the assignment.
- Encourage students to begin their own experiment promptly. Students should work at their assigned bench unless specifically told to work elsewhere or in groups. Try to be readily available so as to make sure that each student performs the experiments properly and to offer suggestions where needed to help him or her obtain satisfactory results.
- Once class routines are well established, you are likely to find your time fairly well taken up in answering questions. However, it is desirable whenever possible to observe the various students in their actual performance of laboratory work.
- Try, on occasion, going from one student to another to ask questions concerning the experiments: ask a student what he or she is doing, and expect him or her to answer without reading from the manual. If an apparatus has been set up, ask him or her to explain its function and perhaps the function of the different parts. Ask to see his or her record of data. Insist that records be kept dated and current with the work and that he or she truly record his or her own observations. Other questions will suggest themselves with practice.
- Watch regularly for opportunities to give help in developing good laboratory techniques and courtesy—for example, the need to keep corrosive chemicals or reactions, etc., away from balances or other special apparatus, or from a neighbor's notebook.
- While making the rounds, it may be a good idea to also discuss the reports of the previous period, to make suggestions, and to explain notations.
- For laboratory attire, it is suggested that the instructor wear a jacket or smock or other protective garment. This may also help a student needing assistance to distinguish his or her instructor readily from the group.

TEACHING RECITATIONS

Your role as a recitation instructor is a very important part of your graduate career, and perhaps without prior teaching experience, it can be a rather intimidating prospect. Although it is not possible to make all of you expert TAs overnight, graduate students from previous years felt that it would be beneficial to provide you with some ideas for getting through your first round of recitations.

One of the most important things to remember is that these students are in lectures with anywhere from 30 to 500 students and often the TA is the only "real person" that will ever know them during their time in the course. Because of this, getting to know the names of your students is an invaluable tool in conducting meaningful, non-threatening recitations.

On the first day, you should introduce yourself to your students. It is often helpful to give them enough background about yourself that they can possibly realize that you are still a student and can relate to what they are facing at the start of a new course. Let the students know how, when, and where they can get in touch with you. As mentioned previously, it is recommended that students communicate with you through e-mail or at office hours (See discussion of office hours in Chapter 2.) only to avoid inconvenient and unplanned interruptions in your laboratory.

As you get going, things get easier. The best way to ensure a successful recitation is to be prepared. If it is the first time that you have taught a certain course, or if you have not taught for the current instructor, it is helpful to talk with the instructor regularly or attend lecture enough to find out how far the instructor is in relation to the syllabus. Also, be sure that you can do all of the homework problems for which the students are responsible. Taking these steps to be prepared is the best way to ensure your credibility.

With these items in mind, decide how you will conduct your recitations. Consider the expectations of your students. Many will come to recitation expecting you to repeat the lecture or work all of the homework problems. Remember, lecturing is the instructor's job, and doing the homework is the student's job.

Remember, lecturing is the professor's job, and doing the homework is the student's job.

A good way to help students with homework concepts is to prepare a set of problems that are similar to the homework problems. You can either work these on the board or have the students work on them in recitation in small groups. If you work them on the board, go slowly and ask for input from the students as you decide the approach and step through the problem. Students often have the most difficulty just knowing how to get started. When doing calculations, demonstrate good habits: rearrange equations before you plug in numbers, don't skip steps, and always keep units with the numbers (dimensional analysis). Having the students work on problems in groups also has benefits. Those students that understand the problem have the opportunity to "teach" it to someone else – this often is a great way to reinforce concepts. Those that are having difficulties are able to wrestle with problems with some assistance. This is often a better way to learn than just watching someone else work a problem. You should circulate among the groups, following their progress and helping them to help themselves over any difficulties they encounter.

You will find that each section has its own "personality," but you should be able to establish a routine that works with each group after the second week or so. A good way to start out is to ask the students if they have any questions. As a general rule, you will get little to no response to this question at the beginning because many of the students will be too intimidated to announce that they are confused about something. Try generating questions by reminding them of the main topics covered in lecture and emphasizing those which you feel have the most potential for causing confusion. Ask broad questions to get a feeling for how much they remember, and what they don't understand.

Questioning is a very important part of teaching a recitation. Questions allow you to determine where the students are, and can be used to get the students to where they should be. It is far more valuable to help them solve their own problems by asking easier but related questions. Giving them the answers without making them think things through won't help them when it comes time to take a test. Try to avoid putting students on the spot, and always make an effort to distribute your questions evenly. Remember, it is better to teach the students thought processes, rather than specific details.

Students will appreciate extra practice problems and review sessions prior to exams. Additional problems will help you feel more prepared and comfortable with the material as well. This will also help you to make the best use of your recitation time if the students do not come with specific questions. The amount of time you spend on these things is up to you and the specific instructor for the course. Also, do not hesitate to sit in on recitations conducted by other graduate students or ask other TAs for suggestions.

Day-to-Day Section Instruction. There are many ways to approach section instruction, depending on the information you gather from the instructor of record. If you are given an open-ended assignment, you may want to consider the suggestions about problem solving given in the preceding section. Of general concern, however, is how well the students are interacting with the lecture material. This will indicate what you need to focus on in sections, if your section goals are not already mapped out by the instructor. If you find that students are having difficulty with the lecture materials and they are unable to complete the instructor's section goals, you should inform the instructor and see how he or she would like to proceed. The instructor may choose to adjust the level of examinations and the pace of the course as necessary.

It is essential that you identify what needs to be covered and then choose an appropriate approach. Is the material suitable for a section lecture? A question and answer session? A discussion? Rather than repeating the instructor's lecture, consider a new approach to the topic. Perhaps you need to break a large topic into smaller units, or design a problem-solving session that encourages students to both conceptualize the approach and use it.

If your chief responsibility is review, it is especially important to get comments on whether you are covering what students really need. It is impossible to review all the material from the lecture or the textbook in detail. You will have to choose between covering most of the material somewhat superficially or only representing parts in depth. Briefly reviewing all the important topics usually stimulates student questions. However, concentrating on particularly difficult aspects of the course that may not have received much time in the lecture will open up areas on which students would otherwise not have been able to formulate questions.

TUTORIAL ASSISTANCE IN CHEMISTRY (PROJECT TAC)

At Michigan State University, we value the opportunities of all individuals and strive to provide programs to meet a diverse set of needs for a diverse student body. To this end, we have designed Tutorial Assistance in Chemistry (TAC), a program designed to meet the academic needs and enhance the success of underrepresented minorities in chemistry.

It is apparent that if students successfully complete the first year courses in Chemistry and have been given the motivation to study, they often do reasonably well during the remaining years of study. It is the objective of TAC to provide the assistance needed to improve the student's background and study habits so that he or she is able to work satisfactorily in the first-year courses. Personal relationships established throughout the program also motivate and encourage students.

In the TAC program, small groups of 4 to 12 students meet with a tutor three times a week for an hour of recitation, and extra help sessions are scheduled by the TA when needed. The tutor attempts to identify specific academic difficulties, helping each student according to his or her particular needs. The student also participates in the regular lecture and recitation and ultimately receives his or her grade from the recitation instructor, not the TAC tutor. This helps to encourage a relaxed and productive learning situation during the help sessions.

Graduate assistants teaching any courses should try to identify students who have difficulty with the material, who are unwilling to participate, or who lack self-confidence. If possible, they should identify the student's problems and report to the faculty member in charge. Between the faculty member and the graduate assistant, some method of helping the student can be determined. In many cases, TAC may be the answer. Student participants for TAC are selected using many different criteria:

1. little or no background in high school chemistry or math
2. poor college math grades
3. qualification for financial aid (including Work-Study)
4. eligibility through an established developmental program at MSU for black or low-income students
5. eligibility for a "special programs" tutor from the Student Services Center

If any of these apply, or if, in your judgment, other circumstances necessitate action, contact the TAC coordinator. A cooperative effort may prove invaluable in helping a student. Very often, a little personal attention, encouragement, and understanding on the part of the TA provides much of the needed help. Trained TAC instructors use these qualities with great success, and students often come to their TAC tutor for other counseling. It is a demanding but very rewarding teaching experience.

The TAC program has been helping students since its inception, as is evidenced from the number of letters the department has received, the evaluations of TAC TAs, and the number of TAC students who progress to compete successfully in their major programs. All of these students emphasize the personal contact aspects of the help program. Every teaching assistant should be aware of the under prepared student or the student with special problems and the opportunities available for helping him or her.

If you encounter a student who would benefit from TAC, contact the TAC Coordinator. If you would be interested in teaching TAC for an undergraduate course, contact the Graduate Director.

ONE-ON-ONE INSTRUCTION

Rationale. Chemistry teaching assistants typically spend a majority of their time teaching students in one-on-one situations. Tutoring skills are not limited to out-of-class hours–chemistry TAs may tutor individuals prior to and immediately after recitation classes and throughout each laboratory working period. The ability to deal effectively with these one-on-one situations is essential to your success as a teaching assistant.

A significant portion of the role of any teaching assistant is to help ensure that as many students as possible will attain the instructional objectives of the course. Stated differently, the TA must assume some of the responsibility for the success or failure of students. In order to know whether or not a given student is having difficulty in achieving instructional goals, a rapport must be established between students and TA whereby the students will feel comfortable asking for help. The quality of the help you can provide to your students will be a function of the care that you take in following a few steps designed to increase the likelihood of success of the tutoring experience.

Analysis of Tutoring Technique. Your first step toward effective tutoring is to become acquainted with each individual student in your class—the student's name, ability, and attitude toward chemistry. Do not take this to mean that you should ask every student how he or she feels about chemistry and whether or not he or she is "good at it." Simply talk with a student about his or her major, career goals, past courses he or she has taken and enjoyed, as well as how he or she feels about taking the class for which you are the TA (is he or she anxious, confident, etc.). Then, when an actual tutoring situation arises, you will be able to identify with the student's feelings about the difficulties encountered in mastering a particular problem or lab manipulation.

At the beginning of a tutoring session, you can best begin by determining what general educational objective the student needs to achieve. In some cases this will be obvious, but in other cases, the general educational objective may be quite difficult to perceive. This can be accomplished by requesting the student to identify the specific concepts/principles which must be identified and mastered to meet the general objective and what specific behavior/manipulations the student must exhibit for the instructor to be satisfied. You may have the student attempt to work out a problem to demonstrate what specific skills are already mastered. While the student responds to questions, you should listen carefully and identify what the student knows and what gaps presently exist in his or her understanding.

After you have determined what specific skills or concepts the student needs to develop, you must assist the student in such development. This is often done by having the student complete the original problem or beginning a new one. Ask questions or give directions to allow the student to complete the task—with minimal assistance provided only when needed to overcome obstacles.

Small steps, taken one at a time, will generally be more effective than a giant intellectual leap.

Small steps, taken one at a time, will generally be more effective than a giant intellectual leap. You should not provide a prolonged lecture explaining the entire process followed by a statement like, "All right, now let me see you do it." Consider tutoring a student who has a problem involving a concept. The student can be assisted in mastering the concept if you lead him or her through a series of small steps. To accomplish this you will need to arrange a series of cues, questions, and hints which, hopefully, will all be happening in an order which encourages desired student responses. Throughout this process, keep in mind that positive reinforcement, in its many forms, is the desirable consequence for increasing response strength.

Provide verbal and non-verbal reinforcement along the way as the student masters the individual steps. Provide opportunities during an instructional sequence for the student to behave in a fashion consistent with the objectives. Let the student practice what he or she will be called upon to do in displaying mastery of the instructional objectives. Try to provide practice that is exactly like the terminal behavior identified as the objective. This means that the instructional stimuli will be identical to those used, for example, on the final examination. Alternatively, let the student have an opportunity to practice behavior that is similar, but not identical, to the terminal behavior. In this practice situation, there may be modifications in the nature of the instructional stimuli or in the nature of the learner's response. The student may be required to perform the same intellectual operations, but respond in a somewhat different way. This practice is more appropriate for objectives at the higher cognitive levels.

Tutoring provides an effective opportunity to assist each student in the learning process. Many students are unsure of themselves in their chemistry course work. When tutoring, we deal with people who may lack confidence in their ability to "do chemistry", a feeling that may hamper their learning. Therefore, it is important to accept this feeling and to give each student who comes to you some feeling of mastery, however large or small. Tutoring is an open interaction. Students will reveal their sense of insecurity to you. When they do, help them overcome this anxiety. When a student does master a new concept or skill, call this to his or her attention by providing positive reinforcement. Help each student to recognize his or her achievement when it occurs.

Usually, the final step in a tutoring session is to allow the student to demonstrate that he or she has mastered the objective by providing an evaluative problem. This evaluative problem should require the same skills as the student's original problem.

Summary. An effective tutoring model employs several steps. Although the steps are sometimes overlapping, they can be analyzed:

Personal identification. Build a personal relationship with each student–help somebody, not just anybody.
Student participation. Encourage student participation and active work on the problem or concept.
Asking questions. Stimulate student response by asking questions that lead to solving the problem or illuminating the concept.
Praise, or reinforcement. Generously praise students (positive reinforcement) whenever warranted.
Seeking clues to difficulties. Analyze the student's understanding of principles, concepts, and skills.
Accepting and understanding feelings. Identify the student's position—remember what it was like when you were a student.
Evaluation of learning. Encourage the student to demonstrate mastery of the material and provide opportunities for appropriate practice.

An Effective Tutoring Model Employs:
Personal Identification
Student Participation
Asking Questions
Praise or Reinforcement
Seeking Clues to Difficulties
Accepting and Understanding Feelings
Evaluation of Learning

PAID TUTORING

A book with a list of students willing to tutor is kept in the main office for reference to students in chemistry courses. Forms are distributed in mailboxes each semester that will allow you to add yourself to this book. You are not allowed to receive payment for tutoring a student in a course for which you are currently a TA. All students, RA and TA, should know his or her advisor's policy on paid tutoring. Some advisors may not permit paid tutoring, especially while graduate assistants are on RA and receiving payment through grant funds.

TEACHING WITH PROPS, VISUAL AIDS, AND COMPUTER TECHNOLOGY

Including technology in your classroom can be as simple as making overheads or calling Instructional Media Center (IMC) or Instructional Television (ITV) to include a film or voice recording, or as complex as interactive video and hypermedia. The level of sophistication depends on many factors: your familiarity with the technology, instructional needs, availability of equipment, and the department. This section is designed not to explain how to use technical equipment in the classroom but instead to encourage you to access and assess the different mediums to your fullest instructional advantage.

Blackboard Use. Think about your experiences as a student: How many times have you looked up in class after being distracted or losing the main thread of the lesson only to be greeted by a meaningless, randomly distributed set of symbols or facts on the blackboard? How often after getting home have you found your notes so meaningless that it is not even clear what subject was discussed? If the answer to either question is never, either you learned to take good notes or you have a fantastic memory. The fact is that many students' notes are an exact copy of what appeared on the blackboard, with few additional qualifiers, explanations, etc. If you are skeptical, ask to see your students' notes right after class. You will be amazed that many will not differ in even a single word. If you keep this in mind, you are part way to more effective blackboard use. When we do a problem at the board, students not only see the solution, but they see how we organize a solution. Effective board work highlights and emphasizes this organization and provides the students with a valuable model for writing,

Many students' notes are an exact copy of what appeared on the blackboard with few additional qualifiers or explanations

and often for doing problems. The result of the board work accompanying a unit of the lesson should be an outline of what transpired. If you are solving a problem, an outline of the problem should remain at the end. The hypotheses, main points, and conclusion should be isolated, boxed off, or otherwise emphasized. Even the best students will occasionally lose the thread of a lesson or forget the original objective of a discussion. The blackboard is their major, and often their only, resource for reentering the lesson.

The following tips should help you structure your board work:

1. **Start with a clean board.** Board work from the previous class is distracting.
2. **Be organized.** Use headings. Before using the board, determine the major elements of your presentation. Consider how you could place them on the board for logical visual as well as verbal presentation. Keep diagrams near their written descriptions and label carefully. When solving equations, show each step in a logical sequence and mark major steps and answers.
3. **Be neat.** Print if at all possible—medium size. If you write too large, you will not have enough room. If you write too small, no one will be able to read it.
4. **Try not to work with eraser in hand.** Teachers who simplify expressions as they go along by erasing make it difficult for students trying to take notes. Put a single line through expression you wish to simplify and write the new expressions above.
5. **Avoid talking to the board.** After you write on the board, turn to face your students before speaking. A good pattern to develop is to state the topic first, turn, and write the topic name on the board, then turn back to the students and discuss the topic. When appropriate, add key points under the topic name.
6. **Avoid blocking the board.** Once you have finished writing, stand to one side while you discuss what you have written.

Blackboard Tips:
Start with a clean board
Be organized
Be neat
Do not work with eraser in hand
Avoid talking to the board
Avoid blocking the board

At the end of your class, take a moment to stand in the back of the classroom and examine the board. Can you reconstruct your lecture from what is written? Could students read your writing? Are diagrams labeled? If so, you are developing good board-work skills.

Preparing Visual Aids.[11] The use of overheads, graphs, and charts can be a note-taking guide and a time-saving aid when used in the most effective way. However, putting an overhead on the screen accompanied by the following comments "I know you can't see this, BUT. . ." is cause for anger and frustration. In order to serve your students well, keep in mind the following tips:

1. Overheads and slides should be limited to 7 words per line and 7 lines per visual aid.
2. 18-24 point font size is easiest to read.
3. Cartoons: Good idea, but do they illustrate a point?
4. Graphs, charts and tables from textbooks should be expanded to a readable size.
5. Leave material on the overhead in view until students have had a chance to examine it.
6. Face your students. The only time you should look at the screen is to check focusing, visibility and placement of materials. Move away from the overheads whenever possible to avoid blocking the light.
7. Get confirmation from students. Can they see everything? Did they have time to copy important steps?
8. When writing notes or highlighting overheads, use projector pens and write legibly. Use different colors to illustrate different points.

On a final note, remember that visual aids such as charts and graphs should be used to illustrate or demonstrate a point in the lecture/discussion. The important concept being demonstrated by a visual aid may be readily apparent to you,

11. This section of the handbook was adapted from "Preparation and Delivery of Presentations," a workshop offered on behalf of TAP by Dr. Christopher B. Reznich, Office of Medical Education and Research, MSU, September 29, 1993.

but it is not always so for your students. On the other hand, do not simply read the chart to students, but interact with it, reminding students what it demonstrates at different points.

EVALUATION FORMS

In this section, we discuss external evaluations that supplement your self-assessment and hopefully guide your professional development. The questions you have considered in the previous section should help you solicit feedback and determine how to respond to both positive and negative criticism.

Evaluations by the Students. MSU has developed the SIRS Form, a general instrument for student feedback. It is an anonymous survey, done at the end of each semester, that queries students about your preparedness, receptiveness to questions, lecturing, and organization. SIRS forms are obtained from the department office 2-3 weeks prior to the end of the semester (an email will be sent to let you know when they are available). There are specific evaluations for the course, the instructor, and the TA (recitation and/or lab). Depending on your teaching assignment, you may have more than one type of SIRS form. The evaluations are filled out in class and returned to the department office. Because the SIRS forms do not specifically invite student comments, be sure to encourage your students to write comments on the back of the forms. These comments will be very helpful to because students can comment on exactly what worked and did not work in terms of your teaching style and class mannerisms. However, be sure to tell your students to only write comments that are specific to the evaluation being completed. For example, comments about the topics covered in the course should be written on course evaluations, not TA evaluations, while comments about TA teaching styles should be put on TA evaluations SIRS forms are generally returned to you 6-8 weeks after the conclusion of the semester.

Personally-Developed Evaluations. You can supplement the feedback you receive from the SIRS or Departmental evaluations by developing your own alternative evaluations. If you are assisting in a class, check with the instructor of record to see what kinds of evaluation he or she uses and whether or not he or she is open to you collecting some feedback of your own. Instructors can request written or verbal feedback (many times written feedback is less intimidating for students to provide). You might have students evaluate you as part of an assignment or on a form that you have generated. You can distribute evaluations or request comments at any time during the semester. Early evaluation allows you something the SIRS forms do not—the ability to address issues specific to the course and students you are instructing now so that you can improve before the semester is over.

Evaluation by the Instructor of Record. The instructor of the course you are teaching will evaluate your performance at the conclusion of the semester. A copy of this evaluation form follows (See Teaching Assistant Evaluation form). Beyond that, it is your right to request a faculty visit or a visit by another TA to give you feedback during the semester.

Utilization of Evaluations. All of the forms of evaluation—self-reflection, student feedback, and departmental—allow you to better assess your teaching and to make improvements in the future. Evaluation materials also lend themselves nicely to professional dossier construction and teaching portfolios. A faculty member recently suggested that his preparation for tenure evaluation was enhanced because he maintained a collection of evaluations, which allowed him to periodically assess his role in the classroom, as a researcher, and as a member of MSU.

Teaching Assistant Level Designations. The Graduate Employees Union signed a contract with MSU (http://grad.msu.edu/2011-2015GEUContract.pdf) dated May 16, 2011 until and including May 15, 2015 that designates levels of employment for graduate TAs as follows:

Level 1: Employees with less than one year of experience as a graduate assistant or full support fellow.

Level 2: Employees with a master's degree or equivalent and/or two semesters of experience as a graduate assistant or full-support fellow in the employing unit.

Level 3: Employees with a master's degree or equivalent and at least four semesters' experience as a graduate assistant (or equivalent experience at the faculty level) in the employing unit or in a department considered relevant by the chairperson of the employing unit.

TEACHING ASSISTANT EVALUATION

TA's Name: Semester:

Instructor(s): Chemistry:

Teaching

1.	Competence	O	G	S	P	No Eval.
2.	Communication	O	G	S	P	No Eval.
3.	Attitude toward students	O	G	S	P	No Eval.
4.	Lab Safety	O	G	S	P	No Eval.
5.	Extra efforts with students	O	G	S	P	No Eval.

Course Operations

6.	Responsibility toward duties	O	G	S	P	No Eval.
7.	Contributions to teaching meetings	O	G	S	P	No Eval.
8.	Provides student feedback	O	G	S	P	No Eval.
9.	Extra contribution to the course	O	G	S	P	No Eval.

The categories above are obviously of unequal weight. Apply your own weighting factors in determining the overall evaluation. ***(Please return the completed evaluation to the Chemistry Graduate Office.)***

Duties:_____

Was this TA responsible for recitations? ❑ **YES** ❑ **NO**

Did you attend any of these recitations? ❑ **YES** ❑ **NO**

Circle One:

Outstanding: Merit level performance of duties.

Good: Tries to do a superior job with extra effort if needed.

Satisfactory: Does neither more nor less than the minimum required.

Poor: Unacceptable performance of duties. Please give specific examples on back of form.

No Evaluation

Comments:

cc: Advisor
Student

Chapter 4:
ADVICE FROM SENIOR TAs

This section contains advice compiled from senior TAs in the department about common situations you will encounter when teaching, and ways to go above and beyond as a TA. This information compliments what has been covered in previous chapters. Some of the information will have already been covered, but this section focuses on how to implement the policies and procedures in a real classroom setting.

COMMON SITUATIONS IN TEACHING

There are certain situations that arise frequently when teaching recitation and lab. Below are some of these situations, with what you should avoid doing and helpful hints for how to better handle the situation. Read through this whole section before you go to your first section, be familiar with these common cases and know what you will do if the situation arises in your class.

If a student asks you a question that you can't answer

Do Not:

- Tell the student that you refuse to answer such a stupid question
- Make up an answer and assume that they won't know the difference

Instead:

- Admit that you are unsure
- Offer to look it up and get back to the student
- Tell the student how or where to look for the answer
- Using a bit of humor helps "See, sometimes even the TA can be stumped!"

If a student complains about the course, professor, subject matter

Do Not:

- Join in, commenting on your bad feelings or experiences with this course
- Defend the system, saying "There are good reasons why things are done this way"
- Ignore the student's concerns by saying "I can't really do anything about it"

Instead:

- Direct the student to the course instructor
- Try to help them find ways to improve the situation, using a little humor may lighten the mood as long as it is appropriate
    - They felt the quiz/test/homework was too difficult
        - "I understand that the subject material can very difficult, but I can help you find extra practice problems so that you can do better on the next one"
        - "The first exam may not have went as well as you had hoped, but there is still many opportunities in the class to bring your grade up if you work hard"
    - The professor is does not answer questions clearly enough
        - "The help room is a great place to find TA's that may be able to explain it in a different way that will make more sense to you"
    - When am I ever going to use chemistry, this class is so pointless
        - "In a few months it will be all over and you can say that you survived organic chemistry, how many people can say that!"

If your students are not paying attention while you teach

Do Not:

- Tell them that if they refuse to pay attention that you will refuse to teach, and leave the room
- Admonish them to pay attention by saying, "You'd better pay attention because this might be on the exam"
- Ignore them and continue teaching

Instead:

- Ask a provocative question like, “can anyone give me an example of how this relates to daily life?”
- Break the students up into groups to work through practice problems, changing teaching methods

If you ask a question and there are no volunteered answers

Do not:

- Answer the question for them
- Single our a student who is obviously uncomfortable speaking in front of the class to answer the first question

Instead:

- Ask a simpler question or rephrase
- Ask “what part is confusing you?”
- Pick a student who you feel may not be intimidated to start the discussion

If nobody has tried the homework before recitation

Do Not:

- Be surprised, this is not abnormal!
- Do their homework problem by problem
- Dismiss the class

Instead

- Be prepared for the situation
- Have the students work on similar problems in small groups during class
- Work similar problems at the board or discuss other questions

If a student comes into class late

Do Not:

- Keep the door closed so that he or she must open it
- Lock the door and refuse to let him or her in
- Complain and scold him or her

Instead

- Acknowledge that some students may have to come late or leave early
- Do not let it disrupt the discussions you are currently having with your students
- Note: if the student asks about something you have already discussed, it is OK to politely ask them to stay after class and you can go through it with them

If students are talking loudly and being disruptive

Do Not:

- Ignore them and let them continue to disrupt the class

Instead

- Ask if there are questions
- Call on one of them to answer a question
- Tell them that others are trying to learn, so they should be quiet or leave

The first thing you do in any class

Do Not:

- Launch into a problem similar to one that you thought was difficult
- Apologize for being late every week

Instead:

- Remind the students of upcoming class events, homework that is due, tests, quizzes
- Check for questions on previous material

If you ask, “any questions” and get no responses

Do Not:

- Say, “Joe, I know you didn’t do well on the last exam, so you must have a question”
- Dismiss the class

Instead

- Ask your own questions, such as, “which homework problem was the most difficult” or “what lecture material is most confusing”
- Invite your students to bring individual questions to your office hours
- Have them work through practice problems and ask questions when they get stuck

If a student crosses the barrier between the student/TA professional relationship

Do Not:

- Give the student your phone number
- Embarrass them “There is no way I would ever go out with someone like you!”

Instead:

- Tell the student that his/her behavior is inappropriate and will not be tolerated
- Ask him or her to leave the classroom
- Take the situation to the course instructor

If you suspect that a student is cheating on an exam

Do Not:

- Loudly accuse him/her and take away the exam
- Make them move to another seat

Instead:

- Make a note of the situation (including the students sitting nearby) and inform the course instructor
- Stand nearby and let him/her see you are watching

If a student asks you for answer to homework problems

Do Not:

- Solve the problem for the student
- Refuse to help if all they want is the answers

Instead:

- Ask him/her questions to lead them to the answer
- Explain the problem solving process without using numbers
- Have the student explain his/her thought process and the part that is understood to identify the trouble spot

Your student needs help outside of class

Do Not:

- Have them come to your office or lab for help, this will disrupt your labmates
- Meet with them at your/their home

Instead:

- Offer to meet them in the helproom or library
- Refer them to the list of the TA helproom hours

One of your students wants to become friends while you are still their TA

Do Not:

- Add them to you facebook or myspace webpage
- Meet them at the bar for drinks
- Discussing anything personal
- Giving your personal phone number

Instead

- Keep the relationship professional at least until you are no longer their TA

If a student complains about wearing goggles/proper lab attire

Do Not:

- Support them in their complaining
- Complain about how inconvenient it is to wear goggles all the time

Instead

- Tell them the importance of having proper attire
- Follow safety rules yourself

In case of an accident

Do Not:

- Panic and leave the lab
- Sit and let the students manage themselves

Instead:

- Send a student to the stockroom to inform of the situation
- Help the student and act according to the seriousness of the accident

While supervising a lab section

Do Not:

- Sit aside and read your own course material/research papers
- Delay grading lab reports
- Give locker keys to students

Instead:

- Help the students by demonstrating difficult procedures
- Unlock and lock the lockers in front of the students
- Collect lab reports on time

HOW TO BE AN *EXCELLENT* TA

The majority of this manual is devoted to the basic requirements of being a teaching assistant at Michigan State University, outlining what is required of you and what actions are not allowed. The following is a list of ways to go above and beyond the average TA. These things are in no way required of you, but will be greatly appreciated by your students and this will show in your student attitudes and performance and in the evaluations you will receive from your students and the supervising faculty member. If you are possibly planning a career in education, you will want to pay close attention to this list and try to implement as much as possible in your recitations and labs.

1. Make worksheets, overheads, or practice problems for your students. Include problems at all difficulty levels so that the extra help is at the level of all students. E-mail students the problems you plan to go through in recitation to give them a chance to attempt them on their own first.
2. Hold review sessions before quizzes and tests. Go through old tests, homework problems from the book, or problems you have designed. Come prepared, as your students will be looking forward to the extra help, but will probably not come with questions of their own. Invite students from other sections, but be careful to be competitive with other TAs in the section. Rooms can be reserved by talking with the secretary in main office.
3. Encourage cooperative learning. Students will learn the most when they are teaching their peers. During recitations organize the students into groups and give them problems to work through. Walk around the room and initiate discussion in the groups. Ask questions of the students who appear to already have an understanding of the topic and urge them to explain it to their group. Leave time at the end of recitation for each group to present their problem to the class.
4. Create a welcome environment for your students. Come to class ten minutes early talk to the students as they come into class. Be careful not to cross the student/teacher barrier, but small talk makes them feel more comfortable and willing to ask questions. Using a little humor lightens the mood in class, as long as you keep the attitude serious enough that learning still occurs.
5. Communication! It takes time, but respond to your student's emails promptly. Send out a weekly email reminding your student of what they will be learning in class that week and of upcoming quizzes and tests. Meet with students outside of class if they can't come to your office hours. A common method is to have "floating office hours." Tell your class that you will have a few extra office hours each week, and the time each week will be first come, first serve, and vary the times every week.

6. Provide feedback on your student's tests and quizzes. Instead of simply marking a question wrong, write the correct answer. Pay attention to questions that are commonly missed and address them in the next recitation.
7. Pay attention to common mistakes, and point these out when you are discussing the topic. For example, many students get confused by drawing chair structures. When you are teaching this, make sure to point out that a common mistake is confusing axial and equatorial, and give them a trick to remember it.
8. Save the evaluations from the course instructor and your students. These will be useful to you in the future if you are planning a career in teaching, and also some fellowships that you may apply for will be interested in your teaching experience. Take the evaluations seriously, and be sure to read through all the comments on the student evaluations. Make an effort the next semester to improve in the areas that you received low scores. If you are nervous about the student's perceptions of you and do not want to wait until the end of the semester for feedback, you can give them mid-semester evaluations and use the remainder of the class to make improvements. Show your students that you care about their opinions and try to learn from their comments and they will respect you more as their instructor.

Chapter 5:
CAMPUS RESOURCES FOR TAs—
A SHORT GUIDE

Because teaching is a challenge, every TA deserves as much practical help as the university can provide. This directory is a guide to campus resources and services that can help you work more easily and effectively as a TA.

Support Services for Your Teaching provides resources to help you improve and develop your teaching skills. A list of contacts for MSU TA Program resources and services is located at the end of this chapter.
Support Services for Your Students lists campus offices to which you can refer individual students when they need help with personal problems, career planning, or particular learning difficulties.
Problem Prevention and Conflict Resolution highlights the offices where you or your students can go for help regarding serious conflicts, such as violation of the law, violence, harassment, abuse of authority, and violation of university policies.
MSU TA Program Resources is a detailed listing of pedagogical, language, and professional development programs available to MSU TAs from the MSU TA program office.

SUPPORT SERVICES FOR YOUR TEACHING

Courses on Teaching: Several MSU departments and colleges sponsor courses on the theory and practice of teaching for TAs. The College of Education also offers courses of great relevance for new college teachers. Often these classes are offered by the most dedicated mentor-teachers on campus. We encourage you to browse the course listings each term or the Green Book and inquire with the department or instructor about relevant schedules and enrollment restrictions and requirements. If a course is not offered the semester you need it, you still may meet a faculty member who has a valuable syllabus and bibliography to share.

TA Workshop Series: Each year the Teaching Assistant Program (TAP) organizes workshops to give TAs practical tools for teaching and classroom management. Conducted by experienced faculty members, the workshops have included: "Evaluating Your Own Teaching," "Lessons Learned From Excellent Teachers," "Motivating Your Students by Keeping Your Classroom Lively," "Preparation and Delivery of Presentations," and "Construction and Grading of Multiple Choice and Other Closed-Ended Tests," to name a few. Watch for workshop schedule flyers at the beginning of each term, or emails from the Graduate School. Attendance at the workshops is free, but advance registration is required. To register, contact TAP, Linton Hall, 79 W. Circle Dr., Rm 118, 353-3063 or check on-line at www.tap.msu.edu (follow the "Workshops for TAs" link).

Lilly Fellows Teaching Seminars: TAs can also attend the seminars of the Lilly Teaching Fellows Program. This program provides a diverse group of MSU faculty with the opportunity to improve their teaching abilities and become future faculty leaders. Each year, the program pairs eight MSU junior faculty members (Lilly Fellows) with experienced MSU faculty mentors. It invites experts in teaching from across the country to conduct seminars with the fellows on issues of teaching. When space is available, TAs are welcome to attend these stimulating seminars. Contact Dr. Deborah DeZure or Dr. Patty Payette for a schedule and to inquire about reservations for individual sessions at 432-5125.

Videotapes on Teaching: A collection of videotapes on teaching methods and problems is now available at the Audio Visual (AV) Reserve, 4th Floor West, MSU Main Library. The collection includes tapes of the most successful and highly rated Lilly Fellows and TA workshops, as well as commercially distributed materials. The videos are listed in the AV Reserve binders under "TA 000 #__ " and a catalogue is also available from the TA Program. TAs may view videos during the AV Reserve's regular hours of operation. Call Main Library Information, 353-8700, for exact hours. You will need your current MSU ID in order to request videos.

Instructional Software Collection: The Instructional Software Collection houses demonstration copies of hundreds of software packages and videodiscs for graduate and undergraduate coursework, curriculum development, and research. Programs cover all subject areas and include computer-aided instruction, models and simulations, tutorials,

and drill and practice packages. Programs may be checked out for three days by faculty or graduate students, or run on equipment in room E208 of the Main Library. Call 355-1840 for hours.

TA Program Resources: The TA Program has a collection of TA Handbooks, texts, and videos on teaching. Should you want to borrow any of these materials or consult the staff on matters of pedagogy or policy, feel free to drop by the TAP, 9 International Center, or call 353-3062 for assistance.

MSU Excellence-in-Teaching Citations for Graduate Teaching Assistants: Each year, MSU Excellence-In-Teaching Citations are awarded to six graduate teaching assistants. The citation brings University-wide recognition to the best of the graduate teaching assistants and underlines the qualitative contribution that they make to the undergraduate program. Recipients receive public recognition at an awards ceremony and receive a monetary award of $1000. Candidates are nominated by supervising professors and/or faculty teaching advisors.

SUPPORT SERVICES FOR YOUR STUDENTS

All TAs should be aware of an annual publication available from the Career Development Center: *The Referral Directory: Directory of Michigan State University Referral Resources*. A complete guide to MSU referral resources for career and educational information, the directory is the source for much of the information below and lists faculty and staff who are available to talk with students about educational and career goals. TAs are urged to get a copy or browse through it on Gopher.

Academic Advice and Support

Academic Advisors: MSU's trained academic advisors give students information about academic and major requirements, courses and course schedules, academic policies, forms, and academic actions such as drops and adds, incompletes, major changes, and the like. TAs who are uncertain how to handle a particular student's advisory needs should call an advisor for guidance and referral. Those students who have not yet declared a major preference should consult advisors at the University Undergraduate Division, 170 Bessey Hall, (355-3515). Students who have already declared their major preference or entered a major should consult advisors in their department or college. In regard to questions about course scheduling or the requirements of a major, students should be sent to their departmental advisor. For broader policy questions, late drops, serious personal problems, and withdrawals from the university, students should be sent to their college advisors.

Learning Resources Center (LRC): The Learning Resources Center (LRC), 202 Bessey Hall, (355-2363) provides instructional facilities, staff, and materials for MSU students interested in improving their reading, writing, listening, study and test-taking skills. TAs and faculty can refer students to the LRC for special assistance through the use of referral forms, which can be obtained from the LRC office. Students may be directed to self-learning modules, helped by trained staff, or connected with qualified tutors. Students do not need to make an appointment to use the computer-assisted materials in math, writing, and speed reading. If students want to meet individually with a tutor or instructor, however, they need to schedule an appointment. The staff also provides evaluation to determine if the student has a learning disability, and offer referral for special assistance for handicapped or disabled students. If desired, the LRC can report the results of a student referral to the referring TA or faculty member.

The Writing Center: Students who desire special assistance with specific writing projects may obtain individualized assistance at the Writing Center, 300 Bessey Hall. Both undergraduate and graduate students are welcome. Unlike the Learning Resources Center, the Writing Center does not offer learning modules in general writing skills. Instead, trained writing consultants help students with actual papers the students have written, using special questioning techniques to encourage students to think problems through for themselves. TAs and graduate students who are interested in becoming consultants at the Writing Center should enroll in English 391: "The Writing Consultant: Issues and Practices in Peer and Professional Writing Consultancy," offered each Spring. Of those who complete the course, some will be selected for paid positions at the Writing Center. Because the Center is interested in supporting writing in all disciplines, Dr. Patricia Stock, the Center's director, is actively seeking consultants from all academic areas. Call 432-3610 for more information.

Service-Learning Center: The Center for Service-Learning & Civic Engagement, 345 Student Services, provides undergraduate and graduate students opportunities to learn and explore careers through voluntary community service. Students should speak with their departmental or college advisors about obtaining internship credits for some kinds of

volunteer work. Programs are available in the Lansing area in business, communications, corrections, education, government, law, health, personnel, nutrition, recreation, science, social work, special education, and veterinary medicine. Students schedule from four to six hours per week for their placement. Employers agree that career exposure and community service work are valuable additions to a student's academic program. Some students are offered paying positions by their service-learning employers upon completion of their service. Information and applications are available in the office at 27 Student Services from noon to 5 P.M.

Career Development and Placement
MSU's Career Development and Placement Center, located at 113 Student Services, offers support to all students seeking career planning assistance. The following services, among others, are administered through the center:

Career Development Center: The Career Development Center, Room 6 of the Student Services Building, provides free information on careers in various majors. The Center houses background information on numerous corporations and agencies (history, philosophy, positions offered), and the largest collection of graduate and professional school catalogues on campus. The center also offers a comprehensive collection of magazines, books, videos, microfiche, and free handouts on career exploration covering such subjects as selecting a major, researching employers, writing resumes and cover letters, interviewing techniques, salary studies and projections, specific job openings, and networking.

Employment Listings (Student Employment Office): Students seeking career-related employment or part-time employment, on or off campus, should be directed to 110 Student Services Building. The Student Employment Office maintains job lists and a current bulletin board of on and off campus positions.

Assistance with Job Searches: The Career Development Center gives seminars on career-related issues (including interviewing, resume building), hosts on-campus interviews, and has a special officer for each college who is willing to critique students' resumes free of charge and to assist them in mounting a job-seeking campaign. Graduating students may call 355-9510 for appointments.

Assistance with Life and Career Planning: (see Testing Office and Self-Management Laboratory, under the Counseling Center, below)

Internship Placements for Career Development: (see Service-Learning Center, under Academic Advice and Support, above)

Personal Counseling and Counseling Center
General Counseling Services are provided by the Counseling Center to regularly enrolled MSU students free of charge. Counselors assist in dealing with such issues as family pressures, feelings of inadequacy, motivation, uncertainty concerning aptitudes and interests, or generalized problems in decision-making. Career, ethnic, self-management, sexual assault and substance abuse counseling are also provided. Special group counseling services are available and will be discussed during the initial meeting with the counselor. In addition, the Self-Management Laboratory provides resources for students considering self-directed behavioral changes. The center is open Monday through Friday from 8-12 and 1-5 at both 207 Student Services Building (355-8270) and 336 Olin Health Center (355-2310). The Center also provides the following more specialized services:

Minority Counseling Programs are available via the Multi-Ethnic Counseling Center Alliance (MECCA), for students who wish to discuss specific issues or to work with minority counselors. Refer students to 207 Student Services for a complete list of services.

The Testing Office, located in 207 Student Services, is not only a national test and testing information center (for the GRE, LSAT, etc.), but also provides complete testing services for students working with counselors in the assessment of their personal attributes. Resources include interactive computer-based guidance systems which provide assistance in making informed major choices and career decisions. They can help gather information, explore options, and develop strategies for decision-making.

The Self-Management Laboratory, located in 207 Student Services, offers resources for self-help with assertion, anxiety, insomnia, thought problems, stress management, self esteem, and career decision-making. It contains the System for Interactive Guidance and Information (SIGI+), a computer-assisted career information program to aid students in the process of making informed career decisions. SIGI+ is also offered in the following locations: 1) Career Information

Center, 6 Student Services, 355-9510, ext. 335; 2) Learning Resources Center, 209J Bessey Hall, 355-2363; and 3) Adult Services, Office of the Vice Provost for University Outreach, 51 Kellogg Center, 353-013/353-0791.

Special Needs

Achieving Program and Classroom Accessibility for Handicappers
Program Accessibility for Students And Employees With Disabilities: Teaching Assistant Responsibilities

The Americans with Disabilities Act of 1990 and the Rehabilitation Act of 1973, as amended in 1998, prohibit discrimination against persons with disabilities. Under these laws, MSU students and staff with certified disabilities have rights to special support (known as 'accommodations') that enable them to participate fully in university programs. Michigan State University makes every effort to comply with both the letter and the spirit of these laws. As a representative of the University, you will be expected to comply as well.

The Resource Center for Persons with Disabilities (RCPD) is the university office responsible for MSU's compliance and ensuring the full inclusion of persons with disabilities into the MSU community. All types of special accommodations for MSU students or staff with disabilities are approved and facilitated by this office. This is the office that you as a TA should contact if you have questions or problems regarding any students with disabilities. The office is located in 120 Bessey Hall, (517) 353-9642 (voice) or (517) 355-1293 (TTY).

Your responsibilities as a teaching assistant include the following:

1. At the beginning of each semester, you should announce the location and phone number of the RCPD so your students are aware of it. Put this information in your syllabus for students who may miss your announcement.
2. If a student indicates that he or she has a disability and has not registered with the Resource Center for Persons with Disabilities, please refer the student to the center. Once a student has registered with the RCPD, a complete needs-assessment is conducted and the RCPD can help you understand what accommodations are appropriate for that student.
3. Some students with disabilities who request accommodations will have a letter from the RCPD that states the specific ways that you can be of help. Please follow the instructions on the letter, and call the RCPD if you have questions regarding the accommodations.
4. Some students, whether registered with RCPD or not, may identify themselves to you and request accommodations that seem complicated or unreasonable (e.g., unlimited time for tests, or an expensive piece of equipment to use in class). Call the RCPD for assistance.
5. You are NEVER asked to determine the level or type of accommodation that is appropriate for a student. That is the responsibility of the staff specialists at the RCPD.
6. Do not ask a student for documentation of their disability. That is CONFIDENTIAL information. If a student gives documentation of his or her disability to you, do not accept it. Refer him or her to RCPD.
7. Do not independently amend the recommended accommodations determined by the RCPD staff. The specialists at RCPD recommend specific reasonable accommodations after consultations with the student and evaluation of supporting documentation.

Your general responsibilities under the Americans with Disabilities Act also include the following:

1. Plan every event or meeting in an accessible and accommodating facility. This is to be done when you know someone with a disability will attend or when you cannot predict if someone with a disability will attend.
2. Any publicity materials for special events (including meetings) should include a statement listing whom to call to request accommodations.

Minority Student Affairs is located in 338 Student Services Building. As part of the Division of Student Affairs and Services, the Office of Minority Student Affairs is committed to serving the racial ethnic minority students of Michigan State University.

Through its numerous endeavors, the Office of minority Student Affairs strives to positively impact the many dimensions of the student's personal, academic, and social growth. This brochure describes some of the many activities the Office is involved with to help students move towards new horizons.

The Office is also a place where students can come with questions and problems they may encounter at the University. The staff of the Office of Minority Student Affairs is dedicated to providing you with committed assistance and referral services, prepared to direct you to the "right place."

Office of Supportive Services (OSS), located in 209 Bessey Hall, provides assistance to College Achievement Admission Program (CAAP) students who may require additional academic support. CAAP students come from educationally disadvantaged areas of Michigan, and are admitted to the undergraduate program by special provision. OSS services to CAAP students include personal and academic counseling, tutorial assistance, and skill-building workshops. All entering CAAP students are assigned an academic guidance counselor at OSS who meets with them regularly until they establish satisfactory academic progress. If a CAAP student in your class is experiencing academic difficulties, you may notify OSS. OSS will then call the student in for additional counseling and tutoring. For information or assistance, call 353-5210.

University Women's Resource Center provides: 1) information, resources, and assistance to individual female students, staff, and faculty on matter of equal opportunity and gender equity; 2) serves as a resource for women in identifying problems and resolution strategies; 3) provides information about and referral to on- and off-campus units which may assist women in such matters as economic hardship, domestic assault, housing, dysfunctional families, child care, and additional/continuing education. The Women's Resource Center is committed to ensuring a comfortable campus climate for all campus members, particularly women. It offers services that focus on recognizing and responding to sexual harassment, and advice and referrals are given to individuals who feel that they may have experienced sexual harassment. The Women's Resource Center also offers assistance in the informal resolution of sexual harassment complaints.

PROBLEM PREVENTION/CONFLICT RESOLUTION

The Ombudsman is a respected faculty member who is available to give students confidential advice about any problem that they may have at the university. For instance, TAs may seek the Ombudsman's counsel regarding conflicts or problems with a student, with their professor or TA supervisor, or with other university staff. The Ombudsman reports directly to the President of the University and has rights to collect information from all sources regarding any conflict or dispute that occurs within the University. The Ombudsman's counsel is completely confidential; the Ombudsman takes no action regarding your problem without your permission. The present Ombudsman is Professor Stan Soffin, 129 North Kedzie Hall, 353-8830, e-mail address ombud@msu.edu. **For quick access to key information about solving classroom disruptions see http://www.msu.edu/unit/ombud/disrupt.html.**

MSU TA PROGRAM RESOURCES

Audio-Visual Reserve Library
Librarian: John Shaw, 353-1753

Career Information Center
6 Student Services, 355-9510

Computing Information Center
305 Computer Center, 355-4500

Counseling Services
207 Student Services, 355-8270
355 Olin Health Center, 355-2310

Instructional Media Center Scheduling Office
126 Instructional Media Center, 353-3960

Instructional Television Library
355-2300, ext. 202

TA Orientation Program
Director: Kevin M. Johnston
9 International Center, 353-3062

Learning Resources Center
209J Bessey Hall, 355-2363

Lilly Teaching Fellows Program
Dr. Deborah De Zure, 432-2033

Main Library Reserved Reading Department
1st Floor East, 353-8721

Office of Minority Student Affairs
338 Student Services Bldg, 353-7745

Office of Supportive Services
209 Bessey Hall, 353-5210

Ombudsman's Office
Ombudsman: Stan Soffin
129 N. Kedzie Hall, 353-8830

Resource Center for Persons with Disabilities (RCPD)
120 Bessey Hall, 353-9642 or 353-9643

Room Scheduling
355-4522

Scoring Office
208 Computer Center, 353-5296

Service-Learning Center
27 Student Services

University Women's Resource Center
Director: Patricia M. Lowrie
332 Union Bldg., 353-1635

Writing Center
300 Bessey Hall, 432-3610

Chapter 6:
MSU POLICIES
(See also MSU *Spartan Life*)

Academic Dishonesty

The Academic Freedom Report, as revised in 1984, establishes basic ground rules for hearing cases of academic dishonesty. The following refers only to undergraduate students, where the AFR applies.

1. An instructor has discretion to give a student a "penalty grade" for alleged academic dishonesty, up to and including a 0.0. The penalty may be for the work at issue (exam, paper, etc.) or for the entire course.
2. A student receiving any penalty grade for alleged dishonesty is entitled to a hearing, which originates in the unit offering the course.
3. In such a hearing the instructor leveling the charge has to make the case. Thus he/she should have sufficient evidence of dishonesty to convince a hearing panel that the preponderance of evidence—that which is more convincing and credible—supports a conclusion of dishonesty.
4. Should the panel be evenly divided, a presumption of innocence has not been overcome and the student(s) should be cleared of the charge, with the responsible administrator taking the necessary action.
5. Despite the fact that the penalty grade may precede the hearing, the parties should be accorded equal status in the hearing; no panel members should have prejudged the issue, nor should they have any conflict of interest, whether real or apparent, including any immediate involvement with the course or the parties.
6. The panel may vary in size according to the unit's own rules. There must, however, be some degree of undergraduate student representation on the panel. The panel must be chaired by a faculty member.
7. Each party and the panel should have access to any documents that will constitute "evidence." Both parties have a right to present whatever they consider relevant, to have supporting witnesses if they wish, to cross-question the other party and any witnesses, to rebut any "evidence," and to have counsel from within the university either for advisory purposes or to present the case on their behalf. However, a witness should be confined to his or her own recollection, not that of others.
8. The instructor, as the person bringing the case, should make the first statement, to be followed by the student(s). It is better not to have interruptions during these opening presentations. Then the chair directs questions, by the parties and by the panel. Both parties should also be asked for a brief closing statement if they wish to make one.
9. Time limits are at the discretion of the panel. The panel is not bound by rules of law. This is an informal hearing; the panel can listen to whatever may possibly be germane to judging the matter at hand, or request any additional material it wishes to have. (It is preferable to err on the side of a full opportunity to be heard. Much patience may be needed, but the panel, when it deliberates, can determine what was or was not relevant). Nonetheless, the chair needs to keep the discussion reasonably on track and civil.
10. The panel members should feel free to question the parties whenever they wish. If the panel is sizable, it is better for the chair to recognize panel members and others so questions remain orderly.
11. A record, either by notes or tape recorder, should be made in the event there is an appeal. An appeal, if made, is a review of the record for procedural and substantive due process, but in no way a fresh hearing or an introduction of new issues.
12. After all evidence has been presented, with full opportunity for explanation and rebuttal, it is helpful if the panel chair crystallizes the issue in dispute. Then parties, counsel, witnesses are excused, with the panel meeting in executive session to deliberate. At that time no record need be kept, but a written rationale for the panel's decision should be prepared for distribution to the parties, plus information re appeal. (Either party may appeal, first to the college level, and, if considered justified, to the Academic Integrity Review Board.)
13. It is appropriate, in these deliberations, for the panel to consider both the dishonesty charge itself and whether, in the panel's majority view, the penalty also fits the crime. (Is it reasonable, given the circumstances, or disproportionate to the offense, if any? This does not mean that the panel members themselves might not have chosen a different penalty—but is the one chosen by the instructor reasonable even if individual panel members might have followed another course of action?)
14. If more than one student is involved in a charge of dishonesty—as is often the case, a panel may assess different penalties for the same act if persuaded that the degree of guilt is clearly differential.

15. It is important that students not be barred from further work in the course pending completion of the hearing. This is to assure that a record of grades will exist in the event that the student is cleared of the dishonesty charge.
16. In the event that the dishonesty offense is considered so serious that disciplinary action is believed warranted (i.e., a penalty more severe than a failing grade, including possible suspension from the university) the matter will be heard initially at the college level, with appeal by either party to the Academic Integrity Review Board. Such matters usually involve violations of ethical and professional standards, falsification of academic records, or repeated dishonesty in the classroom. (While a previous finding of guilt cannot fairly support a second charge of dishonesty, it can support an increased penalty.)

Integrity of Scholarship and Grades

(Academic Council, Academic Senate, Nov. 18, 1969; revised July, 1990)

The following statement of University policy was approved by the Academic Council and the Academic Senate, and serves as the definitive statement of principle and procedure to be used in instances of academic dishonesty.

1. The principles of truth and honesty are recognized as fundamental to a community of teachers and scholars. The university expects that both faculty and students will honor these principles and in doing so protect the validity of University grades. This means that all academic work will be done by the student to whom it is assigned, without unauthorized aid of any kind. Instructors, for their part, will exercise care in the planning and supervision of academic work, so that honest effort will be positively encouraged.
2. If any instance of academic dishonesty is discovered by an instructor, it is his or her responsibility to take appropriate action. Depending on his or her judgment of the particular case, he or she may give a failing grade to the student on the assignment or for the course.
3. In instances where only a failing grade in a course is given for academic dishonesty, the instructor will notify the student's academic dean in writing of the circumstances.
4. The student who receives a failing grade based on a charge of academic dishonesty may appeal a judgment made by a department, school, or a college to the University Academic Integrity Review Board, University Graduate Judiciary, or University Graduate-Professional Judiciary, depending on student level.
5. When in the judgment of the academic dean, action other than, or in addition to, a failing grade is warranted, the dean will refer the case for judicial review.
6. In instances of academic dishonesty where the instructor feels that action other than, or in addition to, a failing grade in the course is warranted, the instructor will report the case to his or her departmental or school chairperson and to the hearing board of the college within which the violation is alleged to have occurred, which shall have original jurisdiction.

Protection of Scholarship and Grades

(University Committee on Student Affairs, Feb. 19, 1988; Academic Council, Jan. 17, 1989; President, effective Sept. 1 1989)

The principles of truth and honesty are fundamental to the educational process and the academic integrity of the University; therefore, no student shall:

1. Claim or submit the academic work of another as one's own.
2. Procure, provide, accept or use any materials containing questions or answers to any examination or assignment without proper authorization.
3. Complete or attempt to complete any assignment or examination for another individual without proper authorization.
4. Allow any examination or assignment to be completed for oneself, in part or in total, by another without proper authorization.
5. Alter, tamper with, appropriate, destroy or otherwise interfere with the research, resources, or other academic work of another person.
6. Fabricate or falsify data or results.

MSU Anti-Discrimination Policy (All-University Policy)

Purpose. Michigan State University's scholarly community-building efforts occur within the context of general societal expectations, as embodied in the law. The University, consistent with its policies and governing law, promotes institutional diversity and pluralism through mechanisms such as affirmative action, within an over-arching strategy promoting equitable access to opportunity. The University's commitment to non-discrimination is the foundation for such efforts.

This policy states expectations for institutional and individual conduct. It applies to all university community members, including faculty, staff, students, registered student organizations, student governing bodies, and the University's administrative units, and the University's contractors in the execution of their University contracts or engagements, with respect to the following:

1. All educational, employment, cultural, and social activities occurring on the University campus;
2. University-sponsored programs occurring off-campus, including but not limited to cooperative extension, intercollegiate athletics, lifelong education, and any regularly scheduled classes;
3. University housing; and
4. Programs and activities sponsored by student governing bodies, including their constituent groups, and by registered student organizations.

Prohibited Discrimination. Unlawful acts of discrimination or harassment are prohibited. In addition, the University community holds itself to certain standards of conduct more stringent than those mandated by law. Thus, even if not illegal, acts are prohibited under this policy if they:

1. Discriminate against any University community member(s) through inappropriate limitation of employment opportunity, access to University residential facilities, or participant in educational, athletic, social, cultural, or other University activities on the basis of age, color, gender, handicapper status, height, marital status, national origin, political persuasion, race, religion, sexual orientation, veteran status, or weight; or
2. Harass any University community member(s) on the basis of age, color, gender, handicapper status, height, marital status, national origin, political persuasion, race, religion, sexual orientation, veteran status, or weight.

These prohibitions are not intended to abridge University community members' rights of free expression or other civil rights.

Mediation and Adjudication. Mediation of claims and disputes, through consultation provided by offices serving the University, is encouraged. Complaints under this policy may be submitted for non-disciplinary adjudication according to the provisions of the "Procedures of the Anti-Discrimination Judicial Board." Upon its review, the ADJB may recommend that appropriate disciplinary proceedings be initiated, if such has not already occurred. Disciplinary proceedings are governed by the documents listed in Appendix C. Excepting the President and the General Counsel, any University community member may be named in a complaint.

MSU Sexual Harassment Policy

(Office of the President in May 1999)

Introduction. Michigan State University is committed to maintaining a learning and working environment for all students, faculty, and staff that is fair, humane, and responsible--an environment that supports career and educational advancement on the basis of job and academic performance. Sexual harassment subverts the mission of the University and offends the integrity of the University community. It is reprehensible and is not tolerated at Michigan State University.

Sexual harassment is a form of unlawful gender (sex) discrimination. It may involve harassment of women by men, harassment of men by women, and harassment between persons of the same sex. Sexual harassment is made unlawful by Title VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, and Michigan's Elliott-Larsen Civil Rights Act. The University and the law also prohibit retaliation against persons who complain about alleged sexual

harassment or who cooperate in an investigation of reported sexual harassment.

This Policy applies to all members of the University community--faculty, staff, and students.

Prohibition. Members of the University community shall not engage in sexual harassment. Persons who do so are subject to disciplinary action, up to and including discharge for employees and suspension for students.

Definition. "Sexual harassment" means unwelcome sexual advances, unwelcome requests for sexual favors, or other unwelcome behavior of a sexual nature when:

1. Submission to such behavior is made, explicitly or implicitly, a term or condition of an individual's employment or status in a course, program, or activity; or
2. Submission to or rejection of such behavior is used as a basis for a decision affecting an individual's employment or participation in a course, program, or activity; or
3. Such behavior is so severe, persistent, or pervasive that a reasonable person would find that it:
    a. Alters the terms or conditions of a person's employment or educational experience, or
    b. Unreasonably interferes with an individual's work or performance in a course, program, or activity, thus creating a hostile or abusive working or educational environment.

Sexual harassment involves unwanted sexual attention. However, a person's subjective belief that behavior is offensive does not make that behavior sexual harassment. The behavior must also be objectively unreasonable.

The determination as to whether behavior is sexual harassment must take account of the totality of the circumstances, including the nature of the behavior and the context in which it occurred. Sexually harassing conduct often involves a pattern of offensive behavior. However, a single instance of assault, physically threat, or other especially abusive behavior may constitute sexual harassment.

Examples of Sexual Harassment. Many kinds of behavior may fit within the preceding definition of sexual harassment. The following list is not exhaustive.

1. Sexual assault.
2. Threats or insinuations which lead the victim reasonably to believe that granting or denying sexual favors will affect her or his reputation, education, employment, advancement, or standing within the University.
3. Sexual advances, sexual propositions, or sexual demands which are not agreeable to both parties.
4. Unwelcome and persistent sexually explicit statements or stories which are not legitimately related to employment duties, course content, research, or other University programs or activities.
5. Repeatedly using sexually degrading words or sounds to describe a person.
6. Unwanted and unnecessary touching, patting, hugging, or other physical contact.
7. Recurring comments or questions about an individual's sexual prowess, sexual deficiencies, or sexual behavior.

Speech and expressive conduct can be sexual harassment. However, this Policy shall not be interpreted to abridge First Amendment rights or to infringe academic freedom, as defined in the Faculty Handbook, the Faculty Rights and Responsibilities policy, and the document entitled Academic Freedom for Students at Michigan State University.

Behavior of a sexual nature that is not sexual harassment may nonetheless be unprofessional in the workplace or disruptive in the classroom and, like other unprofessional or disruptive behavior, could warrant discipline.

Violations.

Seeking Information on Sexual Harassment. A member of the University community who seeks information regarding sexual harassment and this Policy may contact:

- Women's Resource Center staff
- the Anti-Discrimination Judicial Board Coordinator
- the Director of the Office of Affirmative Action Compliance and Monitoring
- the administrator in charge (e.g., chairperson, director, dean, vice president) of the relevant academic or support unit
- the Faculty Grievance Official
- the Coordinator of the Employee Assistance Program
- the Associate Dean for Graduate Student Welfare
- the Director of Human Resources
- the Director or the Coordinator of Sexual Assault Safety Education of the MSU Counseling Center
- University Undergraduate Division staff
- the Ombudsman
- Residence Hall Directors
- the Director of Student Life
- the Director of the Student Employment Office

Unit administrators who need help in applying this Policy should contact: the Director of Human Resources or the Assistant Provost/Assistant Vice President for Academic Human Resources, whichever is appropriate; the Director of the Office of Affirmative Action Compliance and Monitoring; or the Office of the General Counsel.

Complaining about Sexual Harassment. A member of the University community who wishes to complain about sexual harassment by an employee or student of the University should take the following action:

- If the alleged harasser is a faculty or staff member, the complaint should be made, orally or in writing, to the alleged harasser's unit administrator or to the Director of the Office of Affirmative Action Compliance and Monitoring.
- If the alleged harasser is the unit administrator, the complaint should be made, orally or in writing, to the unit administrator's superior or to the Director of the Office of Affirmative Action Compliance and Monitoring.
- If the alleged harasser is a student, the complaint should be made to the Office of Judicial Affairs, Division of Student Affairs and Services.

For the University most effectively to investigate and respond to alleged sexual harassment, the complaint should be made as promptly as possible after the alleged sexual harassment occurs.

A member of the University community who believes that she or he has been sexually harassed may also elect to file a complaint with the Anti-Discrimination Judicial Board for violation of the University's Anti-Discrimination Policy or to file a grievance against the alleged harasser under applicable University procedures. The submission of such a complaint or grievance does not affect the University's ability to take disciplinary or other administrative action even though the complaint or grievance is still pending.

Reports of sexual assault and other crimes should be directed to the University's Department of Police and Public Safety, regardless of whether the matter is also reported as sexual harassment.

Processing Complaints. Complaints of alleged sexual harassment made to the Office of Judicial Affairs, Division of Student Affairs and Services, will be processed under the applicable student disciplinary code.

Complaints of alleged sexual harassment made to the Director of the Office of Affirmative Action Compliance and Monitoring will be referred to the unit administrator of the alleged harasser or, if the alleged harasser is the unit administrator, to the unit administrator's superior. Complaints made or referred to the unit administrator of the alleged harasser or the unit administrator's superior will be processed by those individuals.

Each complaint of sexual harassment must be evaluated with reference to the pertinent circumstances. On occasion, a complaint will be resolved informally. Other complaints will result in investigations, including interviews and the review of documentary material. Both the complainant and the alleged harasser will be notified of the outcome of an investigation. If an investigation results in a determination that sexual harassment has occurred, the University will take remedial, including, where appropriate, disciplinary, action.

In processing sexual harassment complaints, the responsible administrator will normally confer with the Office of the General Counsel and academic or human resources administrators. Guidelines for investigating allegations of sexual harassment are available to administrators.

Members of the University community are expected to cooperate in investigations of alleged sexual harassment by University officials.

Sexual Harassment by Third Parties. If a University student believes that she or he has been sexually harassed in a University academic program by an individual who is not a University employee or student, the student should report the alleged sexual harassment to the unit administrator (department chair or dean) responsible for that academic program or to the Director of the Office of Affirmative Action Compliance and Monitoring.

If a University employee (including a student employee) believes that he or she has been sexually harassed within the scope of his or her employment activities by an individual who is not a University employee or student, the University employee should report the alleged sexual harassment to his or her supervisor or to the Director of the Office of Affirmative Action Compliance and Monitoring.

If the University determines that a third party has sexually harassed a University student in a University academic program or a University employee within the scope of her or his employment, the University will take corrective action. Individuals who are not students or employees of the University are not subject to discipline under the University's internal processes, however.

A member of the University community who believes that he or she has been sexually harassed by a University contractor in the execution of a University contract or engagement may also elect to file a written complaint with the Anti-Discrimination Judicial Board for violation of the University's Anti-Discrimination Policy.

Confidentiality. To the extent permitted by law, the confidentiality of all persons involved in a sexual harassment investigation or complaint will be observed, except insofar as information needs to be disclosed so that the University may effectively investigate the matter or take corrective measures.
Retaliation. Persons who complain about sexual harassment, or who cooperate in the University's investigation and handling of sexual harassment reports or complaints, shall not be subject to retaliation for complaining or cooperating, whether or not the University finds that there was sexual harassment. If a complainant or witness believes that she or he is being subjected to retaliation, she or he should promptly contact the Director of Human Resources (staff), the Assistant Provost/Assistant Vice President for Academic Human Resources (faculty and academic staff), the Assistant Vice President for Student Affairs (students), or the Director of the Office of Affirmative Action Compliance and Monitoring (faculty, staff, or students).

False Complaints. Any member of the University community who knowingly files a false complaint of sexual harassment, or who knowingly provides false information to or intentionally misleads University officials who are investigating a complaint of alleged sexual harassment, is subject to disciplinary action, up to and including discharge for employees and suspension for students.

Other Relevant University Policies. Since sexual harassment is a form of unlawful gender discrimination, a member of the University community who violates this Policy also violates the University's Anti-Discrimination Policy. Other University policies relevant to behavior of a sexual nature by members of the University community include Conflict of Interest in Educational Responsibilities Resulting from Consensual Amorous or Sexual Relationships, Conflict of Interest in Employment, Article 2.00 of the General Student Regulations, Article 3.00 of the Graduate and Undergraduate Residence Hall Regulations, and Ordinance 22.00.

Policy on Conflict of Interest in Educational Responsibilities Resulting from Consensual Amorous or Sexual Relationships[12,13]

An amorous or sexual relationship between a student and a faculty member, a graduate teaching assistant, or another University employee who has educational responsibility for that student may impair or undermine the ongoing trust needed for effective teaching, learning, and professional development. Because of the faculty member, graduate assistant, or other employee's authority or power over the student, inherently conflicting interests and perceptions of unfair advantage arise when a faculty member, graduate teaching assistant, or other employee assumes or maintains educational responsibility for a student with whom the faculty member, graduate teaching assistant, or other employee has engaged in amorous or sexual relations.

It is, therefore, the policy of Michigan State University that each faculty member, graduate teaching assistant, and other University employee who has educational responsibilities for students shall not assume or maintain educational responsibility for a student with whom the faculty member, graduate teaching assistant, or other employee has engage in amorous or sexual relations, even if such relations were consensual. Whether such amorous or sexual relationships predate the assumption of educational responsibility for the student, or arise out of the educational relationship, the faculty member, graduate teaching assistant, or other employee shall immediately disclose the amorous or sexual relationship to the relevant unit administrator, who shall promptly arrange other oversight for the student.

Policy on TA Relationships with Student Athletes

Michigan State University enrolls more than 700 student athletes who participate in 25 intercollegiate sports. The men and women who participate are not only competitive athletes in their respective sports but also students who are here to obtain an education. MSU has a strong commitment to their success, both on the field and in the classroom. To contribute to their success, we need to understand some basic facts about the National Collegiate Athletic Association (NCAA) and the Big Ten Conference regulations governing athletes and the several MSU policies and practices designed to keep them within the regulations while recognizing the special burdens created by competition.

The NCAA and Big Ten Conference regulations cover all aspects of recruiting, academic eligibility, and treatment of matriculated athletes. From the standpoint of a TA, there are two guidelines to remember:

1. You cannot do anything for a student-athlete that you would not do for another student in a similar situation. On the other hand, you should not refuse to do something just because the student **is** an athlete, if you would do it for another student.
2. There are some things that you **can do** for an individual student that you **cannot do** for an individual student-athlete: for example, you can't buy the athlete a cup of coffee or give them a ride home. Anything that can be viewed as a perk, and is outside the bounds of acceptable scholarship aid, is prohibited when done by anyone affiliated with the University.

Academic Progress Reports: These reports are sent by the Registrar's Office three times per semester. If you are responsible for teaching a course and receive the forms, please respond as fully as possible. The Student-Athlete Support Service Office is charged with monitoring academic progress for athletes, and needs the information in a timely way. If you are assisting in a course, and have concerns about a student-athlete, inform the assigned faculty member who can recommend assistance.

Academic Advising: Intercollegiate Athletics does not provide academic advising. Students are advised by advisors in their majors or in the University Undergraduate Division or by the assistant/associate dean of the college and should be referred to these sources. However, student athletes can receive additional academic support from Student-Athlete Support Services and the Department of Intercollegiate Athletics, e.g., assignment to a study hall, a tutor or referral to additional services on campus.

12. The Board of Trustees approved this policy statement on November 8, 1996. The Board of Trustees adopted a subsequent motion which emphasized the view of the Board that consensual amorous or sexual relations between faculty and students are discouraged.
13. Other relevant policies include "Supervision of Academic Work by Relatives" and "Conflict of Interest in Employment."

Class Attendance: Student athletes are permitted to miss class in order to compete in official events or games. Athletic Council has recommended that competition schedules be so constructed as to limit the number of missed days to seven per semester, but this may not always be possible. Each student should bring a team schedule to you or to the faculty supervisor at the beginning of the semester to verify the excused absences. However, an excused absence does not excuse the student from completing the work assigned. Student-athletes are frequently advised to schedule classes with mandatory attendance policies in their off-season or in summer.

Athletic Department Contacts: Coaches are not permitted to call instructors or TAs assigned to courses. Student-Athlete Support Services or the college/department/UUD academic advisor may appropriately contact you about student progress, attendance, or behavioral matters. However, any undue attempt to influence your judgment or secure a particular action on behalf of a student-athlete should be reported immediately to your faculty supervisor and the department chair.

Incompletes: A student-athlete must make up the coursework and have the grade entered before the first day of classes in the next semester if the course is necessary for eligibility. Administrative Action forms for changing I-grades to letter grades must not be back-dated. This eligibility-related rule is more stringent for student athletes than the University rule for all students, and can be crucial for competition.

Remember, student athletes are under tremendous pressure to perform athletically and academically. They are governed by NCAA and Big Ten Conference rules that set strict standards for them and for the Universities in which they are enrolled. These students deserve to participate in all of the academic opportunities that MSU has to offer. As an MSU TA, you are in a position to assist these students, and all students in your courses, to achieve academic excellence.

Policy on Religious Holidays

It has always been the policy of the University to permit students and faculty to observe those holidays set aside by their chosen religious faith. The faculty and staff should be sensitive to the observance of these holidays so that students who absent themselves from classes on these days are not seriously disadvantaged. It is the responsibility of those students who wish to be absent to arrange in advance with their instructors. It is also the responsibility of faculty members who wish to be absent to arrange in advance with their chairpersons, who shall assume the responsibility of covering their classes.

Privacy of Records

The Family Educational Rights and Privacy Act (FERPA) prohibits dissemination of any information about a student's academic progress to anyone but the student, the student's advisor, the Student-Athlete Support Services Office and the Intercollegiate Athletic Office. This includes Mom and Dad; no information is given unless the student has provided a written provision to do so. As a graduate student, your rights to privacy are protected by that same law.

Bias-Free Communication

A bias-free environment allows each of us to learn, work, and grow, free from limiting stereotypes and expectations. Such an environment helps ensure that the rights mandated by human decency and required by law are protected. Language and actions reflect attitudes and values. Responsible communicators make every effort to end the biases that so often invade written, visual, and face-to-face exchanges.

There are many ways we can begin to eliminate bias in our communication with others. When in doubt, substitute your own name or the name of a friend in your sentences. Ask yourself if you are limiting, stereotyping, or belittling. For example, calling a woman over the age of 18 a "girl" or a mail carrier a "mailman," or suggesting that all administrators are majority males influences the thoughts of others. Before using labels, think about how you would feel if those labels were applied to you. The key to effective bias-free communication is treating all people with respect and consideration regardless of age, gender, race, religion, sexual orientation, ethnicity, physical characteristics, or political preference.

Eliminating specific biases requires knowledge of ourselves and how our communication patterns may affect other individuals. The following are some suggestions for bias-free communication:

Race and Ethnicity

- Notice words, images, and situations that reinforce stereotypes.
- Avoid qualifiers that imply that all members of ethnic groups or races are the same.
- If you specify race or ethnic origin, be certain it is relevant. It rarely is.
- Avoid language that has questionable racial or ethnic connotations.
- Avoid stereotyping or patronizing racial or ethnic groups with tokenism in news stories, anecdotes, or hiring practices.
- Review your publications and media to be sure all groups in your organization are adequately and honestly represented and that all material is bias free.

Gender

- Use gender-neutral words/phrases in your language, e.g., journalist, firefighter, chairperson. Avoid the use of "man" or "woman" in job titles.
- Address both female and male perspectives with phrases like "employees and their spouses." Use parallel words when specifying gender like "he/she" or "men/women."

Be sure your pronouns include both sexes instead of only male.

- Be respectful to both women and men--don't stereotype by gender.
- Avoid describing men by profession and women by physical attributes.

Age

- Mention age only when it is relevant.
- Ask individuals or groups what they prefer to be called.
- Avoid clichés. Use words that actually describe rather than stereotype.
- Remember that children and older people are individuals. Let them speak for themselves rather than assuming you know what they want.
- Remember that you may underestimate a child's or older person's capability or energy.
- To freely pat and touch children and older people simply because of their age is presumptuous and biased.

Disability

- Recognize that a handicap is a disability only when it severely precludes a specific task. A disability is a legal disqualification; an irrelevant or insubstantial handicap is not, e.g., people who use wheelchairs are not disabled unless their handicap is relevant to job performance and makes them noncompetitive.
- Concentrate on performance rather than a handicapper characteristic, e.g., the "blind operator" should be "the operator." A first step in concentrating on ability is to recognize that handicappers are <u>not</u> disabled individuals.
- Ask individuals or groups what they prefer to be called.

Universities should set standards and teach people to live and work without discriminating or being subject to discrimination. To give all students and employees an equal opportunity, communications must be bias free--in the classroom, in meetings, in informal communications, in written and media communications.

- Textbooks and other communications should be reviewed for bias. Biased material should not be used; when it is unavoidable, it should be pointed out and discussed.
- Special attention should be paid not to limit or imply limitations to anyone in any occupation or area of study.
- All members of the University community should be judged only by ability.
- Assignment of tasks should be made on the basis of ability rather than gender, race, handicapping conditions or other irrelevant characteristics.
- Diversity of leaders and speakers is important in demonstrating bias-free communication.
- Meeting places should be barrier-free and accommodating so handicappers are not at a disadvantage. Every person at a meeting should be an given equal opportunity to participate.

Ending bias takes diligence and education. Many of our biased statements seem so natural that we are not aware of the bias. Notice your communications at home, at work, and in social situations; become conscious of the words you use and what they imply. An end to discrimination and bias is every individual's right and everyone's responsibility.

Wheelchair Etiquette

Adapted from "*What Do I Do When I Meet a Person in a Wheelchair?*" (National Easter Seal Society)

1. Always ask the wheelchair user if he or she would like assistance before offering help. Your help may not be needed or wanted. Ask the handicapper directly about how to provide assistance prior to initiating help.
2. Don't hang or lean on a person's wheelchair. It is part of the wheelchair user's personal body space.
3. Speak directly to the person in the wheelchair, not to someone nearby as if the wheelchair user does not exist or is a mental defective.
4. If the conversation lasts more than a few minutes, consider sitting down or kneeling to get yourself on the same level as the wheelchair user.
5. Don't demean or patronize the wheelchair user by patting him or her on the head or shoulder.
6. Give clear directions identifying barriers, including distance, weather conditions, and physical obstacles that may hinder the wheelchair user's travel.
7. Don't discourage children from asking questions about the wheelchair. Open communication helps overcome fear and misleading attitudes.
8. When a wheelchair user transfers out of the wheelchair to a chair, toilet, car, or bed, do not move the wheelchair out of reaching distance.
9. Don't be self-conscious or embarrassed about using expressions like "running along" when speaking to a wheelchair user.
10. Be aware of the wheelchair user's capabilities. Some users can walk with assistance. They use wheelchairs to conserve energy and move about more quickly.
11. Don't classify people who use wheelchairs as sick. Wheelchairs are a mobility tool also used by healthy and able persons with disabilities, including wheelchair using athletes.
12. Don't assume that using a wheelchair is in itself a tragedy. It provides freedom and allows the user to move about independently. Wheelchairs don't confine, they liberate!

Code of Teaching Responsibility

(Michigan State University Academic Programs 2000-2002, pg. 60)

The teaching responsibilities of instructional staff members (herein referred to as instructors) are among those many areas of university life which have for generations been a part of the unwritten code of academicians. The provisions of such a code are so reasonable to learned and humane individuals that it may appear redundant or unnecessary to state them. However, the University conceives them to be so important that performance by instructors in meeting the provisions of this code shall be taken into consideration in determining salary increases, tenure, and promotion.

1. Instructors are responsible for ensuring that the content of the courses they teach is consistent with the course description approved by the University Committee on Curriculum and the Academic Council. Instructors are also responsible for stating clearly to students in their classes the instructional objectives of each course at the beginning of each semester. It is expected that the class activities will be directed toward the fulfillment of these objectives and that the bases upon which student performance is evaluated will be consistent with these objectives.
2. Instructors are responsible for informing students in their classes of the methods to be used in determining final course grades and of any special requirements of attendance which differ from the attendance policy of the University. Course grades will be determined by the instructor's assessment of each student's individual performance, judged by standards of academic achievement.
3. Examinations and other assignments submitted for grading during the semester should be returned with sufficient promptness to enhance the learning experience. Unclaimed final examination answers will be retained by the instructor for at least one semester so that they may be reviewed by students who desire to do so. Examination questions are an integral part of course materials and the decision whether to allow their retention by students is the responsibility of the instructor. Term papers and other comparable projects are the property of students who prepare them. They should be returned to students who ask for them and those which are not returned should be retained by the instructor for at least one semester. Instructors who desire to retain a copy for their own files should state their intention to do so in order that students may prepare additional copies for themselves.
4. Instructors are expected to meet their classes regularly and at scheduled times. Instructors will notify their units if they are to be absent and if appropriate arrangements have not been made so that suitable action may be taken by the unit if necessary.

5. Instructors of courses in which assistants are authorized to perform teaching or grading functions shall be responsible for acquainting such individuals with the provisions of this Code and for monitoring their compliance.
6. Instructors are expected to schedule and keep a reasonable number of office hours for student conferences. Office hours should be scheduled at times convenient to both students and instructors with the additional option of prearranged appointments for students when there are schedule conflicts. The minimum number of office hours is to be agreed upon by the teaching unit, and specific times should be a matter of common knowledge.
7. Instructors who are responsible for academic advising are expected to be in their offices at appropriate hours during advising and enrollment periods.

Plaintive Hearing Procedures:

1. Students may register complaints regarding an instructor's failure to comply with the provisions of the *Code of Teaching Responsibility* directly with that instructor.
2. Students may also take complaints directly to teaching units' chief administrators or their designates.* If those persons are unable to resolve matters to the student's satisfaction, they are obligated to transmit written complaints to unit committees charged with hearing such complaints. A copy of any complaint transmitted shall be sent to the instructor. A written report of the action or recommendation of such groups will be forwarded to the student and to the instructor, normally within ten working days of the receipt of the complaint.
3. Complaints coming to the University Ombudsman* will be reported, in writing, to chief administrators of the teaching units involved when in the Ombudsman's opinion a hearing appears necessary. It will be the responsibility of chief administrators or their designates to inform the instructor and to refer such unresolved complaints to the unit committees charged with hearing such complaints. A written report of the action or recommendation of such groups will be forwarded to the University Ombudsman, to the student, and to the instructor, normally within ten working days of the receipt of the complaint.
4. Students wishing to appeal a teaching unit action or recommendation may do so as outlined in *Academic Freedom for Students at Michigan State University, Graduate Student Rights and Responsibilities* document, or *Medical Student Rights and Responsibilities* document.

*Such complaints must normally be initiated no later than the middle of the semester following the one wherein alleged violations occurred. Exceptions shall be made in cases where the involved instructor or student is absent from the University during the semester following the one wherein alleged violations occurred.

Rights and Responsibilities of the Student

(Section 2.3, AFR, Academic Freedom for Students at Michigan State University)

1. The student is responsible for learning the content of a course of study according to standards of performance established by the faculty and for adhering to standards of professional behavior established by the faculty.
2. The student has a right to academic evaluations which represent the course instructor's good faith judgments of performance. Course grades shall represent the instructor's professional and objective evaluation of the student's academic performance. The student shall have the right to know all course requirements, including grading criteria, and procedures at the beginning of the course. Course evaluation procedures are covered by the *Code of Teaching Responsibility.* (To overcome the presumption of good faith, it must be demonstrated that an evaluation was based entirely or in part upon factors that are inappropriate or irrelevant both to academic performance and applicable professional standards.)
3. The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards.
4. The student shall be free to take reasoned exception to information and views offered in the classroom, and to reserve judgment about matters of opinion, without fear of penalty.
5. The student's behavior in the classroom shall be conducive to the teaching and learning process for all concerned.
6. The student has a right to be governed by educationally justifiable academic regulations and professional standards.
7. The student has a right to accurate, timely, and clearly stated information concerning general academic re-

quirements for establishing and maintaining an acceptable academic standing, the student's academic relationship with the University and the details of any special conditions which may apply, and graduation requirements for the student's academic program. Students are responsible for informing themselves of University, college, department, and school requirements as stated in unit publications and in the University catalog. In planning to meet such requirements, students are responsible for consulting with their academic advisors.

8. The student has a right to protection against improper disclosure of information concerning academic performance and personal characteristics such as values, beliefs, organizational affiliations, and health.
9. The student has a right to be protected from personal exploitation and to receive recognition for scholarly assistance to faculty.
10. The student has a right to scholarly relationships with faculty based on mutual trust and civility.

Graduate Student Rights and Responsibilities

Article 2.5

1. Units are responsible for establishing orientation and in-service training programs for all graduate students in teaching roles. Such programs shall include an introduction to course goals, grading criteria and practice, and classroom procedures as well as periodic classroom visitation. The graduate student in a teaching role is held responsible for full and active participation in all such programs.
2. Graduate students who are involved in teaching roles are expected to fulfill effectively their assigned responsibilities at a high level of performance. To gain feedback for monitoring and increasing their teaching effectiveness, such graduate students shall use, where applicable, confidential instructional rating reports in each course that they teach. These reports shall be submitted to the unit in accordance with the stated policy of the Academic Council.
    1. The coordinator of each course staffed by graduate students in teaching roles shall submit each term to the unit administrator or to the appropriate unit committee a formal written evaluation of each of the graduate students in teaching roles. After notifying the graduate student, appropriate members of the department/school should visit and observe the student's teaching in the instructional setting, and information from these visits and observations should be used in the evaluation.
    2. The graduate student instructional rating reports (or summaries there of), formal written evaluations, and any supplementary information shall be placed in a confidential file for use by the student and by faculty members in accordance with (c). This material shall remain on active file until the graduate student's teaching role is terminated, after which a copy of the file becomes the graduate student's personal property upon request.
    3. Evaluation material described in (b) may be used in overall evaluations and in determining such matters as renewal or assistantships, teaching assignments, recommendations, and the need for further training.
    4. An evaluation of teaching shall be given to the graduate student who has a teaching role at least once each year.

Article 4

1. **Classes of Support**
    1. Students receiving support through the University fall primarily into three classes:
        1. graduate assistants
        2. University employees
        3. fellowship, scholarships and grant recipients

2. **Graduate Assistants**
    1. Graduate assistants are graduate students currently enrolled in degree programs who are appointed through established University procedures and according to University policy governing graduate assistantships. Duties assigned to graduate assistants may include (but not be limited to) classroom instruction, student advising, writing supervision, reading of papers and examinations, and research. The responsibilities delegated to a graduate assistant must be performed under the supervision of an appropriate faculty member or administrator.
    2. With the participation of graduate student representatives, each unit appointing graduate assistants shall develop policies and make available current information covering, but not limited to, the following:
        1. Criteria for selecting new graduate assistants
        2. Criteria for renewing and/or continuing graduate assistantships
        3. Stipends

4. Stipend advancement and promotion
5. Tax status of stipends (according to IRS policy)
6. Procedures for evaluating performance
7. Length of term of appointment, including continuance and renewal of graduate assistantships
8. Work load, duties, and vacation schedules
9. Grievance procedures

3. By March 31st of each calendar year, units shall advise each graduate assistant in writing of one (or more) of the following: (a) that the assistantship will be renewed for the following academic year; (b) that the assistantship will be renewed provided the assistant is able to meet certain specified conditions; (c) that the assistantship will be renewed provided the unit is able to meet certain specified conditions; (d) that the assistantship will not be renewed for the following academic year. If the assistantship is not renewed, the reasons shall be indicated. Evaluative judgments about students should be communicated in accordance with guidelines in 2.4.8.
4. The Office of the Provost shall establish a campus-wide policy for graduate assistant stipends, taking into account (a) the amount of stipend adequate in relation to the current cost of living, (b) the need to be competitive with other universities, and (c) the availability of resources for graduate assistant stipends. (The Office of the Provost shall consult with the Dean of The Graduate School and the University Graduate Council on graduate assistant stipend levels.
5. Graduate assistants are entitled to all benefits normally accorded to full-time graduate students, except as specified under policies established in accordance with 4.2.7.
6. All graduate assistants are entitled to such clerical-secretarial help and supplies as are commensurate with their assigned responsibilities and the resources of the unit.
7. The Office of the Provost and the Office of the Vice President for Finance and Operations, in consultation with the Dean of the Graduate School and the University Graduate Council and other appropriate, duly authorized authorities, shall review and publish policies for graduate assistants relating to (a) sick leave, (b) parking privileges, (c) bus privileges, (d) travel off campus, (e) insurance, and (f) health care.
8. Within the constraints of their training, experience and responsibilities, graduate assistants have a right to the same professional respect as that accorded to regular faculty.

4. **Fellowship, Scholarship and Grant Recipients**
   1. A graduate student supported by a fellowship, scholarship, or grant shall have a right to such information as (a) the responsibilities and performance required for retention of support, (b) the privileges and status associated with support, and (c) grievance procedures.

5. **University Policies Relating to Graduate Student Support Recipients**
   1. Michigan State University and all of its units are Affirmative Action/Equal Opportunity Employers. Therefore, (a) discrimination on the basis of race, color, creed, gender, national origin, political persuasion, sexual preference, marital status, handicap or age is expressly prohibited; (b) employment appointment policies shall be consistent with anti-discrimination policies of Michigan State University.
   2. Graduate students shall be informed of all employment policies when a position is tendered.
   3. The University retains the right to demote, suspend, terminate or otherwise discipline graduate students receiving support through the University for cause and for failure to meet their responsibilities. The University also retains the right to terminate a graduate student's participation in an academic program, which in turn may terminate the graduate student's assistantship or other support. Graduate students who believe they have a grievance under this article may utilize the judicial procedures outlined in Article 5.
      1. In cases where the graduate student contends that the action of the University may cause irreparable harm, the graduate student may appeal to the appropriate judiciary for an expedited hearing.