Instructional Guide for MSU Faculty

3rd Revised Edition
(2011)

Published with the generous support of
The National Science Foundation (NSF-EHR #9850116)
The Office of the President
The Office of the Provost
Montana State University, Bozeman, Montana, 59717
http://www.montana.edu

Adapted with permission from
Instructional Guide for University Faculty
Edited by Liz Banset Original page design and assembly
by Darcia Tidemann The Teaching and Learning Center
University of Nebraska-Lincoln Lincoln, Nebraska
68588-0623 http://www.unl.edu/teaching

Mountains & Minds
Preface

For many academics, teaching is both a privilege and a burden. Excellent teaching makes life-long impacts in individuals and multiplies the wealth of knowledge and connections we acquire over our lives. On the other hand, effective teaching consumes time and energy through the processes of continuous reflection and risk taking. Keeping both aspects in mind, this revised edition of the Montana State University Instructional Guide for MSU Faculty was developed with the goal of helping faculty embrace the challenge of excellent teaching.

There are two major parts to this guide. The first discusses specific issues relating to teaching and learning at MSU. This includes information on our students and your administrative responsibilities as a teacher. The second part provides time-tested guidelines and advice about being an excellent teacher and creating an environment that engenders the excitement of learning. It is our hope that these materials will not provide the final word on teaching, but rather serve as a springboard for meaningful personal reflections on your goals for teaching and for discussions with your academic colleagues, administrators, and of course students.

MSU’s commitment to teaching and learning is evident through the many campus projects and initiatives that are currently taking place. MSU is indeed a campus focused on learning. We are pleased to contribute to MSU’s efforts toward academic excellence through the resources compiled in this Guide.
Acknowledgments

We would like to thank everyone who contributed to the third revised edition of the Instructional Guide for MSU Faculty. We would especially like to thank Liz Banset and Deliveree Wright of the Teaching and Learning Center at the University of Nebraska-Lincoln. Drs. Banset and Wright developed a comparable guide at Nebraska, and because they are committed to excellent teaching, they gave us permission to adapt their publication for use at MSU.

We would also like to thank the contributors as noted, who granted permission to reprint various sections of their work on teaching and learning, both in their entirety as well as in excerpts.

Finally, this publication would not have been possible without the contributions of individuals throughout the MSU campus who created the sections pertaining to MSU. In addition, a number of individuals contributed their technical expertise. The partial list below contains current and past members of the MSU community who have contributed to the original guide or to either of the two major revisions. Thank you to Ritchie Boyd, Burns Telecommunications Center; Corky Bush, Affirmative Action/Human Resources; Karen Carter and Lorna McCormick, Office of the Provost; Diane Donnelly and Mary Noll, University Studies; Ian Godwin, Rachael Hundhausen, and Jennifer Miller, the Graduate School; Mary Anne Hansen, Library; Victoria O'Donnell, University Honors Program; Yvonne Rudman, International Programs; Mark Sheehan, Information Technology Center; Courtney Stryker, Student Affairs; Denise Thompson, Registrar's Office; and John Watts, AIRO, ABC, and English.
Table of Contents

Section 1: Learner-Centered Teaching ................................................................. 1
  What Constitutes Good Teaching
    Sensitivity to and Concern with Class Level and Progress / Preparation-- Organization of the Course / Knowledge of the Subject / Enthusiasm (for Subject or for Teaching) / Clarity and Understanding / Availability and Helpfulness / Impartiality of Evaluation; Quality of Examinations

Profile of Students at MSU
  Enrollment by Student Class Level, Fall 2000 / Minority Enrollment by College, Fall 2000 / Undergraduate Bachelor's by Academic Unit, Fall 2000 / Geographic Origin of Students, Fall 2000

Section 2: Administivaria .................................................................................. 7
  Rosters
    Term Rosters / Final Grade Rosters
  Drop/Add/Withdraw Procedures
    Add / Drop
  Class Attendance
  Grading
    I Grade Eligibility / Pass/Fail Grading / Changing Grades

Section 3: Ethical Considerations .................................................................... 13
  Student Conduct: Academic Honesty
  Faculty Conduct
    Academic Responsibilities / Academic Freedom / Conflicts of Interest / Additional Compensation / Consulting / Intellectual Property / Relationships with Your Students /
    Ethical Teaching Behavior

MSU Policies on Human Respect
  Equal Opportunity/Affirmative Action Policy / Sexual Harassment and Sexual
  Intimidation Policy / Sexually-Explicit Materials in the Workplace Policy / Policy on Consensual Relationships / Students with Disabilities

Section 4: Preparing to Teach ......................................................................... 21
  Planning Your Course
    Getting the Big Picture: How Does Your Course Fit? / The Core Curriculum / Setting the Stage: What Are Your Instructional Objectives? / Making the Course Manageable:
    Dividing It Into Logical Units / Making the Course Relevant: Selecting Activities that Support the Goals / Supplemental Support: A Textbook and Other Course Materials / Assessing Outcomes: Designing Strategies to Evaluate Student Learning

Creating A Syllabus
  Advantages of a Good Syllabus / Effect of Your Syllabus on the Classroom Climate /
  Grading and Course Requirements / Course Calendar / Other Concerns / Optional Items to Add or Incorporate

Section 5: First Impressions ........................................................................... 31
  Getting Yourself in Gear
    Things to Do Before Class Begins / Dealing with Nervousness / Classroom Management: Taking Charge

The First Class Meeting
Tips for the First Day / Seven Questions: Starting Well

Building Rapport
Opening Session / Verbal Cues / Nonverbal Cues

Beyond the First Day: Creating A Positive Learning Environment

Section 6: Interpersonal Considerations

Teaching Inclusively
American Indian Students
Suggestions for Teaching American Indian Students / What strategies can teachers employ to provide a positive learning experience? / MSU Programs for American Indian Students / Indians in Montana / Bibliography of Resources

Motivating Students
Understanding Students' Learning Styles
Why are Learning Styles Important? / What Are Some Learning Styles? / How Can Teachers Use Information About Learning Styles? / Teaching Techniques to Address All Learning Styles

Helping Students Learn How to Learn
Explain What Learning Means / Talk about Good Study Practices Early in a Course / Teach Students How to Take Notes / Teach Students How to Process Reading Assignments / Develop Assignments That Actively Engage Students in Study Activities / Help Students Form Study Groups / Help Students Understand Their Learning Styles

Recognizing and Assisting Troubled Students
Dealing with Difficult Students
The Arguer / The Over Talkative Student / The Silent Student / The "Grade Grubber"

Section 7: Instructional Strategies

Effective Lectures
When Is It Appropriate to Lecture? / Guidelines for Good Lecturing / Maintaining Interest and Attention / Student Involvement / Presentation Structure / Presentation Techniques

Leading Effective Discussions
Planning Discussions / Getting Discussions Started / Preparing Questions for Discussions / Maintaining Discussions / Creating Closure

Alternative Strategies and Active Learning
Peer Teaching / Cooperative Learning Groups / Case Studies / Simulations / Games / Written Assignments and Out-of-Class Exercises / In-Class Exercises

Asking and Answering Questions
Types of Questions / Strategies for Asking Questions / Strategies for Answering Questions / Creating an Accepting Atmosphere

Using Media to Enhance Learning
"Traditional Media": The Chalkboard, Overheads, and Slides / Computers and the "New Media" / Video / Learning Management Systems

Writing as an Instructional Tool
Some Ways to Ease Fears (Students' and Yours) About Writing / Choosing a Writing Activity

Section 8: Evaluating Student Learning

Constructing Tests
Selection of Test Material / Types of Tests / Multiple Choice / True/False / Matching / Completion / Short Answer / Essay / Checklist for Constructing Better Tests

Preventing Cheating and Plagiarism
Preventing Cheating on Tests / Strategies to Discourage Plagiarism

Grading
Planning and Explaining / Records and Distributions / Hints for Grading Different Types of Student Work / General Rubric for Evaluating Student Writing / Item Analysis
Section 9: Documenting and Improving Teaching

Why Evaluate?

Five Sources of Information for Evaluating Teaching
- Self-Monitoring / Audiotape and Videotape Recordings / Students’ Test Results /
- Information from Students / Outside Observer

Responding to Feedback from Students
Using Student Feedback to Improve Teaching
Documenting Teaching Effectiveness
- A Model for In-depth Assessment of Teaching

Section 10: Information Resources

Library Support for Teaching and Research
The Information Technology Center
- Smart Podiums / ITC Service Limitations / The Student Computing Environment /
- Software Licensing

Section 11: Advising

Academic Advising: A Definition
- Statement of Purpose and Goals for Academic Advising

Academic Advising at MSU-Bozeman
- MSU Personnel: Advising Responsibilities / Academic Advising Needs of Different Student Populations

Advising Considerations, Legalities, Ethics
- Family Educational Rights and Privacy Act

Advising Information
- University Degree Components / Board of Regents Minimum Grade Policy / CORE 2.0 /
- University Core Policies

Advising and Developing a Program of Study
- Pre-College Credits and Placement / Transfer Students / Credit Information

Advising Materials for Advisors and Students
- Advising Information by College / Other Campus Resources

Advising Graduate Students
- Common Issues That Cause Problems / Common Advising Errors

Section 12: University-Wide Programs

University Studies
- University Studies Department / University Studies Program Components

University Honors Program
Office of International Programs
- Services and Programs

External Funding: The MSU Foundation
Section 1

Learner-Centered Teaching

Parker Palmer introduces his recent book, The Courage to Teach, with this reflection:

I am a teacher at heart, and there are moments in the classroom when I can hardly hold the joy. When my students and I discover uncharted territory to explore, when the pathway out of a thicket opens up before us, when our experience is illumined by the lightning-life of the mind—then teaching is the finest work I know.

What teacher doesn’t delight in those moments when wishes and hopes for our students are borne out? And, what teacher doesn’t occasionally feel a sense of despair when those same wishes and hopes are not realized?

The path to good teaching can be much easier to navigate when we view students as our traveling companions. The more we know about them and how they learn, the more likely we are to experience the joy Palmer describes.

This section, although brief, provides some food for thought as you consider what constitutes good teaching from your perspective as well as your students’.

What Constitutes Good Teaching?

Researchers who study the characteristics of effective teachers recognize that any number of factors contribute to an instructor’s overall effectiveness. Students and teachers know good teaching when they experience it, but often find it difficult to articulate the specific things that make it good.

K. A. Feldman synthesized the results of thirty-one studies in which post-secondary students and instructors identified the characteristics of good teaching. The analysis revealed extensive similarities across studies. Students and instructors at the same institutions (universities, four-year colleges, and two-year colleges) were asked to describe attitudes or practices important to good teaching or to characterize “best” or “ideal” teachers. Both groups gave high rankings to the following seven categories.

**Sensitivity to and Concern with Class Level and Progress**

- instructor communicates effectively at a level appropriate to students’ understanding
- readings are appropriately difficult for students
- instructor seems to be concerned with whether students learn the material
- instructor determines if one student’s problem is common to others
- instructor realizes when students are bored or confused

**Preparation—Organization of the Course**

- instructor is well-prepared for class
- instructor organizes the course in a logical manner
- the course organization assists students to comprehend basic concepts
- new information is presented logically and is related to ideas already introduced
- students perceive the instructor as well organized
- lectures are easy to outline

**Knowledge of the Subject**

- instructor demonstrates comprehensive knowledge of the subject
- instructor knows the current research and literature in the field
- instructor knows his/her field of specialization very well

**Enthusiasm (for Subject or for Teaching)**

- instructor seems interested in teaching the course
- instructor is able to convey interest and enthusiasm for the subject matter
- instructor is dynamic and energetic

**Clarity and Understandability**

- instructor explains the material clearly
- instructor attempts to answer all questions
- students are able to follow and understand class lectures/presentations
- instructor relates concepts in a systematic manner
- instructor uses well chosen examples to clarify points
- instructor reviews all major points
- instructor interprets abstract ideas and theories clearly
- instructor encourages students having difficulties to come for help
**Availability and Helpfulness**
- instructor is readily available to students outside of class for consultation
- instructor has rapport with students
- special “group help” sessions are provided for students who need them
- instructor is conscientious in keeping appointments with students
- instructor is willing to give personal assistance

**Impartiality of Evaluation; Quality of Examinations**
- concepts emphasized in class are those emphasized in exams
- exams cover material on which students expect to be tested
- exams require students to do more than recall factual information
- exams allow students to demonstrate what they learned
- exams require synthesis of various parts of the course
- the instructor tells students how they will be evaluated in the course
- grades are based on a fair balance of course requirements and content
- students are tested frequently
- instructor announces tests and quizzes in advance
- instructor uses more than one type of evaluation


---

**Profile of Students at MSU**

The information on the next three pages creates a profile of the student body at MSU, with emphasis on the undergraduate students. Knowing something about students in general may be useful in seeing your students as individuals. These data were current in fall 2010.
## Enrollment by Student Class Level, Fall 2010

<table>
<thead>
<tr>
<th>Student Class Level</th>
<th>number</th>
<th>men</th>
<th>% male</th>
<th>women</th>
<th>% female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>4,001</td>
<td>2,312</td>
<td>57.8%</td>
<td>1,689</td>
<td>42.2%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>2,164</td>
<td>1,193</td>
<td>55.1%</td>
<td>971</td>
<td>44.9%</td>
</tr>
<tr>
<td>Junior</td>
<td>2,070</td>
<td>1,104</td>
<td>53.3%</td>
<td>966</td>
<td>46.7%</td>
</tr>
<tr>
<td>Senior &amp; 2nd Degree Student</td>
<td>3,233</td>
<td>1,655</td>
<td>51.2%</td>
<td>1,578</td>
<td>48.8%</td>
</tr>
<tr>
<td>Nondegree (UG)</td>
<td>111</td>
<td>54</td>
<td>48.7%</td>
<td>57</td>
<td>51.3%</td>
</tr>
<tr>
<td><strong>Subtotals (UG)</strong></td>
<td>11,579</td>
<td>6,318</td>
<td>54.6%</td>
<td>5,261</td>
<td>45.4%</td>
</tr>
<tr>
<td>Master's</td>
<td>1,254</td>
<td>552</td>
<td>44%</td>
<td>702</td>
<td>56%</td>
</tr>
<tr>
<td>Doctoral</td>
<td>396</td>
<td>235</td>
<td>59.3%</td>
<td>161</td>
<td>40.7%</td>
</tr>
<tr>
<td>Specialist</td>
<td>1</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>100%</td>
</tr>
<tr>
<td>Nondegree (grad)</td>
<td>329</td>
<td>124</td>
<td>37.7%</td>
<td>205</td>
<td>62.3%</td>
</tr>
<tr>
<td><strong>Subtotals (grad)</strong></td>
<td>1,980</td>
<td>911</td>
<td>46%</td>
<td>1,069</td>
<td>54%</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>13,559</td>
<td>7,229</td>
<td>53.3%</td>
<td>6,330</td>
<td>46.7%</td>
</tr>
</tbody>
</table>

## Minority* Enrollment by College, Fall 2009

<table>
<thead>
<tr>
<th>College</th>
<th>Black</th>
<th>Asian</th>
<th>Hispanic</th>
<th>Native American</th>
<th>Minority Total</th>
<th>College Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural</td>
<td>1</td>
<td>4</td>
<td>9</td>
<td>26</td>
<td>40</td>
<td>773 (26)**</td>
</tr>
<tr>
<td>Arts &amp; Architecture</td>
<td>7</td>
<td>17</td>
<td>31</td>
<td>26</td>
<td>81</td>
<td>1,522 (30)</td>
</tr>
<tr>
<td>Business</td>
<td>7</td>
<td>16</td>
<td>17</td>
<td>12</td>
<td>52</td>
<td>1,168 (52)</td>
</tr>
<tr>
<td>Education, Health and Human</td>
<td>7</td>
<td>17</td>
<td>24</td>
<td>98</td>
<td>146</td>
<td>1,537 (9)</td>
</tr>
<tr>
<td>Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>7</td>
<td>39</td>
<td>17</td>
<td>36</td>
<td>99</td>
<td>2,144 (136)</td>
</tr>
<tr>
<td>Letters &amp; Science</td>
<td>14</td>
<td>39</td>
<td>53</td>
<td>63</td>
<td>169</td>
<td>2,691 (83)</td>
</tr>
<tr>
<td>Nursing</td>
<td>1</td>
<td>18</td>
<td>11</td>
<td>52</td>
<td>82</td>
<td>851 (7)</td>
</tr>
<tr>
<td>University College *</td>
<td>20</td>
<td>30</td>
<td>36</td>
<td>63</td>
<td>149</td>
<td>2,078 (51)</td>
</tr>
<tr>
<td><strong>Total</strong>*</td>
<td>64</td>
<td>180</td>
<td>198</td>
<td>376</td>
<td>818</td>
<td>12,764 (394)</td>
</tr>
</tbody>
</table>

*Ethnicity is only reported for American citizens and permanent residents.

**Parentheses indicate number of students in the category who are nonresident aliens.

***Totals include small numbers of additional students not included in the other categories.
Undergraduate Bachelor's Enrollment by Academic Unit, Fall 2010

<table>
<thead>
<tr>
<th>Academic Unit</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Agriculture</td>
<td>745</td>
</tr>
<tr>
<td>College of Arts and Architecture</td>
<td>1,351</td>
</tr>
<tr>
<td>College of Business</td>
<td>1,052</td>
</tr>
<tr>
<td>College of Education, Health and Human Development</td>
<td>1,231</td>
</tr>
<tr>
<td>College of Engineering</td>
<td>2,112</td>
</tr>
<tr>
<td>College of Letters and Science</td>
<td>2,514</td>
</tr>
<tr>
<td>College of Nursing</td>
<td>872</td>
</tr>
<tr>
<td>University College</td>
<td>1,602</td>
</tr>
<tr>
<td>Gallatin College</td>
<td>100</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>11,579</td>
</tr>
</tbody>
</table>

Grades:

For the 10-11 academic year, undergraduates had the following cumulative GPAs:

- Freshmen: 2.61
- Sophomores: 2.93
- Juniors: 3.01

Geographic Origin of Students, Fall 2010

<table>
<thead>
<tr>
<th>Country</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>13,054</td>
</tr>
<tr>
<td>Montana</td>
<td>8,466</td>
</tr>
<tr>
<td>US Non-Montana</td>
<td>4,588</td>
</tr>
<tr>
<td>Washington</td>
<td>597</td>
</tr>
<tr>
<td>Minnesota</td>
<td>375</td>
</tr>
<tr>
<td>Colorado</td>
<td>534</td>
</tr>
<tr>
<td>Wyoming</td>
<td>231</td>
</tr>
<tr>
<td>California</td>
<td>419</td>
</tr>
<tr>
<td>Alaska</td>
<td>254</td>
</tr>
<tr>
<td>Other Countries</td>
<td>450 (from 60 countries)</td>
</tr>
</tbody>
</table>

Other:

→ The average age of MSU undergraduates was 22 in fall 2010.
→ The average age of MSU graduate students was 33 in fall 2010.
→ About 30% of each fall's freshman do not return the following year.
→ Slightly less than half of all entering freshman eventually graduate from MSU.

Educational background:

Freshman entering in the 2010 fall semester: Average ACT score: 24 Average SAT score: 1,112.84 (total)
Section 2

Administrivia

Every teacher must be, to a certain degree, an administrator and manager. The job of teaching runs most smoothly when the administrative details don’t get in the way.

This section presents information about handling the administrivia of teaching at MSU related to record-keeping, policies, and procedures.
Rosters

To coordinate record-keeping about students enrolled in your classes, the Registrar's Office makes class rosters available several times during the semester. These rosters are generally picked up and distributed by administrative assistants in individual departments.

Term Rosters

Your preliminary class roster lists all students registered for the course on the first day of instruction. It is for your information. If you require an electronic class roster for use in a spreadsheet, talk to your departmental administrative assistant. You can always access up to date information on the web (see box at right).

Final Grade Submission

Most course grades are now submitted electronically through our on-line system. Because the details of this process continue to be refined, and are distributed every semester, they are not included here. You are asked not to leave any student's grade blank on the Final Grade Worksheet. Assign the grade of “F” if the student is listed, but never attended the class, or if he/she started the semester and stopped attending without processing a University Withdrawal through the Dean of Students' Office. Also, please provide a “best estimate” of a date of last attendance only for those students who receive an “F” grade based on non-completion of the course.

Final grades are due 48 hours after the scheduled final!

Drop/Add/Withdraw Procedures

The procedures below were current for fall 2006. As MSU is increasingly moving to Web based systems, updates to these procedures are likely to occur. The most recent information is always available on the on-line schedule of classes.

Add

Students may add on the Web through the 5th day of class. After that, all adds require signatures from the instructor and the student's advisor. After the 10th day, a signature from the student's academic dean is also required.

Drop

Students may drop courses on the Web until the 10th day of the semester and may continue to drop courses with a grade of W up through the last day of the official registration period for the following semester, with the approval of their academic adviser and their course instructor.
The student is held responsible for regular attendance and satisfactory performance in all registered courses. If the adviser or the course instructor believe that the student has not met these obligations, they may refuse to sign the student’s request for a W.

Students who desire to withdraw from all classes must obtain a “University Withdrawal” through the Dean of Students Office.

Class Attendance

When students enroll in a course, they enter a contractual agreement with you for the duration of the course, and both you and the student are expected to honor the specified terms of that agreement. Absences from classes are handled exclusively within your purview; there is no University policy with respect to excused absences from scheduled classes including University-sponsored events. It is important, therefore, for your students to understand the attendance requirements in your courses. You should communicate these requirements during the first or second class meeting and in writing in the course syllabus. Stress the importance of class attendance. Let students know you require them to attend because you are concerned about them and the quality of their education. Explain that in-class interactions are vital to the learning process and that their performance in the course is closely linked to their participation in classroom activities.

Note: Do not forget to set a clear policy for exam absences, which can either result from scheduling conflicts (especially evening exams) or from simple forgetfulness. Be prepared for the student who calls three days after the exam explaining how she/he forgot the exam and is wondering when the “make-up” is.

Grading

It should be noted that, contrary to popular myth, there is no University grading scale (i.e., percent-age scores do not automatically translate into a prescribed grade). There is, however, a University grading policy that instructors inform students of course requirements, standards, objectives, and evaluation procedures at the beginning of each course. Tell your students in writing at the beginning of each semester how you are going to grade them.

If you wish to post student grades in a public area (outside your office or in an advising area), you should inform students in advance that you will do so. You also should respect the wishes of students who do not want their grades to be posted. Never post grades by student names, social security numbers, or complete Banner-assigned student ID number. Partial ID numbers (final four digits) or course-specific IDs are acceptable. The best was to post grades for student access is using D2L, which is password protected and allows students to view their grades from anywhere.
Incomplete (I) Grade Eligibility

You may give a grade of I (Incomplete) when students fail to complete their academic obligations because of circumstances beyond their control such as extreme personal hardship or unusual academic situations.

At your request, the Dean of Students will independently verify personal hardship cases when students have been unable to fulfill their commitments because of illness, death or illness in the immediate family, family emergencies, or military orders—a process that is initiated by the student. You may give an I grade to a student thus certified, provided the student has completed three-fourths of the work of the course with a passing grade. (There is an exception to the requirement for three-fourths completion, which requires an additional justification.) You may require that the student take an early final examination but, with the exception of one- and two-credit courses, early final examinations will not be given prior to the start of final examination week.

You may also assign an I grade, subject to your department head’s approval, in cases when students have been unable to complete course requirements for reasons such as apparatus or equipment failure, death or disease in experimental animals, delays in material shipments from suppliers, or in other unusual academic circumstances which are clearly beyond the students’ control.

In each instance qualifying for an I grade, you must fill out an “I Grade Authorization” form stating the make-up requirements. You may specify the time period within which the work must be made up, otherwise an I grade shall be made up no later than the end of the next semester the student is in attendance (excluding summer session). You can extend an I grade up to one year by notifying the Registrar’s Office in writing. An I grade not made up in the prescribed length of time lapses to a failure (F).

The following circumstances will not make a student eligible to receive an I grade:

1. Absence due to participation in University activities, such as athletics, except with prior approval.
2. Travel or vacation plans which require leaving campus early at the end of the semester.
3. Attendance or participation in a wedding.
4. Conflicts of the student’s own making.
5. Failure to take one or more scheduled exams or to hand in class assignments, term papers, and project reports prior to specified deadlines.

To remove an I after the make-up work has been completed, you must obtain a Grade Change form from the Registrar’s Office or your departmental office, place the grade on the form, get required signatures, and return it to the Registrar’s Office. An I cannot be changed to a W.

Grading System
MSU uses an A through F grading system; a student’s grade point average (GPA) is computed based on point values assigned to each grade. Letter grades and corresponding grade point values are:

- A 4.0
- A- 3.7
- B+ 3.3
- B 3.0
- B- 2.7
- C+ 2.3
- C 2.0
- C- 1.7
- D+ 1.3
- D 1.0
- D- 0.7
- F 0.0

A grade of C- or better is required for courses to satisfy core, major, or minor requirements. Courses with a D grade may only count as free electives.

Mountains & Minds
**Pass/Fail Grading**

As a general policy, courses at Montana State University are graded by the letter grades, A, A-, B+, B, etc. However, in certain courses, pass/fail grading may be more appropriate. Courses may be offered on a pass/fail basis for all students registered in the course, with the approval of the department head and college dean. Courses offered on a pass/fail basis will be identified in the Schedule of Classes. Permission to offer a course on a pass/fail basis is limited to one academic year; if the permission is not renewed, the course reverts to a letter-grade basis.

In pass/fail grading, passing work will receive a P grade on the student's transcript, but it will not count in the grade point average. However, the course credit will count toward the number of credits required for graduation. Failing work will receive an F grade and will count in the grade point average.

**Changing Grades**

Once a grade has been reported by the instructor to the Registrar, it cannot be changed except in cases of clerical error or substantiated academic dishonesty. A grade cannot be lowered unless it was fraudulently obtained. All grades and credits will stand as recorded in the Registrar's official record if changes are not reported in writing to the Registrar within five years of the last day of the semester in which the course was taken.

A change of final grade does not mean allowing additional time to complete the work of a course or allowing the student to submit work or to take or to retake examinations after the conclusion of the semester. A change of grade is not a substitute for an I when an I cannot be justified.

A change of grade may be made only with the concurrence of the department head. If the grade being changed was given more than three academic terms before, the College Dean must also approve the change.

**Final Exams**

Final examinations in one-credit courses are given during the regular class periods. The Registrar schedules final examinations for all other courses; they may not be rescheduled or given prior to the start of the final examination period. It is the policy of the University to consider the examination period as instructional time, and it is expected that some instructional use is made of this period even if a final examination is not given. When a final examination is given, it must be given at the time shown in the examination schedule. However, under some circumstances you may require that a student take an early final exam. The Dean of Students may authorize an I grade in cases of true medical or family emergencies that require the student to be absent during the final exam.

---

Note: You have to announce the location of final exams to your class. This information is not in the Schedule of Classes.
Exam Conflicts

A student who has more than one exam scheduled at the same time or three or more final examinations in any one day is considered to have a conflict. The student is asked to first approach the instructors of the courses to see if one exam can be rescheduled. Your flexibility in these situations is always appreciated. If this rescheduling can’t be resolved, then the student must contact the Assistant or Associate Dean of his or her college.

Common Hour Exams

Departments may request common examinations in multi section courses to be given both throughout the semester and during finals week. The common hour test period is expected to replace one class period for that particular course; the assigned test period is not in addition to regularly scheduled classes. The times of common hour evening exams, which are given during the semester, and common hour final exams are listed by course number in the Schedule of Classes.

Classrooms

It’s a good idea before classes start to locate the classrooms in which you will be teaching, to identify potential problems and become familiar with any restrictions.

Classroom Scheduling in the Registrar’s Office assigns classrooms. Scheduling of rooms for academic classes is based on proximity, history, course enrollment, the need for special equipment, and requirements for disabled students. If you need a classroom for a special situation (an examination, review session, student group work, or use of special equipment), contact Classroom Scheduling or work with the appropriate person in your department.

Public computer labs are scheduled by the Information Technology Center (ITC), and departmental computer labs are scheduled by their corresponding departments.

Smoking is prohibited in all University buildings. Consumption of food and beverages in classrooms is prohibited.

Office Hours

Your office is an important extension of the classroom and you should schedule office hours so you will be available to students who wish to see you outside of class. You can set your office hours before the semester begins and announce them to students during the first week of class (you also should list your office hours, location, phone number, and e-mail address on your syllabus). Some instructors check with students before scheduling times to find when is most convenient for the largest number of people.

Some ways to encourage students to visit you during your office hours include:

- Notes on papers or written assignments (“Please see me about this”).
- Periodic reminders in class about the value of office visits (to you and to the students).
- Posting answers to quiz or homework problems inside your office.
Section 3

Ethical Considerations

Teaching is a collaborative undertaking with teachers and students working together toward mutually-agreed upon learning goals. All partners in the collaboration have responsibilities to each other and to themselves. How we — students and teachers — conduct ourselves in our academic endeavors depends on the ethical framework we bring to our roles.

This section briefly outlines University policies governing student and faculty conduct, and describes some characteristics of ethical teaching.
Student Conduct: Academic Honesty

The administration, faculty and students of Montana State University believe that academic honesty and integrity are fundamental to the mission of higher education. The University has a responsibility to promote the highest ethical standards and behavior in the classroom. Accordingly, the University has developed procedures that address instances of academic dishonesty. Students who violate these standards commit academic misconduct and will be subject to academic and/or disciplinary sanctions.

Examples of academic misconduct include: cheating, plagiarism, forgery, falsification, facilitating or aiding academic dishonesty; multiple submission; theft of instructional materials or tests; unauthorized access to, manipulation of or tampering with laboratory equipment, experiments, computer programs, or animals without proper authorization; alteration of grades or files; misuse of research data in reporting results; use of personal relationships to gain grades or favors; or otherwise attempting to obtain grades or credit through fraudulent means.

The best way to deal with academic dishonesty is to prevent it from happening in the first place, which first and foremost means being clear in writing and verbally regarding your expectations for academic and personal behavior. Also, see Section 8, Evaluating Student Learning, for more tips on preventing cheating and plagiarism.

All suspicious or overt academic misconduct needs your follow up no matter the outcome. For your own sense of fairness and justice and your need to fulfill the class's expectations of you (we don't have an honor code), you need to respond to misconduct. It can be time consuming and unpleasant but virtually never a legal issue.

When dealing with all cases of suspected misconduct, your first action should be to contact the Dean of Students. You should also get an Academic Misconduct Notification Form from either your department office or the Dean of Students Office. The Dean of Students will help you resolve the situation according to University procedures, which will ensure due process for you and the student. Any appeal goes through the Dean of Students office. Even if you resolve a case by informally meeting with the student, you should still notify the Dean of Students so patterns of misconduct can be identified.

Faculty Conduct

Note: The material in this section was prepared to serve as a training instrument. The MSU Faculty Handbook and the Student Conduct Code contain all the policies and procedures pertaining to faculty and student conduct at MSU. If there are any omissions or inconsistencies between this material and the Handbook, the Handbook takes precedence.

Academic Responsibilities

The Montana State University Student Conduct Code states the responsibilities of instructors in the following areas:

- The general content of a course or academic program must be described with reasonable accuracy in catalogs and other written documents available to students. Instructors must state, in writing or by electronic means, the course content and objectives. This material must be given (or otherwise made available) to the students at the first or second class meeting.
- Classroom Behavior: Instructors may establish additional reasonable rules for classroom behavior and must articulate such rules as part of the other course materials provided to the
students. In absence of any such written expectations outlined in Section 310.00 A-F, and Section 610.00 shall apply.

- **Collaboration Among Students:** Unless otherwise specified, students may not collaborate on graded material. Instructors are encouraged to provide collaborative learning opportunities but must state, in writing or by electronic means, the limits of assistance permitted between and among students in a course assignment or academic evaluation.

- **Instructor Responsibilities:** Unless otherwise stated, students are expected to be prompt and regular in attending classes, turning in assignments on time and in taking exams when scheduled. Instructors may establish additional rules for attendance and make-up exams and must articulate these clearly in writing. Instructors must be prompt in meeting their scheduled classes, be available for appointments with students at designated times, be well prepared for classes, and be fair and prompt in grading class assignments and tests. The scheduled final examination period must be used for final examinations in the class or other instruction.

- **Personal Information About Students:** Factors such as race, creed, color, religion, sex, age, national origin, disability, political beliefs or personal relationships, must not be considered in matters of academic evaluation, academic assignments, or classroom procedures. If an instructor learns personal information about the student (religious and political views, sexual orientation, etc.) during the progress of the course, he or she must not share such information with other students nor should such knowledge influence the evaluation of the student. Additionally, all university employees—including faculty, instructors and staff—must abide by the Family Educational Rights and Privacy Act of 1974 (FERPA). This Act affords students certain rights with respect to their education records.

- **Office Hours:** Instructors are required to make time available for student conferences preferably through regularly scheduled office hours. Office hours should be convenient to both students and the instructor with the opportunity provided for prearranged appointments. Available office hours should be communicated to students.

- **Absence From Class:** Instructors are required to meet their classes regularly and at scheduled times. In case of illness or emergency, the department should be notified and arrangements should be made to have another staff member instruct the class or promptly notify students of cancellation. Classes may not be canceled for the convenience of the instructor. When an instructor knows in advance that he or she will miss a class, arrangements must be made to have the work of the class continue, either by arranging for a substitute instructor, by scheduling an examination for that day, or by providing some alternate work assignment for the students.

- **Grading:** Instructors must specify in writing, preferably as part of the syllabus, the specific grading policies for the class. Grading is the prerogative and responsibility of the instructor. Instructors are responsible for the assignment of the final course grade. The assigned grade must reflect the performance of the student in the course commensurate with the content and objectives of the course. If a student questions his or her grade, the instructor has a responsibility to discuss the matter with the student. If the instructor cannot satisfactorily resolve the matter, the student must be advised of the grievance procedures, copies of which are available electronically online at http://www2.montana.edu/policy/student_conduct/cg500.html or in writing from the Office of the Provost or the Dean of Students. Should a grievance be filed, the instructor will provide such assistance as necessary to process the grievance. Graded examinations, papers, and other sources of evaluation are to be available to the student for inspection and discussion. If the instructor chooses ultimately to retain these materials, they must be kept for a period of one year. If graded materials become the property of the student, then uncollected materials must be kept for one semester. Adjunct and part-time instructors should arrange for storage with the department in their absence. Examinations, papers and other sources of evaluation should be graded promptly to make the results a part of the student's learning experience. The grade records will be retained for at least one year to provide the opportunity for review and resolution of grade disputes.


**Academic Freedom**

The following portions of the 1940 Statement of Principles on Academic Freedom and Tenure of the American Association of University Professors is endorsed by the Board of Regents of Higher Education for the Montana University System:

- Teachers are entitled to full freedom in research and in the publication of the results, subject to the adequate performance of their other academic duties; but research for pecuniary return should be based upon an understanding with the authorities of the institution.
- Teachers are entitled to freedom in the classroom in discussing the subject, but they should be careful not to introduce into their teaching controversial matter that has no relation to the subject. Limitations of academic freedom because of religious or other aims of the institution should be clearly stated in writing at the time of the appointment.
- College or university teachers are citizens, members of a learned profession, and officers of an education institution. When they speak or write as citizens, they should be free from institutional censorship or discipline, but their special position in the community imposes special obligations. As persons of learning and educational officers, they should remember that the public may judge their profession and their institution by their utterances. Hence they should at all times be accurate, exercise appropriate restraint, show respect for the opinions of others, and make every effort to indicate that they are not institutional spokespersons.

**Conflicts of Interest**

A conflict of interest may exist when an employee’s professional actions or decisions may be, are, or have been influenced by considerations of personal or financial gain. MSU’s conflict of interest policy, which is found in section 440 of the Faculty Handbook, covers conflicts of interest and potential conflicts of interest in professional activities, in sponsored activity, in consensual romantic relationships, and in family relationships.

**Additional Compensation**

Under certain conditions, faculty may earn salary over and above their established Board of Regents salary. The policies on additional compensation are covered in section 1120 of the Faculty Handbook. No employee of Montana State University-Bozeman may accept additional compensation for providing to the same clientele the same services which are part of their assigned University duties. In particular, no faculty member may receive compensation for tutoring students of the University. A teaching assistant may not receive compensation for tutoring students in any course in which they have a responsibility.

**Consulting and Intellectual Property**

Compensation from consulting includes any remuneration to faculty members resulting from their work for or service to entities outside the Montana University System. Faculty members and staff may engage in private consulting and/or professional practice up to one day per week in compliance with this policy, which is described in section 1130 of the Faculty Handbook. If you are considering any form of consulting, you should read this section carefully and discuss any opportunity with your department head.

In some situations, the University may have a claim on intellectual property that you develop as a result of your employment at MSU. To be safe, check with your department head and the Office of Intellectual Property Administration and Technology Transfer (IPANT).
**Relationships with Your Students**

Developing good relationships with your students is critical to effective teaching, yet achieving an appropriate balance in those relationships is not easy. It is clear that instructors hold more power in dealing with students, but with that power comes the need to separate your private self from your professional self. You must learn to put aside personal biases and enforce policies fairly and equitably. You must respect students and their privacy and be cautious and discreet in using information about them. It is essential that you maintain proper boundaries and avoid intimate relationships with students.

Careful exercise of these ethical responsibilities protects you as much as it protects your students. Here are some general guidelines for protecting yourself and the students you teach:

- Don’t ask students to do personal favors of any kind for you. This will prevent the possible appearance that you may be singling out students for preferential treatment.

- Schedule meetings with students during office hours or by appointment. For informal meetings with individual students or student groups, meet in public places like the SUB. Be sure students understand the reason for informal get-togethers so they will not read inappropriate meanings into your invitations.

- Attempt to resolve disputes or disagreements with students in the presence of another faculty member or your Department Chair. The presence of another person may prevent a disgruntled student from making false accusations out of anger over academic matters.

- In all cases, the University considers sexual relations between faculty members and their students completely inappropriate. Dating students may be construed as sexual harassment. Become familiar with the University’s policy against sexual harassment (see the last page of this section).

**Ethical Teaching Behaviors**

As an instructor, you are in a position to influence student behavior and, therefore, must understand your ethical responsibilities as a teacher. Here is a general framework for identifying critical ethical issues and determining your ethical responsibilities:

Respect for Autonomy. This principle refers to freedom of choice and an individual’s right to be autonomous and free to make independent decisions. It also implies respect for others. Instructional behaviors that reflect such respect include:

- distinguishing clearly in lectures what is fact and what is your opinion
- allowing students to express opinions or beliefs that differ from yours
- allowing students flexibility in choosing topics for course projects or papers.

Nonmaleficence. “Above all, do no harm” might better describe this ethical principle. Nonmaleficence means avoiding actions that put others at risk or that inflict intentional harm (psychological or physical) on others. Professorial behaviors that reflect this ethical principle include:

- coming to class prepared
- explaining the basis of grades on written papers or essay exams
- thoroughly covering course content
• showing patience with slow learners
• respecting the opinions or beliefs of students.

Beneficence. This principle states that educators have an ethical obligation to contribute to the health and welfare of others. Behaviors that reflect beneficence include:

• helping students understand course material
• showing enthusiasm for teaching
• giving clear assignments
• promoting cooperation among students
• informing students how best to study for your course
• helping students who are having difficulties.

Justice. Issues of fairness and equity are central to this principle. Sexism, racism, and other forms of bias are campus justice issues. Behaviors that support this principle might include:

• providing students with course requirements and objectives at the beginning of a course
• fairly evaluating students' knowledge of material covered in the course
• applying policies related to late work and incompletes to all students
• providing balanced views, especially concerning controversial issues
• encouraging all students to participate fully in class.

Fidelity. Faithfulness is the cornerstone of this principle. It involves issues of trustworthiness, keeping promises and being truthful and respectful. Instructional behaviors that reflect this principle include:

• following through on legitimate requests from students
• promptly returning graded tests, papers, and projects to students
• following the course syllabus and timetable in teaching your course
• being accessible to students
• keeping scheduled appointments with students.

Sources:
MSU Policies on Human Respect

Note: The material summarized in this section was prepared to serve as a training instrument. The University's policies on discrimination, sexual harassment and affirmative action are available in their entirety at http://www2.montana.edu/policy/affirmative_action/

**Equal Opportunity/Affirmative Action Policy**
Montana State University does not discriminate on the basis of race, color, national origin, sex, sexual preference, marital status, age, religion, creed or political belief, mental or physical handicap or disability, or status as a Vietnam era or disabled veteran in admission, access to, or conduct of its educational programs and activities nor in its employment policies and practices.

Montana State University is committed to providing a working environment for all employees and an educational environment for all students that support and reward career and academic goals on the basis of ability and work or academic performance. Harassment based on race, color, national origin, sex, sexual preference, marital status, age, religion, creed or political belief, mental or physical handicap or disability, or status as a Vietnam era or disabled veteran is a form of discrimination and is prohibited.

The University is committed to a program of affirmative action in the recruitment, hiring, training, and promotion of persons in all classes of employment to help overcome the present effects of past discrimination and prevent underutilization of qualified women and minorities, persons with disabilities, Vietnam era and disabled veterans. In addition, Montana State University assumes particular responsibility for providing opportunities for education and training for the state's Native American peoples in the various disciplines and professions that are characteristic of this land-grant university. The University’s Affirmative Action Plan is available in the Human Resources/Affirmative Action Office.

**Sexual Harassment and Sexual Intimidation Policy**

Complaints of discrimination, including harassment on the basis of race, color, national origin, sex, gender, sexual orientation, religion, age or disability should be reported to the Human Resources/Affirmative Action Office. Sexual harassment includes unwelcome sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature when:

1. Submission to such conduct is made implicitly or explicitly as a term or condition of an individual's employment or education,

2. Submission to or rejection of such conduct is used as a basis for employment or educational decisions, or

3. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or of creating an intimidating, hostile, or offensive environment.

Sexual intimidation includes any unreasonable behavior, verbal or nonverbal, which has the effect of subjecting members of either sex to humiliation, embarrassment, or discomfort because of their gender. Sexual harassment is a form of sex discrimination and is prohibited by state and federal non-discrimination laws. Sexual intimidation in education is specifically prohibited by state statute.
Section 3

**Ethical Considerations**

**Sexually-Explicit Materials in the Workplace**

In keeping with the University's policy on sexual harassment, Montana State University desires to create a working environment for employees and a learning environment for students which is free of sexual harassment and intimidation. Materials such as calendars, posters, post cards, photography, and cartoons that contain sexually explicit images or language can create an intimidating, hostile or offensive environment and may subject persons of either sex to humiliation, embarrassment, or discomfort because of their gender. Such materials are inappropriate and should be removed from the workplace.

This policy applies to space provided by the University such as offices, shops, classrooms, hallways, lounges and study carrels. This policy does not apply to: (1) libraries, resource rooms, research collections; (2) materials related to course content or assignments used in the educational setting; (3) displays and exhibits in galleries and museums; or (4) private rooms or family housing units rented from the University.

**Policy on Consensual Relationships**

(Same as Faculty Handbook Section 445.00, Conflict of Interest)

A consensual romantic relationship in which one party is in a position to evaluate the work of the other is a potential conflict of interest. When such a potential conflict of interest results between employees or an employee and a student, the employee(s) shall disclose the potential conflict of interest to his or her supervisor. The supervisor and the employee shall take steps to ensure that there is no conflict of interest. The employee's failure to disclose such a potential conflict of interest may require University action.

**Students with Disabilities**

You may have students who tell you they have disabilities and need accommodation or you may suspect one of your students has a learning disability. In either case, refer the student to the Office of Disabled Student Services. They will assess the student's disability, make suggestions for accommodation, and give the student a “certification” card which the student should show you before you make any accommodations.
Section 4

Preparing to Teach

A critical, but in many ways unseen, component of the teaching process occurs outside the classroom, separate from direct interpersonal interaction with students. Planning takes many forms and covers extensive ground: analyzing the needs and expectations of students, mapping out course goals, selecting instructional strategies to support those goals, deciding how and when to assess student learning outcomes, and creating a dynamic syllabus.

This section suggests a number of factors to consider as you prepare to teach.
Planning Your Course

The process of planning a course is not always linear, but typically involves five stages: determining the relationship of your course to the curriculum, identifying your course objectives, dividing the course into logical units or segments, identifying learning experiences and methods appropriate to help students achieve the course goals, and determining how to best evaluate student performance.

This course planning model addresses content mastery and the intellectual skills students should have when they finish the course. It shifts the responsibility for learning back to the students because you make your planning decisions on the basis of activities students must perform. It also makes it easier for you to select material to cover, since your course goals dictate the content to include. Moreover, students tend to remember factual details longer if the facts are associated with higher-order thinking processes, such as problem solving, analysis, and critical thinking. This model can be applied to the design of any kind of instruction, from single lectures to entire curricula.

Getting the Big Picture: How Does Your Course Fit?

When you are preparing to teach a course for the first time, you need to think about how the course fits into the curriculum of your college and department. Even if you have been teaching the course for a number of years, it’s a good idea to reflect on its relationship to your students’ broader academic development.

Ask yourself if your course is:
- approved as a part of CORE 2.0 (i.e., a general education course)
  (see the table on the next page)
- required for the major
- the first course in a sequence
- an advanced course with prerequisites
- usually taken as an elective.

As you design your plans for teaching, the way your course fits in the curriculum will influence the following:

- course objectives and content
- assignments and other class activities
- preparation, motivation, and expectations of students
- the amount of freedom you may have in selecting content, materials, and techniques

The CORE 2.0 Curriculum

As a land-grant university, MSU-Bozeman is charged, through the Morrill Act of 1862, with providing "liberal and practical education...in the several pursuits and professions of life." In addition, as a member of the Montana University System, MSU is charged with providing programs which "stimulate critical analysis, clear and effective communication, and the creative process." Students should also "broaden their cultural horizons by contact with the creative arts, sciences and the humanities, and achieve an understanding of the political, social, economic and ethical problems of the contemporary world and the relation of their studies to these problems.”

Mountains & Minds
To this end, the faculty of MSU have developed a common core curriculum for all undergraduate students in the belief that it will help students reach their intellectual potential, become contributing members of society, and compete more successfully in our rapidly changing and increasingly complex world. The purpose of core courses is to ensure a wide-ranging general education of consistently high quality to all Montana State University students regardless of major or area of study. Core courses allow students to reaffirm common experiences, redefine common goals, and confront common problems. Core courses emphasize communication and techniques of creative inquiry in a variety of disciplines.

One of the goals of the core is to provide students with the opportunity to develop their creative and intellectual potential. Therefore, core courses require students to do the following:

1. Think, speak, and write effectively and evaluate the oral and written expression of others.
2. Develop learning objectives and the means to reach them, thus developing lifelong patterns of behavior which increase the potential to adapt to and create change.
3. Exercise and expand intellectual curiosity.
4. Think across areas of specialization and integrate ideas from a variety of academic disciplines and applied fields.
5. Use complex knowledge in making decisions and judgments.
6. Make discriminating moral and ethical choices with an awareness of their immediate and long-term effects on our world.
7. Develop a critical appreciation of the ways in which we gain and apply knowledge and understanding of the universe, of society, and of ourselves.
8. Understand the experimental methods of the sciences as well as the creative approaches of the arts.
9. Develop an appreciation of other cultures and an understanding of global issues.

A reformed core curriculum, CORE 2.0, was implemented at MSU in 2004. The mission of Core 2.0 is to enhance students’ use of multiple perspectives in making informed critical and ethical judgments in their personal, public, and professional lives through inquiry and research experiences.

CORE 2.0 courses are indicated with a letter after the course number, which shows the core designation (e.g., PHYS 101IN is an inquiry natural science core course). If your course has a core designation, your planning must take into consideration the required components of such courses. If you aren’t sure how your course fits in the core curriculum, ask your department head or the chair of your department’s curriculum committee.

More detailed information on CORE 2.0 is found in Chapter 11.
Setting the Stage: What Are Your Instructional Objectives?

Instructional objectives are expressions of what a student should be able to do as a result of instruction in your course. They inform students about what they are to learn, what they will do that will enable them to learn, and how they will know they have met the objectives.

It is critical that objectives be sufficiently specific so you and your students know what is expected and will be able to recognize when it has been achieved. Approach goal setting from the perspective of the learners with whom you will be working. Also, devise your objectives based on what you know about the place your course occupies in the curriculum.

Use these questions to guide your goal setting:

- What incoming skills and levels of knowledge can you expect of students who register for the class? What level of performance can you expect from them?
- In what ways will students be “different” when they finish the course?
- What should students be able to DO with the knowledge and skills gained in the course?
- What do students need to KNOW in order to do the things they should be able to do when they finish the course?
- What tasks should students perform to help them achieve their learning goals?
- How will you measure students’ level of “difference” when the course is finished? How will you know they can do what they should be able to do?

Once you have answered these questions, formulate goal statements for your course. These statements should provide a clear guide to the concepts covered in the course and a good framework from which to plan the rest of the course. Compare the two goal statements in the box below. Which seems to provide the most useful information to students? Which would be the most help in planning course content, activities, and evaluation procedures?

<table>
<thead>
<tr>
<th>Example A</th>
<th>Example B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sociology 112: Social Stratification</td>
<td>Sociology 10: American Society</td>
</tr>
<tr>
<td>The focus of this course is on contemporary social stratification in the United States. However, we will also cover the historical development of stratification, different theoretical perspectives on the origins of social equality, stratification in communist societies, and theories of world stratification.</td>
<td>By the end of this course, you should be able to do the following:</td>
</tr>
<tr>
<td></td>
<td>1. Recognize and define the basic concepts of society and the ways in which sociologists use these concepts in constructing explanations for individual and group problems.</td>
</tr>
<tr>
<td></td>
<td>2. Explain how American institutions are maintained or changed by individuals or groups in society.</td>
</tr>
<tr>
<td></td>
<td>3. Analyze a selected number of American institutions using the basic concepts and theories of the sociological perspective.</td>
</tr>
<tr>
<td></td>
<td>4. Analyze selected past, present, and future problems of American institutions using the knowledge you have gained in 1, 2, and 3, above.</td>
</tr>
</tbody>
</table>

If you state your course goals in terms of student performance, as in Example B, you will have a stronger foundation on which to build the course. You can then work backward from these goals to select material that is most appropriate for achieving them.
Making the Course Manageable: Dividing It Into Logical Units

Once you have articulated your instructional objectives, you need to identify the appropriate material to cover and the best medium for presenting that material. It is important to break material into chunks so students can more easily assimilate it. Without some subdivisions, a course may be too complex for the average student to comprehend. Ask yourself these questions:

- What portions of the content are germane to the learning goals?
- What themes, fundamental principles, or synthesizing ideas does the course involve? These elements can serve as unifying themes for the entire body of material and become the threads which hold the course together.

For example, in an art history course, there may be a particular approach to interpreting works of art that is used throughout the semester; a course in anthropology could use ethnocentrism as a theme.

- What are the major instructional units into which the course naturally divides? Or if there are no natural divisions, what logical and convenient divisions can be imposed on the subject matter?

Making the Course Relevant: Selecting Activities that Support the Goals

Once you have mapped out the course objectives and developed a working structure, you are ready to ask what kinds of learning experiences seem appropriate for students to attain the course goals and objectives. These questions may guide you in determining how best to help your students learn.

- What strategies will you use to help students achieve the goals? Some possible alternatives include:
  - Continuous series of lectures and reading assignments, with one or two midterms
  - Sequence of reading, reflective writing and whole class discussions for each topic
  - Field or lab observations, followed by readings and whole class discussions
  - Lectures, followed by field or lab work
  - Assigned readings, followed by mini-tests (individual or collaborative), followed by a collaborative application project
  - A developmental series: build knowledge/skills (4-6 weeks); work on small application projects (4-6 weeks); work on larger, more complex projects (4-6 weeks)
  - Contract for grades: (e.g., read text and pass exams = C; also do research = B; also do

- What textbooks, monographs, or other reading materials are available, at what level are they written, and how closely do they correspond with your course goals and objectives?
- Would a film or videotape explain some topics better than a lecture?
- Would individuals with expertise in certain areas make effective guest speakers?
- Would your students learn some material better if they took a field trip to a local site?
- How will you involve students actively in their learning both in and out of the classroom?
Supplemental Support: Choosing A Textbook and Other Course Materials*

In most college courses, readings carry the burden of conveying content; hence they are central to the educational experience of your students. Before selecting a textbook (or before using a textbook someone else has selected), subject it to the analysis outlined below to determine its suitability. You may have to make up deficiencies, interpret difficult material, select additional reading material, or supplement the book in other ways.

Read all materials you plan to assign your students, to judge their relevance and identify potential problems of interpretation or elements of controversy. In grading essay tests, you must be familiar with the sources on which they are based for they may contradict one another or contain errors of fact or interpretation.

Reading Level
The average undergraduate enters the University reading at approximately the eleventh-grade level, which means that some students may not be able to handle the level and amount of reading material you assign. You can expect more of juniors and seniors, of course, and even freshmen need to be challenged by their reading. After all, nothing can replace the experience of reading original works. The danger lies in setting challenges so far beyond students' capabilities that they are overwhelmed.

Readability
Determining readability requires that you read the material yourself. If you are choosing a textbook:

- Evaluate the author’s approach to the subject, layout of the chapters, and the text’s pedagogical features.
- Consider whether the content of the book is correct, precise, and accurate (the same criteria apply to all monographic materials).
- Look for clear explanations of complex ideas and for a variety of concrete examples to illustrate concepts.
- Check for logical organization within chapters and throughout the book.
- Determine whether chapters or units are of manageable length for students to master in the time allowed.
- Look for pedagogical features that will help students read and understand the content: chapter outlines, summaries, thought questions, lists of important terms and definitions, colored or boldfaced type for significant content, etc.

Student Workbooks and Teachers’ Handbooks
Sometimes publishers sell student workbooks to accompany the textbook. These can be useful if they contain exercises and assignments that correspond to your objectives for the course (don’t automatically assume the workbook is a good idea—examine it as critically as you do the text.)

You also should be cautious about using the teacher’s edition of the textbook or the teacher’s manual that may accompany the book. It is easy to be seduced into teaching a course from the textbook author’s viewpoint rather than from your own (which is why textbook selection should follow, rather than precede, the selection of your course objectives). Beware, too, of the convenient lists of multiple-choice questions in the teacher’s manual — many of them violate
the principles of good test construction. These questions can serve as starting points for writing your own, but resist the temptation to use them wholesale. (See Section 8, Evaluating Student Learning, for guidelines on designing multiple-choice tests.)

**Cost**
If a textbook meets all your criteria but costs $85.00, consider the cost-benefit ratio for your students (similarly, a monograph and a half-dozen paperbacks may cost a considerable amount). Students taking four or five classes may be paying hundreds of dollars for their books alone, and the average student is painfully aware of the cost of books. Some will even try to do without a book if they think its cost is exorbitant. Moreover, most students do not keep their textbooks for life. They are unlikely to get even a third of the price they paid when they sell the books back to the university bookstore. One way to reduce costs for students is to place materials on library reserve.

**Alternatives**
If you discover that no single text or set of monographs meets your needs, you may wish to create your own textbook from different sources (assuming you have sufficient lead-time). University Printing Services offers a copyright clearance service, which is legally necessary for copying journal articles, chapters from books, and various other printed sources. These anthologies usually cost a great deal less than textbooks, and can be tailor-made to meet your course objectives. Of course, you need to consider the level of difficulty of individual articles you choose to include. It is a good idea to write an introduction for each article to provide some context. It is also recommended that you include sets of questions for students to answer as they read the articles.

Even modest booklets can be reproduced and distributed at low cost to students through University Printing Services' course packet program. This program allows you to have your packet reproduced and delivered to the campus bookstore. There is no cost to you or your department and the storing of packet inventory is eliminated. The packets can be in the bookstore before the semester starts and the staff at University Printing Services works closely with the bookstore to coordinate the billing, stocking, and reordering of your publication. Staff will come to your office, pick up the originals, discuss production options, process your order, and deliver the finished product to the bookstore to be sold to the students.

**Assessing Outcomes: Designing Strategies to Evaluate Student Learning**
What information can you gather that would tell you how well each student or the class as a whole achieved the instructional goals of the course?

- Multiple choice exams?
- Essay exams?
- Project assignments?
- Weekly quizzes?
- Writing assignments?
- Oral reports?
- Others?

Evaluation methods should match the objectives and need to be planned when you design the course.
Creating A Syllabus

The syllabus is the basic document that describes your plans for a course and provides information about the course for students. Like a blueprint, a syllabus helps you build a course that is well thought out and organized. Details are carefully planned and not haphazardly tacked on at the last minute. A well-designed syllabus benefits you and your students in a number of ways.

Advantages of a Good Syllabus

- Developing an effective syllabus requires you to think about the course and to organize early. Books and other materials must be reviewed and ordered. Content and organization of the course, assigned readings, and projects must be determined and then worked into the semester’s schedule. Developing a well-organized course is like a delicate balancing act, but once it is done, you have a clear plan for the semester.

- Students, especially in the first two years, take a number of required courses and may not understand why they must take these particular courses or how they will contribute to their overall educational experience. Explaining the course rationale in a syllabus can help students understand why they are in the class and how the course fits into their educational plans.

- Giving students a syllabus communicates your expectations. Students know what to expect and can plan their own work for the semester. This is particularly important to students when several of their courses have projects or exams close together.

- A syllabus includes class policies, assignments, and deadlines. Because it is written and is usually retained by students, it can eliminate misunderstandings and clarify policies, thus reducing student confusion or, worse, the charge of “You never told us….”

- A carefully designed syllabus helps to set the climate for the class. It demonstrates that you take the course seriously and are concerned about students.

- Finally, a syllabus gives relevant information about the course to prospective students, the department office, and colleagues.

Effect of Your Syllabus on the Classroom Climate

The way you design your syllabus helps to establish the classroom climate. Its tone can communicate concern for students or rigidity and indifference. Because the syllabus is the first written communication students receive from you, they tend to scrutinize it carefully to get a feeling for you as an instructor and your course expectations.

Some syllabi convey a sense of excitement about the course. The projects sound stimulating and intriguing, and students get enthusiastic about what they will be doing. Other syllabi are hard to read or in need of revision.

Examine your syllabus from a student perspective. Does it communicate the information your students need? Does it give them an idea how much the required books and materials cost? Is the language nonexistent? Will international students understand the expressions and abbreviations you use?

Hint: Ask former or current students to critique your syllabus and make suggestions for improvement. This might be a good end-of-course activity.
Tips for Planning a Syllabus

√ Get copies of syllabi from other instructors, particularly those known to be successful teachers. Your department may also have copies of course syllabi on hand. Discuss what has and has not worked with your colleagues.

√ Check the university calendar as you plan your syllabus. Also, check for religious holidays not on the calendar or those not honored by the campus. There may be other days when many students will be absent.

√ Plan the layout carefully. Students should be able to find the information they need easily. For example, dates for projects should be easy to find and repeated in two or more places.

√ Familiarize yourself with university policies regarding attendance, examinations, academic dishonesty, learning disabilities, drop-and-add, and course withdrawal (see Section 2).

√ Use language that is clear, direct, and communicates the right tone to the students.

√ Refer to the “Syllabus Checklist” to be sure you have not omitted any helpful information.

Basic Information

◊ Course number, section, title, number of credit hours, meeting days and times, room and building
◊ Your name, title, address, office/home phone numbers, e-mail address, office hours, restrictions on calls to home, and message arrangements
◊ Prerequisites (courses and/or skills)
◊ Required purchases: texts and supplies (where available and estimated price)
◊ Space for names and telephone numbers of at least two classmates

Course Description and Objectives

◊ How does this particular course fit into the student's overall major or general education requirements?
◊ Description of the course. Why do people study this area of knowledge?
◊ What is the intrinsic value of the course to the student?
◊ Course goals and objectives. What characteristics do you expect the student to have developed by the end of the course?
◊ What are the benefits and practical applications of this course for the student?
◊ Why is the course content arranged in this order?
◊ Will the course be primarily lectures, discussions, group work, labs?
Grading and Course
◊ Grading standards, weights, and criteria for each graded component included in the final grade
◊ Purpose of each assignment and project
◊ Course assignments and projects: due dates, format requirements or suggestions, level of research expected, approximate length, grading criteria
◊ What will tests evaluate? Memory? Understanding? Ability to synthesize?
◊ Will the tests be multiple-choice, short answer, essay, or some combination?
◊ Policies regarding attendance and/or participation. If participation is considered in assigning the course grade, how do you define and measure it?
◊ Policy regarding late assignments, make-up exams, and extra credit
◊ Policy regarding grades of P, I, and W

Course Calendar
◊ Topics to be covered, in sequence, with dates
◊ Due dates for readings, projects, assignments, and papers
◊ Holidays or times when class won’t meet

Other Concerns
◊ Reference materials at the library or other locations and how the student should access them
◊ Glossary of vocabulary words (with or without definitions)
◊ Policies regarding academic honesty

Optional Items to Add or Incorporate
◊ Indication of conditions under which the syllabus is subject to change
◊ List of campus resources, library policies, computer availability and policies, learning assistance policies, laboratory policies
◊ Descriptions of instructional techniques you will use and rationale for these techniques
◊ Description of your beliefs about teaching: teacher as expert, formal authority, socializing agent, facilitator, role model, researcher, resource consultant, coach, counselor
◊ Explanation of your beliefs about the purpose of education and about students
Section 5

First Impressions

Starting well is critical to a successful semester. The impressions you make on your students — and they on you — during the first week of classes are likely to linger and are hard to change as the semester progresses. Devoting some creative energy to planning the first class meeting with students and considering ways to get to know students ensures that everyone can most productively engage in the business of teaching and learning.

This section offers advice to help you get yourself in gear, manage the first class meeting, and build a positive rapport with your students.
Getting Yourself in Gear

Your teaching begins well before you walk through the classroom door. To make the first day a good one and set the stage for a successful semester for you and your students, here are some ideas to help you prepare for class, deal with nervousness, and manage your classroom effectively.

Things to Do Before Class Begins

Whether you are teaching a class for the first time or the twentieth time, before you meet with your students, you should do your homework.

◊ Be sure you know:
  • the goals of the course and what you expect students to learn
  • when and where the class meets
  • how you can obtain a class list
  • how to handle requests for drops and adds
  • the level and range of abilities of the students who typically take the course.

◊ Check the room where you will be teaching to make sure it suits your needs (class size, layout, movable chairs, etc.). If there is a major problem (e.g., if the room you were assigned turns out to be a broom closet or a restroom — don’t laugh; it has happened!), ask your departmental administrative assistant to contact the classroom scheduling office to arrange for your class to meet in a more suitable location.

◊ Refresh your memory of what students have said about the course by briefly reviewing student evaluations from past semesters.

◊ Prepare essential information on a handout to give to students during the first class meeting, or be ready to distribute your course syllabus.

Dealing with Nervousness*

It's normal to feel nervous as you approach your first meeting with students. But if you concentrate on what you want to communicate, instead of how you are saying it or how you appear, you will quickly forget your apprehensions.

Practice. Although practice may not make perfect, doing all or part of a presentation out loud several times will make you feel more confident. Do at least one dry run in front of an audience, even if it's a friend, your spouse, or a mirror!

Prepare. Go to the classroom you'll be in and familiarize yourself with it and its equipment. Think about how you might seat your students. Identify obstacles that may create a wall between you and your students and find ways to eliminate or minimize them. (For example, if you want to walk around the room as you talk with students, would a desk or table be in the way? If so, can you move it somewhere else to make a clearer path?)

Visualize. Rehearse for your first class by actually visualizing how it will go. Consider what you will say, how you will say it, and imagine a positive response from your students.

Make A Strong Start. To help you relax, start with an introduction that will be easy to remem-
ber. Ask a question, tell a story, or pose a problem. Such strategies also will get your students’ attention and relax them as well.

Concentrate on Ideas. Focus on the ideas you want to get across, not on how nervous you are. Even timid people speak up when they care about their subject. Think about your students’ needs, not your own.

Use Audiovisual Aids. If you have lots of material to cover, it can be particularly reassuring to have much of it already written on an overhead or as computer files for presentation (e.g. PowerPoint). Even an outline written on the board can reassure you that you won’t forget major points you want to mention.

Assume a Confident Attitude. To a large extent, you can control your own reaction to sweaty palms or a pounding heart. Tell yourself you’re “psyched” not nervous. Remember that to your class, your nervousness may appear to be energy or enthusiasm. Your attitude can determine what your students think and how they react to your presentation.


Classroom Management: Taking Charge

Classroom management means more than just maintaining strict control over the class and its content — it means establishing a comfortable environment that allows everyone to learn and participate freely. You can avoid many problems by making your expectations clear through what you say and do from the first day of class. Explaining your policies at the outset and following them as the semester progresses provides a common set of ground rules for you and your students. The tips presented in the box below provide some basic guidelines for maintaining a productive classroom and a respectful relationship with your students.

Tips for Managing the Classroom Environment*

- Start class on time. You'll send a message that being there is important. If a student arrives late several days in a row, say something before it becomes a habit.
- End class on time. If you let students out early more than once, they'll begin routinely packing up their backpacks before class is over; if you regularly go over time, students may become resentful.
- Announce your office hours and keep them faithfully. Being accessible can prevent many problems.
- Deal with disruptive students individually outside of class, not during class where your credibility is on the line.
- When asked a challenging question, don’t bluff. Students, even very good ones, quickly lose respect for teachers who give just any answer to a tough question.
- Set policies at the beginning of the course. In particular, make sure attendance and grading policies are clear, preferably in writing.
- Adhere to the policies and rules you spell out in the syllabus and/or in discussions with your students.
- Be conscious of signs of racial or sexual harassment, whether by you, toward you, or toward other members of the class. Make it clear by your words and actions that put-downs or derogatory comments about any group for whatever reason are simply not acceptable.
- Know your students' names. If you have a large class, learn as many names as possible. Students are more likely to cause problems if they are anonymous in the classroom. When you use your students’ names, you give them a sense of personal responsibility for the class.

The First Class Meeting

Your first face-to-face contact with students is critical to the success of the rest of the course. Initial impressions can be changed only with difficulty, so you need to pay careful attention to your objectives for the first day of class. In general terms, you need to accomplish three objectives:

1. Introduce yourself to the students and the students to each other.
2. Answer students’ questions and calm their anxieties about the course.
3. Provide a sample of the course content.

You will need the entire class period to accomplish these things, so don’t dismiss class early — this is important work.

Tips for the First Day

The following tips may help you think about how to handle your first meeting with students.

• Write out your plan for the first class meeting, or at least make some notes of what you intend to say and do before you get in front of the class.

• Write on the board (or overhead):
  ➢ The course name, number, and section (as a help to students who may not be sure they are in the right classroom)
  ➢ Your name
  ➢ Your office location and office hours
  ➢ Your e-mail address

• Introduce yourself. You may want to tell the students something about your academic background or professional interests.

• If you want to gather information about your students, ask them to provide it on 3”x 5” cards. These cards also can help you learn students’ names.

• Explain the structure of the course and your expectations of students.

• Address general student concerns about things that may affect their grades: attendance, test and quiz policies, homework, how much work the course requires, and your grading policy.

• Ask students what they want to get out of the course.

• Discuss how the course fits into the general curriculum and provide an overview of the content to be covered.

• If appropriate, discuss the texts, required readings, or reserved readings in the library.

• Much of the above information can be included in a course syllabus or outline that you distribute during the first session, discuss the texts, required readings, or reserved readings in the library.
Seven Questions: Starting Well*

These seven questions address some common concerns of beginning teachers. It doesn’t hurt experienced teachers to review them, either.

How Do I Begin?
Introductions set the tone for the whole semester. Introduce yourself at the start of the class and repeat the introduction at the end for the benefit of late-comers. As you go around the room, ask the students to tell you their names, majors, city of origin, why they are taking the course and what they expect from it (if class size permits). Locate each name on your roster and record it before moving to the next student for an introduction.

If your class is small enough, put students in small groups to introduce themselves to each other. Students who know the names of some of their classmates are more likely to contact other students for help or advice. (A student can sometimes explain a concept to another student better than the teacher can.) Some teachers provide space on the course syllabus for names and phone numbers of two or three classmates so students can call one another when they have problems.

How Can I Learn My Students’ Names?
It is important that you learn your students’ names so they will feel that you see them as individuals. There is some evidence that students are more motivated by teachers who learn their names. You can begin the learning process on the first day, even if you have a poor memory for names. Here are some strategies that work for some teachers:

- require students to bring in photos (with names clearly inscribed)
- use a digital camera to take pictures on the first day
- videotape students on the first day, having them file past the camera one at a time, giving their names and perhaps some background information
- request that students choose a permanent seat so you can make a seating chart. If you explain that the seating chart is to help you learn their names, they will not object.

How Can I Learn Other Things About My Students?
The more you learn about your students, the better you can teach them, and there are a variety of methods for gathering this kind of information.

- Distribute 3 x 5 cards on the first day and ask them for some basic information: full name; first name or nickname they prefer to be called; campus address and phone; home address and phone; major or intended major; the name of their advisor; any special health conditions they think you should be aware of; why they are taking the course, and what they expect to get out of it.

- You may wish to develop a student profile in a more informal way (if your class is small) by asking students to sign up for a time to meet with you during the first week of class. You can then interview them individually to elicit information about their skills, interests, and needs, and generally get to know them better.

- Give the class a non-graded pre-test covering material you think they
should already know and some material that you intend to cover in the course (this technique can be especially enlightening for teachers of courses with prerequisites.) Students' performance will provide important information about how much remediation you will have to do, or how much of the course material they already know.

- Ask them to write a non-graded essay on some aspect of the course that you assume they know something about. Their essays will provide a quick measure of their knowledge and their writing skills and may afford insights about their preconceptions or misconceptions about the course material. For example, in a course that focuses on a foreign country or region, you could ask them to write what they know about life in that country; in a course in music appreciation, they could write about their favorite composers.

**How Do I Communicate My Expectations of Students?**

First be sure of them yourself. Come into class prepared with a list of points to be made, and policies to be announced; anticipate student concerns:

- How will the final grade be determined?
- How much weight will be given to midterm exams, papers, the final exam, and the discussion section?
- Is attendance required for the course? Will attendance always be recorded?
- Have the exam formats been decided?
- What is the required reading, the reserved reading? Are texts available now in the bookstore?
- What are your policies on make-up exams, late papers, plagiarism, and homework?

Make sure you have copies of the textbook, lab manuals, and other materials to show on the first day. When students have had time to buy the books, require that they bring them all to class one day so that you can describe the kinds of information you expect them to get from their reading. For example, many textbooks have special features that students can use to guide their studies such as special headings, “boxes” of information, boldface type, definitions, etc. You would be surprised how many students fail to recognize these features as important reading guides.

**How Do I Deal with Registration Problems?**

Ask to see anyone with registration problems immediately after class rather than taking class time to straighten them out. Become familiar with registration processes so you can help students troubleshoot registration problems. Be aware that different departments at MSU have different procedures for handling Add/Drops; you should talk with your Department Head or administrative assistant to find out the procedures in your department.

**How Do I Present a Course Overview?**

Provide a brief sketch of the material to be presented in the course. Describe where the course stands within the department. Identify any prerequisites students should have already taken, and indicate courses for which yours is a prerequisite. Explain why you are excited by the course material or the subject generally. Such feelings can be contagious.
**How Do I Motivate Students?**

The first day of class is an excellent time to address student motivation. Many instructors are concerned about motivating students who enroll primarily to fulfill a graduation requirement, but motivation is an issue in every class. If you want students to work to their full potential, you need to find ways to enhance their motivation.

Motivation for learning depends on three interrelated factors:

1. Appreciation of the value of the learning experience. (“What’s in it for me?” or “When and where will I ever use this stuff?”)
2. Expectation of success. (“Will I be able to learn the skills in this course?” or “Will I be able to make the grade I want in this course?”)
3. Belief that performance is related to rewards. (“Will this course take more time than it is worth to me?” or “How much work will I have to do to get what I want from this course?”)

If you spend time the first class meeting addressing these issues, both you and your students will benefit. For example, to show them the value of the learning experience, you could discuss how the course material will be useful for different majors, how the concepts will enhance their general education, or how the learning will help them in their future careers — in short, illustrate the ways they will directly benefit from mastering the course material. With some clever questioning, you can probably elicit most of these points from the students themselves.

By drawing attention to your reasonable grading criteria and procedures, you can show students they can succeed — given a reasonable amount of work — and that rewards will be meaningfully related to performance. You would be wise to return to these points several times during the semester so the ideas will be constantly reinforced.

*Adapted from Teaching at Carolina (1998). Chapel Hill, NC: Center for Teaching and Learning, University of North Carolina.

**Building Rapport***

Perhaps nothing is more important to good classroom dynamics than rapport between instructor and students. Some behaviors that promote the establishment of good rapport include:

- willingness to share personal experiences
- willingness to admit uncertainties
- openness to new ideas
- ability to suspend judgment of others
- ability to listen carefully to others’ statements
- tolerance of opposite points of view.

Many students test the waters to see how their ideas will be accepted; if the instructor lacks sensitivity, students may become unwilling to contribute. Instructors can begin the rapport-building process on the first day of class.

**Opening Session**

Activities designed to break the ice and get students used to speaking in front of the group help set up a supportive environment on the first day. In smaller classes students can share their names, home towns, academic majors, and/or a question they would like the course to answer. In larger classes instructors might ask the same questions, using a show of hands to
generate responses (e.g., “How many of you are from western Montana? How many from a state other than Montana?”) Instructors get the best results when they offer personal information about themselves to get the discussion rolling. They might, for example, talk about their personal and professional backgrounds or their initial experiences with the discipline.

**Verbal Cues**

You can promote an atmosphere of trust and rapport in the ways you interact verbally with your students. The following statements are examples of comments that help build rapport and encourage students to remain actively involved in classroom activities:

- Can you think of a situation in which this notion might or might not apply?
- That’s an interesting idea, tell me more.
- I don’t know either, but it’s an interesting question. Can anyone help us here?
- I’m not sure I understand. Were you saying that the survey questions were too personal?
  Can you give me an example?
- Feels to me like we’ve kind of strayed from the point. Have we?
- Let’s not forget the basic problem we’re trying to solve.
- What’s the first step?

**Nonverbal Cues**

Students react strongly to the nonverbal cues instructors convey. These are some examples of nonverbal communication that create positive rapport in a class:

- Showing enthusiasm when listening to student responses by smiling expectantly and nodding as the student talks.
- Keeping eye contact with the student who is talking.
- Walking toward the person who is talking, even if there is only space to take a few steps in any direction.
- Walking around the room throughout a discussion so students will view people in different parts of the room.
- Looking relaxed by leaning against the wall, sitting on a desk or pulling up a desk or chair and joining the class.
- Arranging students’ chairs in a circle or in a configuration in which they can see each other.
- Standing by students who have not contributed to the discussion. Proximity may draw them into the conversation.

*Adapted from Teaching at the Ohio State University: A handbook (1994). Columbus, OH: The Ohio State University Center for Teaching Excellence.

**Beyond the First Day:**

**Creating A Positive Learning Environment**

Maintain the tone you set with students by creating a positive learning environment in your classroom every day.

- Be concerned about the physical environment. Check the lighting in the room. Be aware of room temperature. Encourage students to inform you about any discomforts and try to accommodate any special needs.
• Make examples relevant to students’ lives. Connecting learning and living is what education is all about.

• Don’t be so rigidly tied to your syllabus that you don’t take the time to capitalize on real life situations. Find ways to connect current campus events and campus visitors with what is going on in your class or with students’ lives.

• Address students by name. Use a seating chart, name tags/tents, or whatever it takes to remember their names. It shows you respect them.

• Watch your students’ responses. Do they know what you’re talking about? If not, be willing to take the time to present the concept in different words with different illustrations. Are students indicating they’re bored? Break them into groups and get them to discuss the main points of your lecture. In long classes, provide a short break to let them stretch.

• Provide nonverbal encouragement. Maintain eye contact, move about the room, be animated and expressive. Let them see and feel your enthusiasm for the topic.

• Model the thinking process. Tell them, show them, and then let them practice or apply their knowledge.

• Use positive reinforcement. Recognize students for contributing to in-class discussions or answering questions. Use student test answers to review material after a test. Validate student opinions by referring to points students made previously.

• Keep tabs on how your students are progressing. Use conferencing outside of class to discuss problems AND areas where students are doing well. Be willing to provide review, catch-up or further explanation sessions. If students are failing, be honest with them about their work before you are forced to fail them.

• You must establish rules. But, remember, there are occasions when rules need to be broken. Remain flexible. Be compassionate, not cynical.

• When asking questions…PAUSE. Students need time to process the questions and their answers. Count to 15 before moving on. If you don’t, the message you give is “I really don’t want to take the time to listen.” Verbalizing information helps students internalize it.

• Do not talk down to students. Avoid judging behaviors that cause students to feel inadequate or stupid. Avoid stereotyping.

• Use up-to-date examples and illustrations that touch your students’ lives.

• Be a facilitator, not an emcee. You don’t have to do all the talking in the classroom. Let students learn from each other.

• Provide your students with feedback opportunities during the course. Hand out a weekly evaluation inviting students to comment on the topic and your presentation. Were you clear in your explanations? How relevant is the subject matter? What did the student like most about the class? Reaction papers are useful because they provide feedback while forcing students to process the day’s material.
• Classroom climate is enhanced by out-of-class contact with students. Recognize students at the SUB, residence halls, library, etc.

• Read the Dean's Lists, the school paper, the sports section of the local paper, etc., to learn about students' accomplishments. Mention them in class.

• Your office climate is just as important as the one you establish in class. Let students know where your office is and where to find it. Personalize your office. Keep appointments with students. If you're going over a test or a paper with a student, sit beside the student so you can both see what you are discussing.

• Finally, remember “from whence you came…” You were a student once. Try to take the students' perspective and critically reflect on your teaching. What can you do better? How can you improve your teaching?
Section 6

Interpersonal Considerations

Teaching is one of the most vital of the communication arts. It involves two people — teacher and student — exchanging ideas, building knowledge, and influencing attitudes. Connecting with and responding to students is critical in managing the interpersonal interplay that is the hallmark of teaching and learning.

This section offers suggestions to help you teach inclusively, understand students’ learning styles and motivate their learning, help students learn how to learn, and deal with troubled or difficult students.
Teaching Inclusively

The differing economic, ethnic and racial backgrounds, genders, physical abilities, sexual orientations, ages, learning styles, and religious and political beliefs of students at MSU create opportunities for richly diverse classroom discourse. Although many faculty have lived in places more diverse, many of our students find Bozeman to be extremely diverse compared to the communities where they grew up. But with the opportunity for highly informative and rewarding exchange comes the potential for tension that can adversely affect classroom.

Whether we are aware of it or not, we are all inclined to notice those different from us and identify with those similar to us. As a result, we may unconsciously respond to differences among our students from a biased or stereotyped perspective, or we may ignore certain groups. How do we as teachers avoid treating some students as though they were invisible? And how do we create an inclusive classroom atmosphere that allows everyone to participate fully in the exchange of ideas?

Part of a teacher’s job in the classroom is to create an environment where everyone has an opportunity to learn and find his or her own voice. Every class member has ideas, questions, and points of view that can enhance everyone’s learning.

Here are some suggestions to help you work effectively with all students.

• Watch Yourself. Pay attention to the students you notice in the classroom, those to whom you direct questions, those you call on, those who volunteer to participate, etc. If you see a pattern in the attention you give to certain students, you may be sending signals to other students that they are invisible in your classroom.

• Notice Whom You See. Eye contact is crucial in communicating group acceptance. Do you tend to use eye contact selectively—looking more frequently and for longer periods at those in the front of the room than those in the back? Do you focus more attention on white male students than on women? Do you make eye contact less frequently with African Americans, Native Americans, Hispanics, and Asian Americans? Eye contact patterns are culturally dependent, too. In some cultures, direct eye contact with a superior is considered disrespectful. Find other ways of acknowledging students who bring these cultural expectations to your classroom (for example, by speaking with them individually.

• Encourage Participation. Give encouragement to students who don’t find it easy to volunteer. Learn to tolerate silence. Give time, do not interrupt or rephrase when a student makes an effort, and do not let others interrupt. Think of ways to facilitate participation by all. The class can work in groups, and the role of the reporter can rotate. The important thing is to recognize that public performance in class can be hard for those who are trying to learn how to communicate in an academic setting.

• Be Tolerant of Different Ways of Learning. Be aware of different learning styles, but avoid grouping or labeling students by types. Vary your instructional approaches, evaluate work from multiple perspectives, reward collaboration, and give options in assignments.

• Select Inclusive Illustrations and Examples. Be sure your examples and illustrations don’t exclude some members of the class. The same goes for the research you cite and the material you assign. Seek out sources that provide the authentic voices of others that are applicable to the subject you are teaching.
• Make Students Feel Welcome. Don’t take the dominant classroom culture for granted. Welcome diversity at the beginning of the course and make an effort to increase the sensitivity of the majority students to cultural differences. Be careful, however, that you don’t call on students from diverse cultural groups as representatives of their groups. Be conscious of your own language or statements you make that may reflect bias or stereotype (e.g., "The gals in the course may have trouble with this concept.")

• Treat Students Fairly. Don’t try to protect any student or group of students because of their gender or ethnicity. Acknowledge the achievements of all students and convey the same level of respect and confidence in the abilities of all your students. Attempt to respect the individual needs of all learners.


---

### Teaching for Inclusion: Questions You Might Ask Yourself*

<table>
<thead>
<tr>
<th>Relating to Teaching Behaviors</th>
<th>Relating to Texts, Lectures, and Course Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Are you conscious of sex-related expectations you may hold about your students?</td>
<td>• Do they use gender-neutral language?</td>
</tr>
<tr>
<td>• How do you react to uses of language (accent, dialect) that depart from standard English or are different from your own?</td>
<td>• Do they consider new research and theories about men, women, and people of color?</td>
</tr>
<tr>
<td>• What is the ratio of males versus females or students of various racial or international groups that you call on? Which students do you know by name? Why?</td>
<td>• Do they portray activities, achievements, concerns, and experiences of women and people of color or foreign origin?</td>
</tr>
<tr>
<td>• Which of these categories of students participate in class more frequently?</td>
<td>• Are careers, roles, interests, and abilities of women and people of color or foreign origin presented without stereotyping?</td>
</tr>
<tr>
<td>• If one group of students dominates classroom interaction, what do you do about it?</td>
<td>• Are examples balanced in terms of gender and race?</td>
</tr>
<tr>
<td>• How do you characterize your verbal response to students? Positive? If not, why?</td>
<td>• Do examples reflect values free of bias with respect to sex, race, and ethnic or national origin?</td>
</tr>
<tr>
<td>• Do you face one section of the classroom more than another? Do you make eye contact with some students more than others?</td>
<td>• Do exams encourage students to explore the roles, status, contributions, and experiences of women and people of color or foreign origin?</td>
</tr>
</tbody>
</table>

American Indian Students*

One American Indian student described his reactions when he first came to Montana State University. He was in a speech communication class, and the teacher's instructions for the students' first speech were "be sure to make eye contact and project your voice loudly to be heard throughout the room." This young man became anxious. He had been taught that making eye contact or looking directly at others was combative and confrontational. He had heard elders speak in soft, even tones, and he had learned that to speak loudly is to speak boastfully. Furthermore, the other students seemed to be rewarded for rude behavior. The best students seemed to want the spotlight and relish confrontations with professors and the other students.

To be effective with American Indian students, you must be attuned to their different learning styles and cultural backgrounds. Recently a group of MSU Indian students in the American Indian Research Opportunities program participated in a discussion about their experiences at MSU. They offer several suggestions for those teaching Native American students.

Suggestions for Teaching American Indian Students

“Don’t stereotype us.”
Indian students at Montana State University may come from one of seven different reservations in Montana, or they may be from an urban setting such as Billings. Or they could be members of an out-of-state tribe. Each tribe has its own beliefs, codes of behavior, and values. Moreover, some Indian students have been taught to follow their traditional cultures while others have adopted the values of the dominant culture. Some Indian students are well-prepared, while others face challenges adapting to the college environment. No generalization applies to all Indian students.

“I can’t speak on behalf of all Indians.”
Teachers sometimes place unwarranted stress on Indian students in classes where the content relates to American Indians. They call on the Indian students to give the Native American perspective. This demand can make the students feel uncomfortable because they know that there is a wide variety of viewpoints among Native Americans; no individual can be an expert on every aspect of Indian culture. You should not assume that all Indian students are well acquainted with their own heritage. However, Indian students can be valuable resources. An appropriate strategy is to speak with them before hand to see if they have knowledge on a topic and if they feel comfortable speaking about it.

“We’re not angry about the past; we are upset about today’s racism.”
Indian students, especially those from reservations, have boldly stepped into the very different world of the university, but they are sensitive to racism whether it is intentional or unintentional.

“We are family-oriented.”
Strong connections to extended family, a strength back home, may impose hardships on students attending school. They may be expected to go home for funerals even for relatives who you may consider distant. Indian students who come from reservations are far from their homes, families, and support systems. They may feel that they are living in an alien culture, which may contribute to their feeling lonely and depressed.

“If we’re quiet, that doesn’t mean we are not paying attention.”
This conduct may arise from a variety of sources including the desire not to show themselves as being better than other Indian students or not to appear to act “white.” Many Indian students prefer to blend in rather than stand out.
"Our thought processes may be different."
Studies of American Indian cognition (cited in Wright 59) indicate that there “may be important differences in perceptions of the world, of time, of the emotional content of nonverbal vocalizations, and of the meaning of teachers' behavior between American Indians and Anglos.”

“English may not be our first language.”
A few students may speak English as a second language, so they may be reticent about speaking up in class or may need to use tutoring services such as the Writing Center.

“We don’t want special treatment; we just want a fair chance.”
You should make yourself available to assist American Indian students who need help, but you should not assume that because a student is Indian, his or her academic preparation is weak.

What strategies can teachers employ to provide a great learning experience for their students?
The following suggestions are culled from research into teaching American Indians and other minorities. Many of these strategies also apply to non-Indian students. In fact, non-Indian rural students share some of the culture shock that Indian students may experience when they arrive at MSU. Also, they may not apply to every Indian student. So the best advice is to remain flexible and use a variety of teaching strategies and learning activities.

• Practice personal warmth plus high expectations.
• Respect cultural differences.
• Learn the cultural resources of your students.
• Develop multiple instructional approaches.
• Be aware of the ways you ask questions.
• Remember some students do not like to be “spotlighted” in front of a group.
• Be aware of proximity preferences — how close is comfortable?

MSU Programs for American Indians Students
http://www.montana.edu/president/gathertogether/

Student Success Resources
The goal is to increase the retention and graduation rates of eligible participants, defined as first generation, low income, and/or physically disabled. The program provides counseling, small group tutorials, basic skills course work, and study skills instruction.
177 SUB, 994-7627

Affirmative Action Office
Montana State University is working to institute specific programs designed to enhance the human potential of faculty and staff, thereby increasing opportunities for career advancement on campus. The Affirmative Action Office is responsible for ensuring a nondiscriminatory setting for all MSU employees and students and monitoring MSU’s compliance with all state and federal laws.
118, Hamilton Hall, 994-2042
American Indian Research Opportunities
American Indian Research Opportunities (AIRO) is a consortium of Montana's seven Tribal Colleges (Blackfeet Community College, Chief Dull Knife College, Fort Belknap College, Fort Peck Community College, Little Big Horn College, Salish Kootenai College, and Stone Child College) and Montana State University-Bozeman, dedicated to providing opportunities for American Indian students in career fields where they are significantly underrepresented. The advisory board to the AIRO consortium consists of representatives from each of the seven tribal colleges and Montana State University-Bozeman.
312 Roberts Hall, 994-5567 http://www.montana.edu/wwwai/

American Indian Science and Engineering Society (AISES)
A nationally recognized organization, the MSU chapter provides support for science and engineering students and assists with recruitment of high school students to MSU programs.
http://www.aises.org/

Native American Studies Department
The department offers academic opportunities to students wishing to minor in Native American Studies or those wishing to take core courses focusing on Native American issues. Students may also earn a Master of Arts in Native American Studies. The department also maintains a full-time advisor and works cooperatively with the American Indian Club to meet the needs of Indian students.
2-179 Wilson Hall, 994-3881

Indians in Montana

The seven reservations in Montana:

- Rocky Boy's Indian Reservation (Chippewa and Cree)
- Blackfeet Indian Reservation (Blackfeet)
- Flathead Indian Reservation (Salish and Kootenai)
- Fort Peck Indian Reservation (Assiniboine and Sioux)
- Fort Belknap Indian reservation (Gros Ventre and Assiniboine)
- Crow Indian Reservation (Crow)
- Northern Cheyenne Indian Reservation (Northern Cheyenne)

Bibliography of Resources

Office of the Superintendent of Public Instruction. The Indian in the Classroom: Readings for the Teacher with Indian Students. Helena: Montana Department of Education.

*This section was prepared by John G. Watts (AIRO Director, MSU)
Motivating Students*

Few teachers would deny that motivated students are easier to teach or that students who are interested in learning learn more. Anyone who has taught a required course can attest to this fact. Research indicates the following teaching behaviors correlate with positive student motivation:

- explaining course material clearly and to the point
- wanting to help
- being able to change approaches when needed
- summarizing materials in ways that help students remember
- demonstrating significance of subject matter
- making it clear how each topic fits in the course
- using humor
- finding ways to help students answer their own questions
- making the subject interesting
- being available to help students
- explaining evaluations of academic performance (grades).

Motivation is a significant variable in a student's readiness and willingness to learn. Most students are curious and do have a sincere desire to know and understand. You can capitalize on these two assets if the learning situation you create allows students to be successful at a fairly consistent rate.

Here are some suggestions for practical, tried-and-true strategies to get (and keep) your students interested in learning.

◊ Begin with the students. Find out what their majors are, why they are taking your course; learn about their goals for the course and what they might already know about the subject.

◊ Establish the relevance of the course material. Relate the course to students' interests. Show them how the course might be relevant to their lives or useful down the road. Explain to them why it may be required in the curriculum. Tell them why you find it interesting. Use questions, problems, examples, and case studies to show relevance.

◊ If possible, involve students in the choice of materials. What topics are of interest or of most value to them? Include optional items and allow for alternative learning methods.

◊ Arrange learning tasks at levels appropriate to students' abilities. Don't make tasks too easy or too hard; let students experience success as well as challenge. Make sure your tests and grades show what students have learned, not only what they don't know. Set realistic standards in a supportive way rather than threatening students. For example, don't say, "You're way behind." Instead try, "These are things you need to learn. How can I help?"

◊ Reward your students. Give them feedback as soon as possible; always return tests and papers quickly.
◊ **Offer positive comments rather than negative ones.** Your comments should always refer to the student's performance, not to the student as a person. And recognize sincere effort even if it’s not the greatest. We all need praise for our efforts as well as our accomplishments. Encourage self-competition. Help your students set realistic goals.

◊ **Consider the advantages of the "discovery" method of teaching.** Use the students' natural curiosity. Stress understanding over facts, let them fill in the gaps. Encourage students to critique their own work, to analyze their strengths and weaknesses, and to do their own research.

◊ **Use teacher-student interaction.** Keep the channels of communication open. Let students actively participate. Take a variety of roles from active direction to reflective support and most importantly, be a good model: be human!


**Understanding Students' Learning Styles***

Students vary dramatically in the way they process and understand information. These differences in learning, called "learning styles," refer to students' preferences for some kinds of learning activities over others. A student's learning style has to do with the way he or she processes information in order to learn and apply it.

**Why are Learning Styles Important?**

Information about students' learning styles is important to both the teacher and the student. In some cases, low satisfaction or poor performance in a course or particular activity may be misinterpreted as lack of knowledge or ability, when it actually reflects difficulty with a particular style of learning. Students who understand their own styles are likely to be better learners, achieve higher grades, have more positive attitudes about their studies, feel greater self-confidence, and exhibit more skill in applying their knowledge in courses.

Teachers who understand their students' learning styles:

- are better able to adapt their teaching methods and are more likely to motivate and engage students in learning by introducing a variety of appropriate teaching methods into their classes.

- can become more sensitive to the differences students bring to the classroom.

- can design learning experiences that either match, or mismatch, a student's style, depending on whether the teacher's purpose is to improve learning efficiency or to help the student develop skills with a style of learning in which the student is weak.

- can help poorly prepared or new university students develop their learning skills, possibly helping at-risk students stay in college.
**What Are Some Learning Styles?**

There are a number of approaches to identifying and defining learning styles. It is important, however, not to pigeonhole students based on learning preferences, nor to use incompatibilities to excuse certain failings. In fact, most people exhibit some combination of learning styles, or prefer one style to another depending on the type of learning task they are undertaking. It's also important to note that we can learn to adopt a learning style even if it may not be our

**Sensory Learning Style**

One classification system defines learning style according to the learner's sensory preference.

<table>
<thead>
<tr>
<th>Sensory Mode</th>
<th>Learning Preferences</th>
<th>Related Teaching Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>prefer to study graphs, look at models and pictures, and take notes to review later</td>
<td>drawings, models, and handouts with appropriate illustrations</td>
</tr>
<tr>
<td>Auditory</td>
<td>prefer to listen closely in class, read aloud when studying or subvocalize during lectures in class, confer with peers in class to confirm information</td>
<td>study groups where discussion of the material reinforces class discussion and lectures; viewing tapes and films</td>
</tr>
<tr>
<td>Verbal</td>
<td>likely to absorb reading materials and lectures more easily than other students; prefer written materials over visual materials such as graphs and illustrations</td>
<td>lecture, reading assignments</td>
</tr>
<tr>
<td>Sensing: tactile</td>
<td>favor subjects that allow them to work with their hands or handle the textures and shapes of objects as they apply their knowledge</td>
<td>hands-on activities involving original documents, photos, magazines, natural objects, etc.</td>
</tr>
<tr>
<td>Sensing: kinesthetic</td>
<td>learn and remember by moving around physically</td>
<td>small groups or pairs for discussion, active experiments, debate formats in which students physically move to opposite sides of the room</td>
</tr>
</tbody>
</table>

**Inductive vs. Deductive Learning Style**

Most tactile/kinesthetic learners also prefer inductive rather than deductive learning. Inductive learners prefer to begin with experience or hard data, and infer the principles behind them. Deductive learners prefer to start with abstractions or principles, and enjoy deducing the consequences.

Most college classes are taught deductively, not only because it is easier and less time-consuming to teach a class this way, but also because most teachers are themselves deductive learners. Deductive learners may often be reflective learners who prefer to think about the topic by themselves, or at most in pairs, and to work out the solutions. They do not react as well as others to group work.

**Did You Know?**

Most university teachers are verbal learners and thus find it easiest to relate to and teach such students.
**Did You Know?**

Differences between inductive and deductive learners may explain why in most classes, student evaluations show that some students see group work as the most important part of their learning experience, while others from the same class complain that they dislike group work and find it unhelpful. Providing a variety of approaches to the material can keep most of the students engaged in the class throughout the semester.

**Global vs. Sequential Learning Styles**

Global learners tend to see a project as a whole and have trouble breaking it down into its component parts. Abstractions may be difficult for global learners because they grasp information in large chunks and have a hard time analyzing a topic from incomplete information. These students are excellent at synthesis, and by the end of a class may even outpace their peers in coming to appropriate conclusions quickly, but often have trouble understanding material when first faced with a variety of pieces of information that make an

Sequential learners, on the other hand, are good at analyzing concepts because they learn linearly. When doing a project, they can take partial information and organize it into a logical order, and they can see what must be done first, next, and last. They are patient with the fact that a typical class gives them information in a certain order, and that they must wait until the end of the semester to get the full picture the teacher is trying to present. Since most classes are organized sequentially, this kind of learner excels in the typical college class.

**How Can Teachers Use Information About Learning Style?**

No teacher can make all students happy all the time, partly because of the diversity of learning styles in any class, and partly because each person uses a particular mix of learning styles. Some experts say teachers should accommodate learning style differences; others, while not totally absolving teachers of this obligation, shift the primary responsibility to students themselves. Any approach to the accommodation of learning styles should recognize the constraints inherent in teaching at the university level. The most realistic approach should respect the following:

1) Help students develop an awareness of their own learning styles.

2) Vary your teaching methods and assignments so that no learning styles are totally disadvantaged across a whole course.

One particularly helpful approach to learning styles is Kolb's experiential learning model.

This model describes four dimensions in a learning cycle, which include a learner's immersion in a concrete experience, followed by observations and reflections, followed by logically shaped or inductive formation of abstract concepts and generalizations, and finally, the empirical testing of the implications of concepts in new situations. This, in turn, gives rise to new experiences that start the learning cycle again at a greater level of complexity.

The table on the next page lists teaching activities that support different aspects of this learning cycle. These can be adapted for individual or group, competitive or collaborative, or in-class or out-of-class activities.
### Teaching Activities That Support Different Aspects of the Learning Cycle

<table>
<thead>
<tr>
<th>Concrete Experience</th>
<th>Reflective Observation</th>
<th>Abstract Conceptualization</th>
<th>Active Experimentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>readings</td>
<td>logs</td>
<td>lecture</td>
<td>projects</td>
</tr>
<tr>
<td>examples</td>
<td>journals</td>
<td>papers</td>
<td>fieldwork</td>
</tr>
<tr>
<td>fieldwork</td>
<td>discussion</td>
<td>projects</td>
<td>homework</td>
</tr>
<tr>
<td>laboratories</td>
<td>brainstorming</td>
<td>analogies</td>
<td>laboratory</td>
</tr>
<tr>
<td>problem sets</td>
<td>thought questions</td>
<td>model building</td>
<td>case study</td>
</tr>
<tr>
<td>trigger films</td>
<td>rhetorical questions</td>
<td>simulations</td>
<td></td>
</tr>
<tr>
<td>observations</td>
<td>text reading</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Teaching Techniques to Address All Learning Styles

- **Motivate Learning.** Relate current material to what has come before and what is still to come in the same course; relate it to material in other courses, and particularly to the student’s personal experience.

- **Balance concrete information** (facts, data, real or hypothetical experiments and their results) and abstract concepts (principles, theories, models).

- **Balance material that emphasizes practical problem solving methods** with material that emphasizes fundamental understanding.

- **Provide explicit illustrations** of intuitive patterns (logical inference, pattern recognition, generalization) and sensing patterns (observation of surroundings, empirical experimentation, attention to detail). Encourage students to practice both patterns. Do not expect either group to be able to exercise the other group’s processes.

- **Follow the scientific method** in presenting theoretical material: provide concrete examples of the phenomena the theory describes or predicts; then develop the theory or formulate the model; show how the theory or model can be validated and deduce its consequences; and present applications.

- **Use pictures, films, schematics, graphs and simple sketches** liberally before, during and after the presentation of verbal material. Conduct demonstrations that are hands-on if possible.

- **Use computer-assisted instruction** when possible (sensing learners respond very well to it).

- **Do not fill every minute** of class time lecturing and writing on the board. Provide intervals—however brief—for students to think about what they have been told.

- **Beyond note-taking, give students opportunities to be active.** Small group brainstorming activities that take no more than five minutes are extremely effective for this purpose.

- **Assign some drill exercises to provide practice in the basic methods being taught, but do not overdo them.** Also provide some open-ended problems and exercises that call for analysis and synthesis.

- **Give students the option of cooperating on homework and class assignments.** Social learners generally learn best while interacting with others; denying them this opportunity deprives them of an effective learning tool.

- **Applaud creative solutions, even incorrect ones.**

- **Talk to students about learning styles both in advising and the classroom.** Reassure them that their academic difficulties may not all be due to personal inadequacies. Explaining to struggling sensing, active, or global learners how they learn most effectively may be an important step in

---

*Sources:*


Helping Students Learn How to Learn*

Many students haven’t acquired the skills they need to be effective learners; they may not know how to take notes effectively, read productively, study for different types of tests, or manage their learning goals. Effective instructors teach not only subject matter but also give students the tools to learn the subject well.

Explain What Learning Means
Many students tend to equate learning with memorization, reflected in study practices like underlining in text books, taking verbatim notes in lectures, and attempting to remember word for word what the instructor said. One objective of college teaching should be to help move students into higher order thinking in which their learning is tested by the ability to apply what they know, not merely repeat it. If we want students to learn, remember, and understand, then we must explain what these things mean.

A good way to begin is to show students the types of questions they can expect on exams. Point out that they will need to remember some facts in order to address these questions, but they also must be able to apply their knowledge to examples, problems, issues, or situations that were not discussed in class or in their texts. This ability to use knowledge in new situations requires study activities different from memorizing.

Talk about Good Study Practices Early in the Course
Let students know — in your class presentations and syllabus — what techniques and strategies will help them learn best from the readings and class activities. Many students need to see techniques demonstrated before they can be used effectively, but describing them in your syllabus signals their importance. Also, address more general questions such as: How long should students expect to study each week?; How do class meetings, readings, and other assignments connect?; Should assignments be read before or after they are discussed in class?

Teach Students How to Take Notes
Even students who are good note takers or who have participated in study skills workshops benefit from help in adapting these skills to particular classes. What cues do you provide in lectures for helping students identify key ideas? Should they record examples in their notes? How much detail are they responsible for? What about taking notes during discussions or other class activities? Suggest, too, that students do more than simply read over or copy their notes between classes. Recommend, instead, that students go back over their notes, identify the key ideas and write them in the margins, then cover up their notes and try to explain the ideas in their own words, as if they were talking to a friend. Paraphrasing may go slowly at first, but it is an important step toward understanding and remembering ideas.

Early in the course, take some time to model good note taking and to provide guided practice. Ten or fifteen minutes into a lecture, stop and show students the notes you would have taken. Ask them to identify differences between their notes and yours. What did they miss and why? Are they trying to write down too much detail? What should they try to do differently? Repeat the exercise once or twice during class. Follow up in the next class by showing them how you identified the key ideas or issues in your notes and how you would paraphrase an explanation.

Use signaling phrases to cue students about key points: “this is important . . .,” “next, we’ll discuss . . .,” “the second point is . . .,” “these differ in three ways . . .” Such phrases help focus students’ attention and provide them with important organizational clues.
Teach Students How to Process Reading Assignments for Your Class

Keeping up with the reading is a source of anxiety for many students. Fortunately, research shows that students benefit from instruction in how to learn from reading, especially when shown how to adapt general skills to particular texts.

Begin by stating explicitly what students should try to get from the reading so they know your expectations. Suggest they skim the assignment to identify main ideas before they read. Help them see how the book is organized and what cues the authors provide to signify main ideas. Then encourage them to read with pen in hand, marking the main ideas, writing them in the margins, or noting them in a reading journal. Most important, urge students to stop every ten minutes to look back at the key ideas and try to summarize what they’ve read. Stress that pausing to review is at least as important as reading itself. The periodic review helps a reader maintain concentration, process information more deeply, and remember it longer.

To illustrate, show students pages from your own text that include notations you made while reading. Talk about what you marked and why, what cues you used to know these were important points. Then model how you review and summarize while you read, what you say to yourself during those pauses to review. Ask students in pairs to try the same thing with the next two sections, each taking a turn at identifying the main ideas and summarizing.

Active reading takes practice. Acknowledge that students may feel awkward at first, but the more they read actively, the more skilled they will become. As they develop their skills, both their reading speed and comprehension will improve. Point out, too, that when they pause to review, they may find they cannot summarize the main ideas—a sure sign they have not understood the section. They need to reread and then try again to summarize the main points. If they still cannot explain the ideas after two or three tries, tell them to formulate a question about the section, write it down, and bring it to class. Requesting that they submit questions on sections they don’t understand encourages students to keep trying to understand what they read.

Develop Assignments That Actively Engage Students in Study Activities

Few students take the time to write summaries, look for additional examples, or work problems unless an assignment prompts them to do so. If you want students to adopt new study practices, initially you will need assignments that require them to engage in those practices. To develop such assignments, it helps to think about the mental activities that characterize deeper processing of information.

To involve students in organizing and connecting ideas, for example, ask them to make outlines or draw concept maps. Prod them to make material meaningful by requiring that they paraphrase, summarize, or teach the material to someone else. To extend meaning and broaden connections, ask them to find additional examples in newspapers or media, to compare and contrast new ideas with those discussed earlier, or to rethink a position taken earlier in light of new material. Encourage them to consider ideas in a variety of contexts and situations by assigning case studies or problems drawn from different settings. (See Section 7, Instructional Strategies, for suggestions about these and other active learning techniques.)

Help Students Form Study Groups

Research indicates that students working in groups learn more and remember it longer. However, students do not always realize the benefits of group interaction, nor do they often form study groups on their own. Students need help in forming study groups and getting started. During the first or second week, help students form their groups and set a meeting time and place. Describe the purposes of the study groups, the nature of the work to be done there, and the responsibilities of each member. Initially, at least, give specific assignments to provide
structure and guidance. Check periodically to see how well the groups are functioning by reviewing group work or by asking members to take turns writing and submitting minutes of their meetings. From time to time, invite students to evaluate the effectiveness of their study groups and the contributions of each member.

**Help Students Understand Their Learning Styles**

Encourage students to reflect on various study techniques and to adopt those best suited to their learning styles. Research on learning styles indicates that people differ in the ways they carry out basic information processing activities. We know, for example, that only meaningful information is transferred from working memory to long term memory and that paraphrasing is a powerful strategy for making material meaningful.

Students who learn best by thinking things through in solitary study will likely prefer assignments that ask them to write a paragraph or to think about different ways to explain ideas. Students who learn by talking with others will benefit more from paraphrasing assignments in which they actually explain the material to someone else.

Getting students to reflect on the suitability of various study activities does not require administering a battery of learning style inventories, although students usually find such inventories interesting and helpful. You must do two things, however, to help students identify the most effective study strategies for them.

- Expose students to a variety of study techniques, not just those that work for you.
- Encourage students to reflect on the usefulness of various study strategies for them. For example, after modeling different forms of paraphrasing, ask students to try them out and let you know their reactions. Did they find it easier to paraphrase by talking or in writing? Which do you think helped them more? Which technique will they be most likely to use regularly?

After the first quiz or exam is also a good time to get students to reflect on their study activities. Ask them to indicate how satisfied they are with their performance, to identify which study techniques they think helped them most, and to describe what they intend to do differently before the next exam.


*Adapted from Erickson, B. L. (1994-95). Helping first-year students study. Teaching Excellence: Toward the Best in the
Recognizing and Assisting Troubled Students

Many teaching situations can take you by surprise: an angry student who confronts you about a grade; a student whose behavior has markedly changed; or a student who overtly expresses thoughts of suicide. A student experiencing varying levels of stress and distress may turn to you for help. Your response could significantly affect the student's ability to deal constructively with his/her problems. [http://www.montana.edu/wwwcc/docs/facultystaff.html](http://www.montana.edu/wwwcc/docs/facultystaff.html)

Here are some behaviors that may indicate a student is in trouble:

- seriously poor grades or a change from consistently good to unaccountably poor grades
- excessive absences, especially if the student previously attended class consistently
- depressed mood, excessive activity, rapid speech, swollen or red eyes, or a marked change in personal hygiene
- repeated requests for special consideration
- an unusual or exaggerated emotional response that is inappropriate for the situation
- dramatic loss of weight in a short period of time in a student with no apparent physical illness
- highly disruptive behavior (hostile, aggressive, violent)
- loss of contact with reality
- overtly suicidal thoughts
- homicidal threats.

Follow these guidelines to help students get the assistance they need:

◊ Demonstrate your respect by talking to the student when both of you have sufficient time and are in a private place free from disturbance by others.

◊ Be matter-of-fact. Controlling your emotions may help the student do the same.

◊ Give the student your undivided attention.

◊ Express concern for the student in clear, direct, non-judgmental terms.

◊ Listen in a respectful, non-threatening way to the student's description of the problems. Let the student talk.

◊ Convey support and understanding by summarizing what you hear the student saying and by including both content and feelings.

◊ Suggest that the student call the Counseling and Psychological Services (CAPS) Office (994-4531) for an appointment during office hours.

◊ In an immediate emergency, you may decide to accompany the student to CAPS in person so he/she may be seen immediately by the counselor. If possible, a call that you are bringing a student to CAPS would be helpful.
Dealing with Difficult Students*

Even in a well planned course where you clearly spell out, explain, and adhere to goals, instructional objectives, and evaluation criteria, it’s possible for misunderstandings or interpersonal conflicts to arise. Here are some suggestions for dealing with such problems or conflicts.

- Be thoughtful with your students. If you phrase questions and criticism carefully, you will generally avoid defensive or hostile responses.
- Take a supportive, encouraging, and respectful approach to correcting wrong answers, pointing out weak arguments, or highlighting weak points. Rather than asking what is wrong with a written paragraph or a problem solution, ask how it could be improved. Instead of asking what the weak point of an argument is, ask how well it applies to or uses the material from the class. Rather than dismissing an idea immediately, ask the student to clarify using the class material.
- Always show students the courtesy of listening when they offer an idea; don’t write on the blackboard or scribble on a note pad while they are speaking.
- Resolve any conflicting feelings you may have about your authority as a teacher. Students are confused by, and often alienated from, a teacher who alternatively acts as a friend or peer, then as a stern authority figure.
- Be careful about teasing or sarcastic humor since these are too easily misinterpreted. On the other hand, don’t lose your sense humor or the ability to laugh at your own mistakes.

However careful you are, you may still run into students who present specific problems. A few recurrent types — and ways to work with them — are discussed below.

The Arguer

<table>
<thead>
<tr>
<th>If a student...</th>
<th>Respond by...</th>
</tr>
</thead>
<tbody>
<tr>
<td>... insists that you are not &quot;allowing him his opinion&quot; (hers) when you disagree with a statement he/she has made</td>
<td>... pointing out that you disagree because the statement is not consistent with course material</td>
</tr>
<tr>
<td>... begins to disrupt the discussion</td>
<td>... offering to talk privately after class or during office hours</td>
</tr>
<tr>
<td>... becomes agitated during your talk</td>
<td>... remaining calm and nonjudgemental, and use evidence to support your position</td>
</tr>
<tr>
<td>... is stubborn and refuses to postpone a disagreement until later and completely disrupts class</td>
<td>... asking him or her to take the grievance to a higher authority (e.g. the department head or dean)</td>
</tr>
<tr>
<td>... remains highly agitated</td>
<td>... making apparent your willingness to discuss the issue calmly, but do not continue trying to reason with him or her</td>
</tr>
<tr>
<td>... becomes agitated in the extreme</td>
<td>... asking the student to leave the classroom, or even dismissing the class</td>
</tr>
</tbody>
</table>
Try to respond to the angry student as calmly as possible. Avoid making an issue out of a small incident. In such situations, it is essential to maintain your professionalism and not respond as if you feel personally attacked.

### A Word of Caution

If a seriously disruptive student seems threatening toward you or members of the class, it is best to consult the Dean of Students early in the process of dealing with the student. The Dean of Students can help you determine the most appropriate way to deal with your situation.

### The Over Talkative Student

<table>
<thead>
<tr>
<th>If a student . . .</th>
<th>Respond by . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>. . . is dominating a discussion</td>
<td>. . . trying to elicit responses from other students</td>
</tr>
<tr>
<td>. . . always volunteers to respond</td>
<td>. . . calling on someone else</td>
</tr>
<tr>
<td>. . . doesn’t see the importance of listening to other group members</td>
<td>. . . talking with him or her about this privately</td>
</tr>
</tbody>
</table>

Don't ridicule an over talkative student or make comments to other students in the class, but try as tactfully as possible to keep the group's activity going without reinforcing one student's talkative behavior.

### The Silent Student

<table>
<thead>
<tr>
<th>If a student . . .</th>
<th>Respond by . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>. . . never speaks out in class</td>
<td>. . . creating a safe environment by making sure all members of a class (if small enough) know each other by name</td>
</tr>
<tr>
<td>. . . seems shy or fearful about speaking in class</td>
<td>. . . organizing small group activities where the students discuss issues in pairs</td>
</tr>
<tr>
<td>. . . persists in reluctance to participate</td>
<td>. . . talking with the student privately</td>
</tr>
<tr>
<td>. . . remains silent even after your gentle encouragement</td>
<td>. . . respecting his or her right to remain silent</td>
</tr>
</tbody>
</table>

As with the over talkative student, don’t ridicule or put the silent student on the spot; rather, try to elicit answers from him or her—at first once every class and later more frequently—when he or she begins to appear more comfortable.
The "Grade"

The current generation of students is under pressures you may not have had as an undergraduate; competition for graduate and professional schools is fiercer and the pull from counter-culture options more muted.

<table>
<thead>
<tr>
<th>If a student . . .</th>
<th>Respond by . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>. . . unrelentingly pursues you if you give a lower grade than expected</td>
<td>. . . indicating that when you reconsider the paper, assignment, or problem-set, you retain the right to adjust the grade either up or down</td>
</tr>
<tr>
<td>. . . refuses to accept your decision about the grade</td>
<td>. . . telling the student how to pursue an appeal</td>
</tr>
<tr>
<td>. . . indicates some deeper troubles behind his or her complaint about a grade</td>
<td>. . . listening and responding to the student’s anxieties as well as complaints</td>
</tr>
</tbody>
</table>

There are ways to minimize complaints about grades. Make it entirely clear from the beginning of the course exactly what you expect in papers or tests. If possible, hand out guidelines for a good essay or examples of a superior exam answer. When you do give a grade, note in some detail weak or strong points of the work and suggestions for improving performance. You might give students the option with papers of handing in an initial draft that you will not grade but will comment on.

Remember also that it's possible you have made a mistake in evaluating a student's work and a re-evaluation might be justified.

Section 7

Instructional Strategies

Matching practice to purpose means selecting classroom activities and instructional strategies that will be most effective in helping students master the subject matter of your course.

This section describes ways to deliver effective lectures, manage classroom discussions, implement a number of active learning strategies, use media to complement teaching, and integrate writing into courses as an instructional tool.
Effective Lectures*

Lecturing is the most frequently used teaching technique. Yet, over the years it has developed a bad reputation because it tends to encourage students to be passive learners who neither contribute to the class nor engage in critical thinking or problem solving.

But lectures don’t have to be this way. Effective lecturers engage students and create an active learning environment.

When Is It Appropriate to Lecture?

√ When you want to give information, instructions, or details students could not easily find elsewhere.

√ When you want to present and organize the material in a certain way or for a specific purpose.

√ When student involvement in the class is not necessary to achieve learning objectives.

√ When you have 100-200+ students in your class.

Advantages and Disadvantages of the Lecture Method

<table>
<thead>
<tr>
<th>Good lectures . . .</th>
<th>However, lectures also may . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>• permit dissemination of unpublished or not readily available material.</td>
<td>• place students in a passive rather an active role; passivity hinders learning.</td>
</tr>
<tr>
<td>• allow the instructor to precisely determine the aims, content, organization, pace, and direction of a presentation.</td>
<td>• encourage one way communication; therefore, the lecturer must make a conscious effort to become aware of student problems and student understanding of content.</td>
</tr>
<tr>
<td>• arouse interest in a subject.</td>
<td>• require a considerable amount of unguided student time outside the classroom to enable understanding and long-term retention of content.</td>
</tr>
<tr>
<td>• facilitate large class communications</td>
<td>• require the instructor to have or to learn effective writing, speaking, and modeling skills.</td>
</tr>
<tr>
<td>• complement and clarify text material</td>
<td></td>
</tr>
<tr>
<td>• complement the individual learning preferences of those students who depend upon the structure provided by highly teacher-centered</td>
<td></td>
</tr>
</tbody>
</table>

Adapted from Improving your lecturing. Urbana-Champaign, IL: Center for Research on Learning and Teaching, Office of Instructional Resources, University of Illinois at Urbana-Champaign.
**Guidelines for Good Lecturing**

When you determine that lecturing is appropriate, these guidelines may help to ensure that you use it successfully:

1. Plan the lecture in advance.

2. Establish objectives for the class and ensure that your lecture meets them. Present the objectives to your students at the beginning of the lecture.

3. Organize the material so your students can understand it clearly. Chronological order may be effective, but consider alternative approaches: comparison and contrast; cause and effect; inductive; and deductive.

4. Make eye contact with your students, move around if you can, and use gestures. Don't just stand there reading notes!

5. Make sure everyone can understand you:
   - speak loudly and clearly
   - use common vocabulary when possible
   - define complex terms
   - avoid jargon
   - don't talk too fast
   - write difficult words or concepts on the board
   - use overhead transparencies to outline and clarify your lecture.

6. Enliven your lecture with concrete examples, personal anecdotes, or references to today's news.

7. Capture interest at the beginning of the lecture with a question, a powerful or popular quotation, or a dramatic or startling statistic.

8. Build suspense into your presentation as a way to maintain class attention, within the context of information flow. If at all possible, save the main point until the evidence has accumulated, giving others an opportunity to deduce the conclusion before it is revealed.

9. Vary teaching methods. Don't lecture for the entire class time. Fifteen or twenty minutes is the maximum attention span you can expect from students.
   - Pose questions to stimulate student interest.
   - Ask your students to turn to their neighbors and solve a problem.
   - Invite questions from the class.
   - Ask your students to write a one-minute paper on "the three advantages of . . ." or "the importance of . . ."
   - Invite the class to make up exam questions on the material you have just covered.

10. Summarize the main points at the end of every major section of your lecture.

11. Summarize the entire lecture, reinforcing and repeating the points you want to emphasize.
Maintaining Interest and Attention

During even the most stimulating lecture, a person’s attention is easily lost, so try to eliminate as many distractions as you can. Make sure the students are comfortable; adjust the lights or open windows as necessary.

Try to stimulate audience interest in the subject matter from the beginning. Pose a question that you will answer at the end of the talk. State a hypothesis to prove or disprove. Try to evoke concern for the subject being discussed. Tell the students why the subject is interesting to you.

There are other ways to maintain interest during a talk. Use real-life examples to which students can relate. It is easier for listeners to remember abstract ideas and relationships if you illustrate them with concrete examples. Tell stories or jokes if you have a penchant for them. Audiences absorb enthusiasm and energy, so be lively. A liberal use of graphics, cartoons, props, and technology can liven things up.

Student Involvement

Lecturing doesn’t have to be one-way communication. Students retain more information by actively processing ideas and formulating questions than by passively transferring a lecturer’s notes into their notebooks. Try to involve students in the presentation and encourage independent thought. Here are some suggestions:

1) Ask rhetorical questions to stimulate thinking.
2) Ask direct questions and wait for a response. Encourage and reward answers so students feel comfortable.
3) Ask for examples, input, or opinions from the audience.
4) Present a sample problem; give students 1-5 minutes to solve it; then either you or a student present the solution.
5) Use ad hoc groups. Ask each person to turn to a neighbor and discuss the current topic for 1-2 minutes and formulate or answer a question; then call on a few random pairs to share their work with the rest of the class.
6) Assign a one-minute paper. Ask students to write down their thoughts and opinions on a particular point.
7) Take a two-minute break in class and walk into the audience to answer questions one-on-one. Afterward repeat any interesting comments to the whole class.
8) Take a class vote on opinions or answers with a show of hands.

Presentation Structure

What you say in your lecture is, of course, the crux of your teaching; yet, the way you say it greatly influences how well your students grasp the substance. Here is a brief review of the tell ‘em what you’re gonna tell ‘em, tell ‘em, and tell ‘em what you told ‘em approach to lecturing.

The Introduction. Introductions should grab students’ attention, arouse curiosity, activate students’ background knowledge, or help them organize the important points in the lecture. Your introduction should provide students with an overview or preview of the day’s lesson. It should take about 2-3 minutes to briefly set the stage.

Here are some strategies you can use to introduce a topic:
• Raise a question.
• Tell a relevant story.
• Provide an overview of the lecture.
* Present a problem.
* Explain how the topic relates to students’ experience.
* Tell students how the information is useful.
* Relate content to material you have previously covered.

**The Body.** The body should cover the key points of the presentation. In a typical 50-minute presentation, you should address only 4-5 main points and make them clear to students. The body of your presentation should be well-organized, based upon an organizational pattern that helps students understand how each point connects to broader issues.

<table>
<thead>
<tr>
<th>Organizational Pattern</th>
<th>Used to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cause and effect</td>
<td>Cite and explain events by reference to the origins and consequences of problems or ideas</td>
</tr>
<tr>
<td>Sequence</td>
<td>Explain information chronologically or spatially</td>
</tr>
<tr>
<td>Classification</td>
<td>Present topics by category with supporting details</td>
</tr>
<tr>
<td>Contrast and comparison</td>
<td>Discuss similarities and differences between and among concepts</td>
</tr>
</tbody>
</table>

After stating main points, it is a good idea to list them on the chalkboard or an overhead. Every 15 minutes or so, change something to maintain attention. Use questions, visuals, humor, problem-solving exercises, one-minute papers, and small group discussions to break up your lecture/presentation.

**The Conclusion.** Conclusions should be used to summarize the important points of your presentation. There are a variety of ways to summarize your lecture:

* Reiterate the main points using examples.
* Ask students to summarize key ideas.
* Restate the learning goals for the lecture.
* Relate main ideas to broader contexts.

**Presentation Techniques**

Most people agree that a lecture with excellent content can easily be ruined by poor presentation. Here are some techniques to help you deliver effective lectures:

1. Vary your speech rate, volume, and pitch. Important ideas can be cued by slowing down and leaving pauses. Students usually take notes at less than one-fifth the rate at which most lecturers speak.

2. Speak to the students — not to the chalkboard, walls, notes, or floor.

3. Enunciate clearly and speak loudly enough to be heard. In the very large class you might suggest that students — especially those at the back — signal if they can’t hear.

4. Feel free to let your sense of humor show. However, avoid jokes at the expense of your stu-
Section 7

dents or jokes that offend the reasonable sensibilities of the group. Be particularly cautious with jokes — it’s easy to offend unintentionally.

5. Avoid “filler” words or phrases (e.g., uh, okay, all right, you know).

6. Establish and maintain eye contact with students to improve communication.

7. Use gestures and physical movements that complement verbal statements and teaching style (e.g., looking at students while asking for student questions).

8. Avoid distracting gestures or physical movements (e.g., grooming, pacing, straightening tie or notes).

9. Show enthusiasm. If you don’t think the material is worth learning, why should the students?

10. Adjust the lecture room, if necessary, for physical comfort (close doors, clean board, open window).

11. Cultivate an informal classroom atmosphere and work to build rapport with students during the lecture so students feel drawn in and ready to listen. One suggestion is to move away from the podium, lean against the wall, sit on your desk or pull up the chair, and join the class.

*Adapted from Teaching at The Ohio State University: A handbook 1996. (1989; revised 1994). Columbus, OH: Faculty

---

Lessons learned from life upon the wicked stage that can be useful in teaching even if you’re not quite ready for prime time from ‘Confessions of a Closet Thespian’ by Linc. Fisch

- Set the stage before you begin.
- Warm up physically and mentally before you enter the room.
- Make an energizing entrance and open with an engaging activity.
- Use simple, appropriate props.
- Move and position yourself to effect.
- Show emotion with body, face and eyes.
- Maintain eye contact with many students

- Compose your presentation as a variety of short scenes.
- Script your class outline: right column for content and action, left column for materials, timing, and notes.
- Involve students in class activities.
- Use simple triggers to elicit response.
- Exit on your own terms with a stimulating closing scene

Reprinted with the author’s permission.

Some information in this section was adapted from University teaching and learning: An instructional resource guide for teaching assistants at Dalhousie University (1994). Halifax, Nova Scotia, Canada: Office of Instructional Development and Technology, Dalhousie University.

Mountains & Minds
Leading Effective Discussions

Used in recitations or combined with lectures, classroom discussions are an effective way to facilitate learning and can give instructors opportunities to assess student understanding. In addition, by introducing their own observations and questions, students can explore ideas thoroughly. Most important, discussions allow students to actively participate in the learning process.

Planning Discussions

Successful discussions don’t just happen. A good discussion takes a great deal of prior planning and review of the subject matter. Here are some strategies to help you prepare for a class discussion:

- Review the content of the material.
- Define the objectives of the discussion group.
- Tailor the discussion to your class; what type of discussion is most useful?
- What topics are to be discussed? Does the group have to reach a conclusion or come to an agreement? Do participants have to learn subject matter as a result of the discussion? Will you use the discussion to let students express views? Or is it designed to help students analyze the topic?
- Explain the discussion format to the group.
- Clearly state to the class the goals of the discussion.
- Define terms and state assumptions.

Getting Started

Here are some proven ways to get discussions going:

Start with a common experience. Provide a concrete, common experience using a demonstration, film, or role play. Then illicit students' reactions by asking questions like: “Has anyone had personal experience with this?” or “Does anything in this film disturb you?”

Start with a question. Ask open-ended questions to get students thinking about relationships, applications, consequences, and contingencies—rather than the basic facts. Ask students questions that will draw them out and actively involve them. Encourage your students to ask questions of one another.

Start with a controversy. Present a controversial issue and ask by a show of hands how many students take one side or the other. To control the discussion, ask for five statements of evidence or argument from each side, then statements of rebuttal. Write these statements on the board.

Place students in “buzz” groups. Split the class into subgroups for a brief discussion of a problem. Groups can be asked to come up with one hypothesis that they see as relevant, one application of a principle, or an example of a point. To be effective, students must be given a clear task and time limit. Use their responses in a follow-up discussion with the class as a whole.

Ask for responses in writing. Ask students to respond to the discussion question in writing. Usually five minutes is enough time for students to prepare their answers. Encourage them to be creative by using the writing as a chance to brainstorm. Then invite oral responses. Often quiet students will speak up if they have the words before them. Also, written responses often lead to more reflective discussions.
Preparing Questions for Discussions*

In a structured discussion, questions posed by the teacher drive the dialog to enable students to discover solutions to problems on their own. But if you want to lead the students up a ladder of analysis, discussion questions must be organized in a logical hierarchy.

At the lowest level, “knowledge” questions requiring factual recall establish the general background and will help you determine the level of student preparation for the discussion.

At the next level, “application” questions ask students to reach a conclusion based on evidence from the reading or other assignments. Because these questions require interpretation, inference, and reasoning from evidence, student answers will differ in style and substance, offering opportunities for disagreement and debate. In cases of interpretation there are usually no right or wrong answers, only stronger or weaker arguments for particular positions.

At the highest level, “evaluation” questions demand judgments based on factual knowledge of the material, application of concepts, and evaluation of evidence.

Examples of Questions for a Class Discussion

<table>
<thead>
<tr>
<th>Knowledge question</th>
<th>Application questions</th>
<th>Evaluation questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Did Descartes believe in God?</td>
<td>- How do you know how many times to use l’Hôpital’s rule in a differential calculus problem?</td>
<td>- In this case study, what would you do about amortizing equipment costs if you were the chief accountant?</td>
</tr>
<tr>
<td>- What are some differences between sodium atoms and ion?</td>
<td>- What are some differences between sodium atoms and ion?</td>
<td>- A poet once wrote that “death is the brother of sleep.” In the light of the research articles you read, do you think the poet was close to the truth?</td>
</tr>
<tr>
<td>- What three conditions must be met for something to qualify as a business asset?</td>
<td>- How well do American secondary schools fit Weber’s definition of bureaucracy?</td>
<td></td>
</tr>
</tbody>
</table>


Maintaining Discussions*

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

The student who talks too much. Avid talkers can be both a blessing and a curse. Such students can monopolize classroom conversations at the expense of others. These strategies might help:

- Avoid looking in the direction of the persister, or structure the discussion to preclude that person’s participation (e.g., “let’s hear from someone who has not yet contributed.”)
- Raise the question of participation with the class (e.g., “would the class be more effective if the participation were more evenly distributed?”)
- 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 increase that person’s sensitivity to the need to share conversational roles.
- Talk to the student individually outside of class.
The discussion that turns into an argument. In good discussions conflicts often arise. If such conflicts are allowed to remain ambiguous, they may cause continuing trouble. Here are some ways to resolve them:

- If the solution depends on certain facts, ask students to refer to the text or another authority.
- If there is an experimentally verified answer, use the opportunity to review the method by which the answer could be determined.
- If the question involves values, help students become aware of them.
- List both sides of the argument on the board.
- Take a strong position as moderator, preventing students from interrupting each other or speaking simultaneously. Lay ground rules for discussion, such as asking students to focus conflict on ideas rather than people and resist being judgmental.

Unclear or hesitant comments. Sometimes students may make unclear contributions to the discussion. To help students clarify:

- Encourage them to elaborate or give examples.
- Restate points and ask students to verify or correct your version.
- Use enthusiastic nonverbal cues and patience to encourage hesitant students.

The discussion that goes off track. To keep discussions on track:

- List on the board the questions or issues you want to cover.
- Summarize the discussion on the board as it proceeds.
- Stop and ask a student to summarize the discussion at the point it goes off track.

The student who attacks. When students argue for the sake of argument, you'll almost always lose if you take the bait.

- Students who attack usually want attention, so simply giving them some recognition while firmly moving on often takes care of the problem.
- If a student is simply trying to embarrass you with questions that challenge your authority or knowledge, turn the question back to the questioner to force him or her to take responsibility for his or her opinion.
- Confront the questioner with your reactions to his or her behavior. "I am uncomfortable with the indirectness of your questions. What I really hear you saying is ..."
- Paraphrase what you hear and check the accuracy of your assumptions before responding.
- Ask the questioner to explain the context behind the question.
- Invite the challenger 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?"
- Invite students to arrange for a time to talk about the disagreement after class.

Creating Closure

Good discussions end with a summary so students know what important points were covered. The advantage of engaging students in discussion is they are able to verbalize course material and receive immediate feedback. In addition to showing students why the discussion was important to their learning, summaries provide opportunities to fill in points that weren't covered and praise the class for the quality of their responses.

*Adapted from Teaching at The Ohio State University: A handbook (1992). Columbus, OH: The Ohio State Center For Teaching Excellence.
Alternative Strategies and Active Learning*

As you consider various modes of instruction, keep in mind that student learning depends primarily on what the students do, both in and out of class, rather than what the teacher does. Your task is to select activities through which students can master course objectives. Lectures, discussions, written exercises, reading assignments, tests, group work, individualized instruction, field trips, observations, experiments, and many other kinds of experiences may be necessary for students to learn the things you want them to learn.

Your choice of strategies is affected by many variables: the sophistication of the learning objectives, the abilities of the students, your teaching skills and preferences, and the size of the class. Since active learning strategies can be effective in promoting higher-order learning, you should consider ways of incorporating them into your courses.

Peer Teaching
Research has shown that students who are required to teach a concept grasp it better than those taught in conventional ways. Peer teaching can easily be incorporated in most classes. For example, you can assign students to prepare questions or problems on a lesson and have the class work in pairs or small groups to resolve them. During the session, you can move from group to group, giving feedback and asking and answering questions yourself. Students are more willing to share their views in small groups and often develop deeper insights.

Instead of the dreary oral report so often used in social science classes, why not ask students to prepare a lesson on the topic? Their grades could depend, in part, on how well the class answers test questions on that topic. Exercise caution in using this strategy, however, for undergraduates not only need instructions about how to teach a lesson, they also should know the criteria you will use for evaluating their performance.

Cooperative Learning Groups
Many teachers occasionally break their classes into small groups for discussions, but only a few use the technique as a fundamental teaching tool. A class can be divided into learning teams that are periodically given instructional tasks to complete, either in or out of class. Research has shown that with careful planning this technique increases the efficiency and effectiveness of learning.

Groups of six or seven work best because this size is small enough for everyone to participate in problem solving or debate, yet large enough for a spectrum of views to be represented. To work successfully, groups require a wide variety of viewpoints and intellectual skills, so it is important to make them as heterogeneous as possible. The individual data cards you collect on the first day of class can yield important information about your students' backgrounds and preparation and make it easier to create heterogeneous groups. A professor of political science who uses long-term groups in his class tries to insure that each team has someone with a math background and at least one political science major. He creates groups with maximum diversity with respect to major, gender, race, and other characteristics.

The tasks you assign for group work should challenge students to analyze phenomena, solve problems, apply theories, exercise judgment, or perform some combination of these activities. Clearly written instructions are vital to the success of this kind of exercise, which means the teacher must analyze the task carefully and break it down into its component parts. During the exercise, the teacher moves from group to group, answering questions, clarifying instructions, giving advice, and observing the group process. Group exercises can be designed for 15- to 20-minute periods, and need not consume an entire class period.
In a well-designed group activity, there should be little need for direct intervention by the teacher. It is true that many teachers are uncomfortable with the loss of direct control that accompanies small-group work, but you still govern the process and outcome with your instructions. Small groups can be used with a variety of other techniques, such as peer teaching, case studies, and simulations; imaginative teachers can develop applications for nearly every teaching situation.

**Case Studies**

Case studies are appropriate for learning about information analysis, decision making, or problem solving. The method, made famous by the Harvard Business School, requires the development of a set of cases that reflect problems or issues in the course material. For example, in an anthropology course, a case might describe the artifacts discovered in a real or hypothetical excavation. The students, as a group, would be expected to infer information about the life and culture of the people who lived at the site, based on knowledge and techniques they had learned in other parts of the course.

Depending upon the nature of the material and the sophistication of the students, cases can be quite lengthy and complex. You can divide the class into small groups to work on the case and circulate among them to facilitate the process. Over the semester, cases can be made more complex and challenging as students become more knowledgeable.

The development of case studies for an entire course requires research into the method to master its subtleties. Cases must provide enough information to elicit analytical thought, but not so much that the solutions are obvious. This process can be very time-consuming, but once the cases are written, they may need only a few revisions to run successfully semester after semester. Remember that students need to master a common knowledge base before they will be ready to tackle a case study, and they need to understand clearly the steps in the analytical process they will use. Finally, managing the discussion of case studies requires techniques that differ from generalized discussion methods, and it would be helpful to observe a teacher experienced in the method before trying it yourself.

**Simulations**

Like case studies, simulations provide students with practice in decision making, but in a different, more engaging format. Since simulations are based on real-life situations, they present students with choices and constraints that reflect real-world problems. For example, a class in political science might simulate a city council meeting to decide on the location of a halfway house for juvenile offenders. Students are given particular roles to play: members of the police department, representatives of neighborhood associations, social workers trying to reintegrate juvenile offenders into society, and others with conflicting concerns. The task facing the class is to come to agreement about the placement of the halfway house. The instructional objectives are to practice negotiation skills, engage in problem solving, and discover techniques for reaching compromise.

Simulations are more difficult and time-consuming to write than case studies, and they usually take more time in class, although the teacher’s role is less directive than in the case study method. They also require more explanation before the exercise and, when completed, a careful exposition of what has been learned by relating students’ experiences to the general principles involved. Nonetheless, simulations can be very effective in teaching problem solving and in developing students’ self-confidence.
**Games**

Games are activities in which there are winners and losers, definite sets of rules for “moves,” and frequent use of props or other paraphernalia. For example, in a game used in sociology classes, players are randomly assigned to several different groups and provided with colored markers that represent money. They are told to maximize their cash through negotiations and trade with other groups, but the rules for trading markers are actually stacked against certain groups — they literally cannot win. This game allows students to experience in a small way life in a rigid class society in which improvement of one’s condition is made difficult or impossible by the society’s economic rules.

Although it is possible to devise games yourself, hundreds of instructional games and simulations have been published by organizations involved in education and training.

**Written Assignments and Out-of-Class Exercises**

There are many ways to make written assignments more original and exciting than the usual term papers, book reports, and homework assignments. Students are capable of producing sophisticated work if the assignment is clearly explained and carefully structured. For example, you might require students to observe and report on a city council meeting, fundamentalist revival, ballet, construction site, archeological excavation, bus station, or protest march. Of course, you would need to teach them how to take observational notes and suggest an organizational framework for the final report.

To help students sharpen writing skills, you may decide to assign shorter papers and allow rewrites until their work is acceptable. In general, many short writing assignments are preferable to a single long paper, depending upon the goals of the course and the level of student skills. Regardless of the length of the assignment, clearly written instructions are indispensable (giving such assignments orally is usually not effective). For more on using writing in your teaching, see pages 80–82.

**In-Class Exercises**

Class time can be used for focused activities in which students practice essential skills. For example, in math-related subjects, after fifteen to twenty minutes of instruction on a particular kind of problem, you could require students to work examples alone for fifteen minutes. This technique forces them to try to apply the concepts that have just been taught, and usually produces questions they didn’t think to ask during the lecture (and also provides a powerful antidote to boredom). Since students typically defer their homework problems until the night before the next class, they often lose the thread of the explanation by that time — immediate practice in class helps reinforce the explanation.

Having students work homework problems on the board provides an opportunity to correct their errors and misconceptions and to ask questions about other homework problems. Short in-class writing exercises similarly encourage students to apply and integrate their ideas and allow you to check their understanding. These exercises can take many different forms: a paragraph defending or attacking a particular point of view; a one-page analysis of a reading assignment; or a short essay summarizing impressions of a class discussion. The variety of these short writing assignments is endless and need not take long — many can be accomplished in ten minutes or less.

*Adapted from Teaching at Carolina (1998). Chapel Hill: Center for Teaching and Learning, University of North Carolina.*
Asking and Answering Questions*

Being able to ask and answer students' questions is an important part of teaching. Asking questions motivates students' interest and their answers help you assess their understanding. There are two basic forms of questions: closed and open.

**Closed Questions**

Closed questions are used to check the retention of previously learned information and to focus thinking on a particular point or commonly-held set of ideas.

Closed questions are those for which there is a limited number of acceptable responses or right answers. What is the chemical formula for water? What happened when you switched from low to higher power magnification? What are plant cell walls made of? are all questions that anticipate certain answers to which students have already been exposed in a lecture, class activity, assigned reading, or some visual aid (video, web site, chart, demonstration). Try to word closed questions to avoid yes/no answers, unless that's the way you really want students to respond. Closed questions need not always be of the factual recall type in which students are expected to orally fill in the blanks or respond with one or two word answers. They also include those designed to cause students to classify or pick out similarities and differences, to apply previously learned information to a new problem, or to make a judgment using standards that have been supplied. Closed questions are useful, but your questioning should do not stay entirely within this domain.

**Open Questions**

If you wish to encourage student involvement, open-ended questions are preferable because they require greater student response. Instructors sometimes complain that students never enter into a discussion, that they answer only in monosyllables. This may be because that is the only kind of answer the instructor's questions permit. Open questions promote discussion or student interaction, stimulate student thinking, and allow freedom to hypothesize, speculate, and share ideas about possible activities, etc.

Open questions anticipate a wide range of acceptable responses rather than one or two right answers. They draw on the students' past experiences, but also cause students to give opinions and their reasons for these opinions, to infer or identify implications, to formulate hypotheses, or to make judgments based on their own values and standards.

These are some examples of open questions: If you were to design a science display, what would you include in the display and why? What do you suppose life on earth might be like with weaker gravity? What should be included in a project to improve the local environment? If you suspected that you were the carrier of some genetic abnormality, would you have children?

Avoid questions that begin "Do you think ...?" or "Should ...?" because they encourage a yes or no response. Try instead for a question which might begin "What do you think about ...?"

**Strategies for Asking Questions**

- Ask plenty of questions that are pitched at a level most of the class can handle. Success is a powerful encouragement to further participation.
- Vary the intellectual approach of your questions to provide opportunities for different types of students. Include some information questions, some that ask for conclusions, and some that ask for opinions.
Encourage students to use their own reactions, feelings, perceptions, values, and life experiences as starting points for discussion.

Ask open-ended (divergent) questions — ones with many equally valid answers — to reduce potential anxiety students may feel about being wrong.

Use the brainstorming method whereby you entertain a number of responses to a question and write them on the board before evaluating or moving on. This approach makes differences among students more acceptable and reduces the worry over being judged, which can inhibit participation.

Ask specific questions. Try to stay away from asking “Are there any questions?” Generally students won’t respond to such a broad question — they may not have formulated a question yet or they may be worried about looking dumb. A specific question like Describe what just happened in this experiment can tell you whether the students understand the topic.

Learn to wait after you ask a question. Too often teachers get anxious and move on too quickly. Waiting signals that you really want students to participate. Give them time to digest the question. Most students will be thinking during the pause.

Don’t call on the first person who raises a hand, and don’t approve immediately a correct answer. Give all students adequate time to formulate answers.

Following a student contribution, ask if anyone else wants to comment or build on the idea. Encourage students to break the habit of expecting you to speak after every student response.

Be clear and positive in rewarding all participation. Students will watch what happens to others who speak up, and this expectation affects participation enormously.

**Strategies for Answering Students’ Questions**

- Repeat the question or paraphrase it. Doing so focuses the other students’ attention on the question and lets the student who asked it check to see that you understood what he/she asked.
- Redirect content related questions to the whole class to encourage more student participation.
- Answer a question by asking more questions. Additional probing questions will get students to focus on that part of the question that is most relevant to the answer.
- Promote a discussion among students. In situations where there is considerable difference of opinion about the answer, this approach involves more than just one or two students in the process of generating an answer.
- Don’t be afraid to admit you don’t know the answer. Tell students that you will seek the answer and let them know.
- Set aside certain times in the class when you deal only with basic questions, to smoke out those who may be afraid to ask them.

**Creating an Accepting Atmosphere**

- Call on different people; give opportunity to students who may not have had a chance to ask a question or who have a puzzled or frowning look.
- Be supportive of the person who gives a wrong answer. Never ridicule a student. Try to avoid saying “that is wrong”; instead try to draw the student out a little more with some-thing like “Can you explain how you arrived at this conclusion?”
- Answer students’ questions adequately; take additional time after class, if you don’t have enough time in class to answer completely.
- Never put students down; don’t respond with value judgments.


Using Media to Enhance Learning*

Visual media are helpful instructional tools that can highlight and reinforce important points and elaborate concepts or demonstrate applications. The traditional chalkboard and the ever useful overhead projector are simple and effective instructional aids. A number of other types of visual aids can overcome physical limitations like class size and extend learning experiences by enlivening different aspects of the material.

Audiovisual and other multimedia resources are helpful in attracting students' attention, developing interest, and increasing understanding by providing visual and/or audible illustrations of ideas or concepts. However, you must be careful both in selecting visuals and media that complement instruction and in integrating them into your presentation.

As you consider using audiovisual materials to supplement and complement your teaching:

- Think beforehand about the possible role and impact of your A/V materials and how they fit into your particular learning objectives for that day.
- Use unique and engaging materials.
- Don't hesitate to use a variety of presentation media in a single lecture – not only will it allow you to use the best tool for the task at hand, but it also provides stimulating breaks in the flow of your presentation.

“Traditional Media”: The Chalkboard, Overheads, 35mm slides

The Chalkboard (or is this now the Whiteboard?)

Besides being a critical organizing device, the chalkboard can be used in the following ways:

- to create a table of contents or overview for the day's class
- to collect and record students' responses, questions, ideas, and examples in a sort of "in-basket" that, once full, can be arranged by arrows to connect ideas and concepts or by numbering key points
- to explain in the form of a chart, scheme or matrix relationships between parts of the content.

- to analyze the arguments that have been recorded on the board.

Beyond the chalkboard there are a number of audiovisual tools and techniques that have been available for quite some time. Most instructors are familiar with them, and many of the techniques that make these "traditional" tools effective apply equally well to newer media tools. The most common of these traditional media are 35mm slides and Overhead Transparencies.

Some Things To Remember When Using The Chalkboard:

- Begin class with a clean board.
- Make sure your writing is large and legible; use the areas most clearly visible.
- Underline or mark the most important parts of your presentation. Colored chalk can be used to highlight points, diagrams, or drawings.
- When you write on the board, don't talk to it. Keep eye contact with your students.
- Give students time to copy what you've written. When you want to make a point, stop. Ask your students whether they are finished copying before you erase the board.
- Ask your students if you are using the board effectively (Can you read my writing?)
- Leave the classroom with a clean board; the person after you will appreciate this courtesy.
Benefits and guidelines for using each are similar.

**Overhead Transparencies and 35mm Slides**

Both overheads and slides offer the following benefits:

- They allow you to face your students and keep eye contact with the class while you display information.
- They allow you to prepare material ahead of time and have an organized display ready.
- They are good for charts, graphs, and diagrams because you don’t need to use valuable class time to draw them.
- They add variety to your teaching.
- They can easily be re-used, updated or changed.
- They can be an inexpensive teaching aid.
- They add variety to your teaching.

**Things to remember when using overheads or slides:**

- Limit each visual to one idea; you can use overlaps when building a concept.
- Keep visuals simple (six by six rule: six lines per slide or transparency, no more than six words on each line).
- Use easy-to-read type (18 point type or larger). Type should be non-ornamental and kept within a centered 8x10 box to allow for framing.
- Use only one or two type styles. Mix upper-case and lower-case letters for readability.
- Use short sentences and phrases formatted with bullets, arrows, or check marks.
- Use symbols, illustrations, graphs, cartoons, etc. to reinforce a point.
- Avoid reading directly from the transparency or slide; students can read for themselves.
- Use colors that give the best contrast for readability of text. Yellow on blue is one of the best combinations. Plain white backgrounds can cause eye fatigue faster than colored ones.
- Don’t mix horizontal and vertical formats; it is distracting for viewers.
- Have your transparency ready as a handout for students if possible/feasible.
- Turn the projector lamp off during class discussions that aren’t directly related to the material on the overhead transparency.

**Things to remember when using overheads in particular:**

- Position your material on the upper part of the transparency; viewers can see the top of the screen better than the bottom.
- Reveal information line by line or section by section by covering up remaining portions with a sheet of paper.
- Use tinted transparencies to reduce lamp glare; add colored markings for emphasis.
- Number your transparencies to keep them in order.
- Hole-punch your transparencies and store them in a binder.
- Point to specific portions with a pencil or pointer and avoid pointing to the screen (you might obstruct students' view).
- Keep a blank transparency ready for ad libbing and/or to add or record student-generated comments, ideas, etc.; don’t hesitate to write on the margins of your prepared transparencies. — you can wash the ink off later.
Computers and the "New Media"

Computers have had a role in teaching for some time, but the degree, variety, and sophistication of their use have increased exponentially. Now, we can make a wide range of engaging multimedia applications ("new media") readily available to our students. Two fundamental questions when considering any media application are: "Is this an effective and appropriate use of this technology?" and "How will this help my students learn the subject matter?"

Stand-alone Applications

These are those applications that do not rely on network connections—a computer can be used anywhere there is a power outlet and projector. Often, these applications are used first and then "repurposed" to be accessible over a network. One familiar example is the use of presentation software such as MS PowerPoint.

Networked Applications

The relative ubiquity of network access has facilitated a rapid increase in the availability of resources students can use "any time and anywhere." The World Wide Web has made it relatively straightforward to post a variety of media types including color graphics, audio and video clips, and real-time voice or video conferencing.

Some reasons frequently cited by faculty for using technologies in their teaching include:

- to accomplish tasks they couldn't normally be done with traditional teaching media (i.e., acquainting students with new places, people, or times, or helping students visualize phenomena too small or dynamic to convey effectively with words or static models)
- to reach, via distance learning, students, speakers, or experts who can't attend class in the conventional manner
- to accommodate the individual learning styles of students by using alternative presentation methods
- to enhance faculty and/or student productivity by reducing time for and increasing the quality of record keeping, word processing, or communication
- to prepare students for the working world by improving their computer skills.

Computer technology can support instruction in three general ways: professional development or productivity of the instructor, preparation of course materials; and the actual delivery of instruction. Many applications may not fall clearly into a single category. A few are listed below.

Professional development/productivity

- Maintain grades and record keeping
- Conduct literature searches
- Online collaboration with colleagues

Creation of course materials

- Create handouts, flyers, print media and other documents
- Create multimedia presentations and resources
- Find information
Delivery of instruction

- Develop and publish course Web pages
- Enhance presentations (e.g., graphics, animations, videos)
- Provide simulations and visualizations (both still and animated); demonstrate dangerous or complex processes
- Compute statistics; spreadsheet exercises
- Communicate with an entire class or workgroup
- Facilitate writing, both individual and collaborative
- Facilitate asynchronous communications between groups and/or individuals; enable virtual conferencing
- Provide self-paced learning, quizzes, and interactive self-testing
- Encourage self-directed research

*Sources:

Tips for using computer-based presentations in the classroom:

- Most guidelines regarding traditional media (overheads and 35mm slides) apply equally well to computer presentations.
- Pay particular attention to use of color, font sizes, and overall legibility of the images you are using.
- You may want to create handouts from your computer presentation for students to annotate during or after your presentation. This will spare them from having to feverishly copy every element of your presentation instead of listening to you.
- Remember to pace your presentation. Many faculty rely on writing on a blackboard or overhead to set the timing of their lectures. When using presentation software, be sure to leave time for students to reflect on your visuals.
- Avoid relying on computer presentations exclusively. Use other media to alter pace and provide additional opportunities for reflection and discussion.

Important!

Before class, preview your presentation in the classroom! View your visuals from different angles in the room to ensure all students can easily see them. You may even want to ask a colleague to join you to make sure your materials are clear, concise, and legible.
**Video***

Video is a flexible traditional medium that has found new life with the increased classroom media resources and computer power now available to most instructors. It may be considered a subset of computer applications or a stand-alone technology. Either way, there are common issues when considering the use of video in your instruction.

**Video Source**

There is a wide array of video resources to consider, but they typically can be grouped into two categories: “Off-the-shelf” – videos that can be obtained or rented from third parties such as PBS, C-SPAN, commercial vendors, etc.; and “Homegrown” – video resources that you create for specific purposes.

**Uses of Video**

There are two general uses of video resources. The first is a “trigger tape,” a short vignette film usually used to present a role play or case study. A trigger tape contains little if any content but is used to trigger thought and discussion. In some cases, a short clip from the evening news or C-Span could serve as a trigger or timely introduction to the day’s topic. In addition, some video resources may aid students in visualizing isolated processes and, in turn, help students conceptualize complex systems.

Another approach utilizes a “content tape”, which may be longer and generally tells an entire story or completely illustrates a process. It may be a natural history documentary used in a geography class, a dramatization of a novel being read in a literature course, or a presentation of how the world’s great cathedrals were constructed for an architecture seminar.

**Guidelines for Instructional Use of**

Making these resources available on the Web allows students to view them outside of class freeing classroom time for reflection and discussion. Like any audiovisual tool, tapes can be used well or poorly. It is always important to clearly define your instructional objectives. Two ways to prevent disaster are: 1) be sure what you specifically want your students to learn from viewing a tape; and 2) study a tape carefully before using it in class.

When using a trigger tape or clip, list in order of importance what you want your students to consider. In a good discussion the students will likely cover most of these points as well as some you may not have thought of. Whether they do so or not, it is wise to have a separate visual aid to provide a summary at the end of class to ensure that students don’t leave class without recognizing the aspects you consider most important. If a clip demonstrates a physical process, you may want to review it several times to emphasize its separate components.

When using a content tape, outline what you want students to learn from it in the form of a written set of questions arranged in the order that the topics will be encountered. Leave enough space between questions for students to write notes. Give the students time at the start of class to read through the questions before you start the tape, and give permission for students to call “STOP!” if they miss a point or have a question. If your classroom VCR has a remote control, give it to a student; students may be less reluctant to ask their peers to interrupt the tape. If the video resource is available online, encourage students to review it as many times as they need.

*Adapted from Nutshell Notes 5:3 (1996). Denver, CO: Office of Teaching Effectiveness, University of Colorado, Denver.*
Learning Management Systems

Course instructors at the Montana State University have several tools available for managing courses, distributing course materials, and communicating with students on the Internet: MSU Desire to Learn-D2L, Course Studio via the MSU portal, and ordinary web sites.

No single tool does everything well:

• D2L is a robust course management system that has been available to MSU since Spring semester 2001. A confident user community is growing on the MSU campuses and support structures are firmly in place.

• MSU portal (course studio) has good communication tools but no class management facilities. It first became available in fall 2006.

• Web sites are good for distributing public information, but any special tools must be built from scratch and all documents are accessible to the public.

The key to successful online courses is to select the suite of course tools that work best for your course.

MSU D2L Course Management System:

USE MSU D2L if you want or need:

• to manage a student grade-book
• students to be able to see their grades in the course
• automatically graded quizzes or anonymous surveys
• to provide a private assignment drop-box to grade assignments and return them to individual students electronically
• students to work together in groups (student presentations; private discussion areas)
• discussion topics that notify you if there are new messages waiting
• to easily compile and save, print or download discussion topics or lecture notes
• to easily search discussion topics or course content
• to archive chat sessions
• more than one chat room (so multiple chats can happen simultaneously)
• a whiteboard to share freehand drawing among course participants
• to easily and quickly organize a lot of web pages by adding navigation links between them (build "content modules")
• to export course material easily to other courses (using the D2L 4.1 "import" and "export" capabilities)
• to backup your course materials easily (using D2L’s backup and restore features, or the ability to archive course materials as .zip files)
• to upload or download many files at once
• a simple "image database" that is searchable
• to easily integrate your course with materials distributed on a CD-ROM
• the system to remember the last page a student viewed so that next time they log in they can resume the course where they left off
• the ability to control release information and/or dates to students only if certain conditions are true
• to monitor student activities in a course (how they participated in discussions, content viewed, time spent in different areas of the course)
DO NOT use MSU D2L if you want or need:

- public web pages people can access without a password
- students to use a real email account. D2L’s email is really a messaging system just between participants of the course.

**MSU D2L Course Shell:**

USE the portal if you want or need:

- a system for discussions, chat, distributing files, sharing photographs, and listing links to web sites
- a calendar that has pre-loaded the student class times and locations
- to email students at their real email address, not internal to the course (like in D2L)
- a limited number of photos, files, or links published to the whole class, but without any kind of database or search capabilities
- you do not need any quizzing, assignment drop-boxes, or other student evaluation features.

DO NOT use the portal if you want or need:

- to provide content that is reused year after year. The portal’s course studio system has no way to copy information to other courses, or backup material so it can be reused
- to publish a web site. The portal’s course studio system can post html files, but doesn’t support easy creation of a web site with navigation links between web pages
- to upload or download many files. PAWS can only upload or download one file at a time.
- to post files larger than 32Mb, or which total more than 160Mb
- to combine multiple courses together, such as several sections of a class, or a combined undergraduate and graduate class
- discussion forums that remember what messages you have read. The portal’s course studio system does not provide any indication of new or previously read messages
- to use a tool that is not provided by the MSU portal’s course studio system, but is provided by D2L (like the grade-book, student group work, whiteboard, student tracking, private assignment drop-boxes etc.)
- to organize the course content by adding menus, navigation links, etc.

**Public Web Sites**

USE Public Web Sites if you want or need:

- to publish material that people can access without a password
- to do things that are not available in MSU portal’s course studio system or MSU D2L
- to make material available to people who are outside Montana State University. It may be easier to password protect material on a normal web site and then share that password with selected off-campus people than it is to get them accounts in MSU portal’s course studio system or MSU D2L.

DO NOT Use Public Web Sites if you want or need:

- to develop a tool that is already provided in either MSU portal’s course studio system or MSU D2L (chat, whiteboard, gradebook, etc.)
- to password protect the page for copyright, confidentiality, or other reasons. This can be done in a public web site, but can be difficult. It is much easier to limit access using MSU D2L or MSU portal’s course studio system.
Conclusion

Each of the tools discussed above have their own unique advantages and disadvantages.

A web site can do whatever you want, with enough programming. However, most instructors do not have the appropriate web development or application programming skills, or necessary time, to build the system they want.

D2L is the premier course management system on campus. It has a wealth of communication, student assessment, course management, and course development tools built in that can greatly simplify creating and operating online courses. However, this added flexibility also adds complexity. It takes time to learn how to use the D2L system effectively. Extensive support is offered through the BTC. Details are available at eu.montana.edu/btc/lt/training.htm.

Course Studio is useful as an easy way to share information with students (links, files, pictures) and set up simple discussions or chats. However, it lacks advanced course management features like a class gradebook, graded quizzes, assignment drop boxes, student tracking, or student management. Course Studio should be considered a basic course communications tool, not a full course management system. Some training sessions will be offered, but they will be limited to basic functionality. Course Studio is generally intuitive to use and most faculty will be able to get started with little or no training.

No one system will do it all. Instructors must analyse their course needs, and select the system or combination of systems that best addresses those needs.

*Portions of this document were adapted from a composite of sites—chiefly University of Saskatchewan, Saskatoon, Saskatchewan, Canada

The future of higher education undoubtedly includes the increased use of technology to deliver courses at a distance and to provide broad support for face to face instruction. Montana State University encourages all faculty to integrate appropriate levels of technology into their courses through the use of our centrally supported course management system (currently D2L). Some may prefer to use their own web-pages, but faculty and students will find that the range of capabilities provided by D2L will make it the system of choice for long-term adoption.
Some basic guidelines for using Web pages in instruction:

- Be consistent in your page design and layout. This gives visual cues to students that they are within the same site.
- Refrain from using garish colors. Maintain high contrast between text and background for legibility.
- Design a navigation scheme and stick to it. Make sure it is clear what will happen when students click on an icon, link, or other hypertext elements.
- Preview your pages on different browsers and computers to check for unanticipated variations.
- Use interaction whenever possible. Think about how the Web lets you connect to different kinds of information from different sources with the click of a mouse.
- Provide a context for students to visit sites other than your own. Make sure objectives are clear, rather than just sending them to a site to look around or “surf”.
- When incorporating any multimedia into your Web page, be sensitive to the various internet connection speeds your students may have. (For example, many people become impatient and click ahead if you force them to download large images on pages containing important information. Use small “thumbnail” images whenever possible, and link them to separate larger images.)

There are a number of outstanding resources on the Web, about media, technology, and the Web in instruction. To learn more about creating effective and engaging Web pages, start with The Yale Web Style Guide by Patrick Lynch and Sarah Horton. The guide is a cornucopia of design guidelines and information and can be found at: [http://www.webstyleguide.com](http://www.webstyleguide.com).

An Audiovisual Checklist*

- Is your media resource worth the time and effort it will to take to create, adapt, or use?
- Can words alone describe your point?
- Does the audiovisual complement the rest of the presentation?
- Are your audiovisuals simple and straightforward?
- Are they visually fluent?
- Do they utilize all available techniques to improve their efficiency?
- Can your audiovisual be read and/or heard by your audience?
Writing as an Instructional Tool

Writing is a powerful tool for learning and communicating what has been learned. However, like any other teaching tool, writing is effective only if it serves your educational objectives. The following questions will influence the type of writing you’ll ask students to do, the ways you will respond to it, and how it will be evaluated.

- What do you want to accomplish with writing?
  - Facilitate critical thinking
  - Promote thoughtful reading
  - Learn how well students are synthesizing the readings or applying concepts to broader issues
  - Have students grapple with fundamental intellectual issues

- What value do you place on the following?
  - Informal writing
  - Formal products
  - Revision

- To what extent do you want writing to provide structure for your course?

- How can you structure writing assignments to progressively challenge your students over the semester?

- How can you support your students as writers?
- What are the demands of your writing expectations on your students and yourself?

Some Ways to Ease Fears (Both Students' and Yours) About Writing

No matter what your specific instructional objectives are, here are some general strategies that may help ease student apprehensions about writing in your course, and help you define your role as a facilitator of student writing efforts.

Recognize and Talk About the Role Writing Plays in the Learning Process

Writing helps us organize and clarify our thinking and discover what we know (and what we don’t know) about the subject we are learning. Writing is multi-faceted: it requires the simultaneous use of our eye, hand, and mind; it profits from self-provided feedback; it is at its best when engaged, committed, analytical, and integrative. Give students opportunities to write about the ideas they encounter in your course — not necessarily for a grade (maybe not even for you to see), but as a tool for abstracting and conceptualizing. Students who say, “I know what I mean, but I just can’t put it in writing” are not being honest with themselves— if they can’t put it in writing, their understanding of the assignment or material is likely incomplete. Poor writing is often an indication of poor understanding. Encourage struggling students to keep trying; ideas will emerge and understanding will develop as they struggle to express themselves.

Give Students Models

Writing is learned by imitation (as are music, art, laboratory research, and computer programming). Every academic discipline has a body of literature distinguished by a particular style. Exposing students to well-written professional articles helps them become familiar with the
standards within that discipline. Moreover, talk about how these writings reflect the way people in your discipline think about the world and communicate with each other. Reveal yourself as a writer to your students. Let them read (and evaluate) something you have written. Talk to them about the writing processes you use.

Help Students Focus Their Writing
Clear directions and expectations will alleviate many student apprehensions about writing. Early writing assignments can be fairly prescriptive; as students become more comfortable with and understand the benefits of writing, you can leave more choices up to them. In any event, describe overall writing requirements in your syllabus/course outline. Explain the objectives and the benefits of writing in your course. Don’t assign “papers”—assign the kinds of writing students might be expected to produce as professionals in their disciplines: proposals, memos, abstracts, feasibility reports, laboratory research reports, environmental impact statements, concert reviews. In each case, explain the specific objectives of a writing exercise, why you’re asking them to write it, and what benefits they’ll derive from doing so. Tell them how (or whether) you will evaluate, grade, and respond to their writing. And, follow through in a timely manner.

Present Writing Assignments in an Order Consistent with Intellectual Hierarchies Described by Cognitive Psychologists
The prescribed order of writing tasks is: listing, definition, chronological listing, classification, summary, comparison/contrast, analysis and argument. As students move up the hierarchy, higher cognitive skills are required. If you ask students to use upper level cognitive skills to write for a particular academic audience with which they are unfamiliar, the result may be flagrant writing errors. If you design writing assignments that match students’ cognitive skills to their knowledge of the audience, the number of errors should drop dramatically.

Remember that the Essence of Good Writing is Rewriting
It is the rare writer who says exactly what she wants to on the first try. Think about your own writing processes; you probably write articles, reports, proposals, and lesson plans in several stages to be sure you get them right. Transfer that first-hand knowledge to your pedagogy. Revision allows students to rethink ideas, to critically appraise their work, to clear up ambiguities, and to present their writing in its best possible form.

Writing that appears to have been “effortless” most likely required a great deal of effort. Writing that appears ambiguous or lax was most likely produced without much effort. Students need the benefit of process to yield writing that can withstand careful scrutiny. Give them opportunities to see how writing evolves and help them work through the process. And, use standards of judgment that consider the degree to which students have been able to rewrite.

Choosing a Writing Activity
Select writing activities based on your instructional objectives. The list on the next page suggests some objectives and related writing assignments.
## Objective

<table>
<thead>
<tr>
<th>Objective</th>
<th>Related Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>€ Give students a mode for self-expression, creative thought, musing</td>
<td>➤ Response journal, personal essay, short story</td>
</tr>
<tr>
<td>€ Force students to read an assignment by a certain date</td>
<td>➤ Reading journal, 25-word precis on assigned reading</td>
</tr>
<tr>
<td>€ Make students more active in their learning</td>
<td>➤ Free write, one-minute paper, any kind of writing</td>
</tr>
<tr>
<td>€ Help students gather thoughts about course topics</td>
<td>➤ Free write, learning log</td>
</tr>
<tr>
<td>€ Help students apply what they have learned</td>
<td>➤ Case study analysis, microtheme, proposal, recommendation report, letter</td>
</tr>
<tr>
<td>€ Help students push more deeply into the subject</td>
<td>➤ Informative paper, proposal, problem-solving project, case study, empirical research report, article for publication</td>
</tr>
<tr>
<td>€ Help students organize or summarize ideas</td>
<td>➤ Microtheme, outline, one-sentence summary, abstract, precis, directed paraphrasing</td>
</tr>
<tr>
<td>€ Help students retain information</td>
<td>➤ Any kind of writing</td>
</tr>
<tr>
<td>€ Help students recall information</td>
<td>➤ Five-minute opening or closing essay</td>
</tr>
<tr>
<td>€ Keep students in the habit of writing; build fluency</td>
<td>➤ Daily journal</td>
</tr>
<tr>
<td>€ Train students in particular forms of writing they will use in their professions</td>
<td>➤ Memo, letter, report, abstract, article, proposal</td>
</tr>
<tr>
<td>€ Teach students to polish their grammar, spelling, and punctuation</td>
<td>➤ Peer review, multiple draft writing</td>
</tr>
<tr>
<td></td>
<td>➤ Diagnostic writing</td>
</tr>
</tbody>
</table>

See Section 8 on Evaluation for tips and strategies for grading and assessing student writing. Also, contact coordinators with the Writing Across the Curriculum program in the English Department (994-3768) for help.
Evaluating Student Learning

Evaluating student learning takes significant time and effort, yet well-designed tests and consistent grading procedures provide students with valuable information about their learning. Effective feedback can also help them improve their performance and develop their cognitive skills.

This section contains suggestions for constructing tests and exams that measure and reinforce student learning. It also describes and discusses methods for developing clear and fair grading practices, posting grades, and dealing with grading challenges, including strategies for preventing and dealing with cheating and plagiarism.
Constructing Tests*

One of the most important aspects of a successful learning experience is the opportunity for learners to demonstrate their growing understanding and receive feedback. At the same time, you can discover how effective you have been in facilitating your students' learning and can use this information to adjust your instructional practices. This section will first discuss general testing considerations, then give some guidelines for various testing procedures.

Selection of Test Material

The selection of material to be tested should be based on learning objectives for the course; a thorough listing of those objectives can make test construction much easier. However, the complexity of the course material (and the limited time for exams) means that all objectives cannot be tested to the same depth.

Writing good exam questions requires time for composition, review, and revision. If you jot down a few questions after class each day when the material is fresh in your mind, the exam is more likely to reflect your teaching emphases than if you wait to write all the questions later. Also, it is beneficial to ask a colleague to review the questions before you give the exam — another teacher might identify potential problems of interpretation or spot confusing language. The process of test development does not end when the students take the exam; careful analysis of the results will help refine your questions and sharpen your testing technique.

Many professors have found it helpful to use a two-dimensional chart or matrix when planning an exam.

<table>
<thead>
<tr>
<th>Topics</th>
<th>Learning Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recall</td>
</tr>
<tr>
<td>A.</td>
<td></td>
</tr>
<tr>
<td>B.</td>
<td></td>
</tr>
<tr>
<td>C.</td>
<td></td>
</tr>
<tr>
<td>D.</td>
<td></td>
</tr>
<tr>
<td>%Wt</td>
<td></td>
</tr>
</tbody>
</table>

Bloom's Taxonomy of Learning

In a nutshell, these are the six levels of learning that B.H. Bloom identified, ranging from lower to higher order thinking:

- **Knowledge**: simply recalling factual information
- **Comprehension**: understanding as displayed by the ability to reorganize or restate material
- **Application**: problem solving or applying ideas and principles in a given situation
- **Analysis**: separating ideas into component parts and recognizing how the parts are related
- **Synthesis**: combining known ideas to yield a product that is new to the learner
- **Evaluation**: using established standards or criteria to make judgments about the value or quality of ideas

---

*Instructional Development Program, University of Oklahoma*
1. List down the left side the main topics that were studied during the preceding period (A, B, C) and across the top the levels of learning you had established as your instructional objectives.

2. Indicate what percentage of the whole test you want to devote to a particular learning objective on each topic. Some cells may be blank, indicating a 0% weight.

3. Total the rows and columns to review the relative weight you put in each row (i.e., on each topic) and in each column (i.e., on each level of learning).

4. If you are satisfied with the weights and balance, start writing questions for each cell and allocate points to each category of learning. You may write one or several questions for each cell.

The example below illustrates a variation on using the table for a test in a psychology course. The important concepts in the unit to be tested are listed on the left side of the page. The vertical columns represent three levels of learning: “recall,” “application,” and “evaluation.” As the instructor wrote test questions, he or she decided in which level they fit and entered the numbers in the appropriate cells in the matrix.

This simple method makes it easy to see if you are testing the levels of learning you desire. For example, if you have written a disproportionate number of questions at the knowledge level, it will be instantly apparent. Note that some of the cells in the matrix may be blank and some will contain larger numbers of questions than others. These frequencies should reflect the emphasis placed on these concepts when they were taught.

<table>
<thead>
<tr>
<th>Content Categories</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recall</td>
</tr>
<tr>
<td>A. Identity crisis vs. role confusion; achievement motivation.</td>
<td>2, 9</td>
</tr>
<tr>
<td>B. Adolescent sexual behavior; transition of puberty.</td>
<td>5, 8</td>
</tr>
<tr>
<td>C. Social isolation and self esteem; person perception.</td>
<td>14, 6</td>
</tr>
<tr>
<td>D. Egocentrism; adolescent idealism.</td>
<td>7, 29</td>
</tr>
<tr>
<td>E. Law and maintenance of the social order.</td>
<td>17</td>
</tr>
<tr>
<td>F. Authoritarian bias: moral development.</td>
<td>19</td>
</tr>
<tr>
<td>G. Universal ethical principle orientation.</td>
<td>28</td>
</tr>
</tbody>
</table>

**Types of Tests**

Different kinds of tests are appropriate for different learning objectives. Performance testing is important when the learning goals involve the acquisition of skills that can be demonstrated through action. In such areas as music, theater, art, dance, medicine, and physical education, much of the learning will be demonstrated through assessment of actual performance.

Diagnostic testing can be used at the beginning of a course or learning segment to help you know the strengths and weaknesses of your students so you can modify learning activities accordingly.
Frequent short self-tests enable students to judge their performance while they are learning. Such diagnostic tests help students develop their skills and provide the kind of rapid and frequent feedback that is so important to learning. More common, however, is the pencil and paper test used to measure students' mastery of subject matter.

From the standpoint of measurement, tests fall into two general categories: those in which students select the correct response from information provided on the test, and those in which students must supply the answers themselves. True/false, multiple choice, and matching tests fall in the former category, while short answer and essay tests fall in the latter. The cognitive capabilities required to supply answers are different from those required to select answers, regardless of content.

The two most important characteristics of a test are its content validity and reliability. A test's validity is determined by how well it samples the range of knowledge, skills, and abilities students were supposed to acquire in the period covered by the exam. Reliability is determined by how consistently the test can be graded and how well the test discriminates between students of differing performance levels.

Well-designed multiple-choice tests are generally more valid and reliable than essay tests because they: sample material more broadly (since you can ask many questions); discriminate more easily between performance levels; and virtually guarantee scoring consistency. On the other hand, essay questions can test higher cognition skills (analysis, synthesis, evaluation) more easily than multiple-choice questions.

**Multiple-Choice Tests**

Multiple choice is the most widely used selection type test and can be used to test a wide range of instructional objectives. Their major weakness, however, is the difficulty of structuring them to test beyond simple recognition or recall of information. You should strive for questions that require application of knowledge as well as recall. For example, higher level multiple-choice questions can be based on interpretation of data presented in charts, graphs, maps, or other formats.

All questions in a multiple-choice test should stand on their own, so avoid using questions that depend on knowing the answers to other questions on the test. Also, check to see if information given in some items provides clues to

**Tips for Constructing Multiple-Choice Questions**

**Writing the Stem**

The "stem" of the item, which poses a problem or states a question, should be written first. The basic rule for stem writing is that students should be able to understand the question without reading it several times or having to read all the options.

---

**Testing and Time**

When you plan a test, gauge its length by the amount of time it may take the slowest student to complete it. Wilbert McKeachie suggests these guidelines for judging the maximum amount of time a test will require per item:

- Multiple choice, true-false
- Fill-in-the-blank
- Short answer
- Limited essay
- Broader essay

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Time (Minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple choice</td>
<td>1</td>
</tr>
<tr>
<td>True-false</td>
<td>2</td>
</tr>
<tr>
<td>Fill-in-the-blank</td>
<td>10-15</td>
</tr>
<tr>
<td>Short answer</td>
<td>2</td>
</tr>
<tr>
<td>Limited essay</td>
<td>10-15</td>
</tr>
<tr>
<td>Broader essay</td>
<td>30-60</td>
</tr>
</tbody>
</table>

- Write the stem as a single, clearly-stated problem. Direct questions are best, but completion statements may be used to avoid awkward phrasing.

- When using a completion statement, place the blank at the end of the stem, never within it.

- State the question as briefly as possible, avoiding wordiness and undue complexity. In higher-level questions, the stem will normally be longer than in lower-level questions, but still strive for brevity.

- Include as much of the item in the stem as possible, to keep alternative responses brief.

- To test for mastery of vocabulary, use the term, rather than the definition, in the stem.

Writing Response Options
Multiple-choice questions normally have four or five options, to make it difficult for students to guess the correct answer. Only one option should be unequivocally correct; “distracters” should be unequivocally wrong. If you write items in which more than one answer is correct and the student must pick out all the correct responses, each item is essentially a set of true-false questions.

There are two basic rules for writing responses: students should be able to select the right response without having to sort out complexities that have nothing to do with knowing the correct answer; and students should not be able to guess the correct answer from the way the responses are written.

- Write the correct answer immediately after writing the stem and make sure it is unquestionably correct. A “best answer” response should be the answer that authorities would agree is the best.

- Match incorrect options and the correct response in length, complexity, phrasing, and style.

- Increase the believability of the distracters by including extraneous information and by basing them on logical fallacies or common errors students have made in class.

- To be fair, do not make the incorrect options attractive by using terminology that is completely unfamiliar to the students.

- Remember that stems are used for testing, not for teaching: two-sentence stems that convey information first and then ask for responses violate good practice.

- State the question in positive form, if possible, because students often misread negatively-phrased questions.

- If you must write a negative stem, emphasize the negative words with underlining or all capital letters. For example, “Which of the following is NOT an example of the passive voice?” or “The LEAST likely of the following materials to occur on the Moon is...”

- Avoid using double negatives — e.g. “Which of these is not the least important characteristic of the Soviet economy?”

- All options must be plausible; humorous throw-away options defeat the purpose of having multiple options, which is to reduce the possibility of getting the correct answer by chance.

- All options should flow grammatically from the stem. If an item reads poorly, students’ confusion will yield results that are not measures of actual knowledge.

- Avoid using “all of the above” or “both A and B” as responses, since these options make it possible for students to guess the correct answer with only partial knowledge.
• Use the option “none of the above” only for exams in which there are absolutely correct answers, like math tests. If you do use it, it should be the correct response about 25% of the time in four-option tests. (Use this option in questions requiring mathematical computations, to prevent students from working backward from the options to determine the correct answer.)

• Avoid giving clues that may indicate the correct answer:
  - grammatical mismatches between stem and options
  - key words that appear only in the stem and correct response
  - correct options stated in textbook language and distracters in everyday language
  - absolute terms (always, never, all) in distracters
  - two distracters with the same meaning

• Use capital letters (A, B, C, D, E) as response signs rather than lower-case letters (“a” gets confused with “d,” and “c” with “e” if the type or duplication is poor).

• Try to write items with equal numbers of alternatives so students don’t have to continually adjust to a new pattern.

• Keep the number of alternatives at five or less. (The more alternatives used, the lower the probability of getting the correct answer by guessing. Beyond five alternatives, however, confusion and poor alternatives are likely.)

• Randomly distribute correct responses among the alternative positions so that there are no discernible patterns to the answer sequence (ABBABBABB, etc.) and a nearly equal proportion of As, Bs, Cs, etc.

• Never use trick questions—they have no legitimate testing function.

**True/False Tests**

True/false tests are relatively easy to prepare since each item comes rather directly from the content. These tests offer the instructor the opportunity to write questions that cover more content than most other item types, since students can respond to so many in the time allowed. They are easy to score accurately and quickly.

True/false items, however, may not give a valid estimate of the students’ knowledge, since half can be answered correctly simply by chance. True/false tests are poor instruments for diagnosing student strengths and weaknesses and are generally considered to be “tricky” by students. Since true/false questions tend to be either extremely easy or extremely difficult, they do not discriminate between students of varying ability as well as other types of questions do.

**Tips For Constructing True/False**

• Keep language as simple and clear as possible.

• Use a relatively large number of items (75 or more when the entire test is T/F).

• Avoid verbatim statements from the text.

• Be aware that extremely long or complicated statements will test reading skill rather than content knowledge.

• Require students to circle or underline a typed "T" or "F" rather than to fill in a "T" or "F" next to the statement, thus avoiding having to interpret confusing handwriting.

• Avoid negative statements, especially double negatives.

• Avoid ambiguous and trick items.
• Make sure statements are entirely true or entirely false. (Partially or marginally true or false statements cause unnecessary ambiguity.)

• Use key words sparingly since they can tip students off to the correct answers. (The words all, always, never, every, none, and only usually indicate a false statement, whereas the words generally, sometimes, usually, maybe, and often are frequently used in true statements.)

• Use precise terms (such as 50% of the time), rather than less precise terms (such as several, seldom, and frequently.)

• Use more false than true items, but not more than 15% more. (False items tend to discriminate more than true items.)

Matching Tests
Matching questions are a type of multiple-choice question, and the same principles apply to writing them. It is extremely difficult to write matching items that test higher-order learning. The connections students make between two concepts may reflect only a barely understood association rather than a full appreciation of the relationship. Matching tests are appropriate in only a limited number of situations, and they are difficult to construct since parallel information is required.

In a matching test, the student is presented with two related lists of words or phrases and must match those in one column with those in a longer column of alternative responses.

Matching items are generally quite brief and uninvolved and are especially suitable for who, what, when, and where questions. They can, however, be used to have students discriminate

Tips For Constructing Matching

• Use only homogeneous material in a set of matching items (i.e., dates and places should not be in the same set).

• Use the more involved expressions in the first column and keep responses short and simple.

• Supply directions that clearly state the basis for the matching, indicating whether a response can be used more than once, and stating where the answer should be placed.

• Make sure there is only one correct responses for each stem (although a response may be used as the correct answer for more than one stem).

• Avoid giving inadvertent grammatical clues to the correct response.

• Arrange items in the response column in some logical order—alphabetical, numerical, chronological—so that students can find them easily.

• Avoid breaking a set of items (stems and responses) over two pages.

• Use no more than 15 items in one set.

• Provide more responses than stems to make process-of-elimination guessing less effective.

• Number each stem for ease in later discussions.

• Use capital letters for the response signs rather than lower-case letters.
Completion Tests
Completion questions are an alternative to selection items for testing recall and are especially useful in assessing mastery of factual information when a specific word or phrase is important. They preclude the kind of guessing that is possible on limited choice items since they require a definite response rather than simple recognition of the correct answer. Because only a short answer is required, their use on a test can enable a wide sampling of content. Sometimes multiple-choice questions can be converted to completion items, a feature that can be useful in creating subsequent tests on the same material.

Completion items, however, tend to test only rote, repetitive responses and may encourage a fragmented study style since memorization of bits and pieces will result in higher scores. They are more difficult to score than forced-choice items and scoring often must be done by the test writer since more than one answer may have to be considered correct. On the whole, they have little advantage over other test types unless the need for specific recall is essential.

Tips For Constructing Completion

- Place blanks at the end of the statement.
- Use original questions rather than taking questions directly from the text.
- Provide clear and concise cues about the expected response in the statement.
- Use vocabulary and phrasing that comes from the text or class presentation.
- When possible, explain what amount of variation will be accepted in the answers.
- Avoid using a long quote with multiple blanks to complete.
- Ask students to fill in only important terms or expressions.
- Facilitate scoring by having the students write their responses on lines arranged in a column to the left of the items.
- Require only one word or phrase in each blank.
- Give students sufficient information to answer the question but not enough to give the answer away. For example, articles (a, an, the) and specific antecedents often provide clues.

Short Answer Tests
Essay and short answer items encourage students to strive toward understanding a concept as an integrated whole, permit students to demonstrate achievement of such higher level objectives as analyzing given conditions and critical thinking, allow expression of both breadth and depth of learning, and encourage originality, creativity, and divergent thinking.

Short-answer items can take a variety of forms: definitions, descriptions, short essays, or mixtures of the three. Short essays can require students to apply their knowledge to a specific situation carefully delimited by instructions. This type of question is the equivalent of a math or physics problem.
Written items offer students the opportunity to use their own judgment, writing styles, and vocabularies. They are less time-consuming to prepare than other types.

**Tips For Constructing Short Answer**

- Provide clear, unambiguous directions for the expected answer. For example, if you ask for a definition, outline the expected length of the response and the specific elements you require in a complete definition.

- On a typed exam, leave only enough space for the desired length of response (however, unless the instructions are specific, students may cram whole paragraphs of tiny writing into the space).

- With the directions, list the number of points each question is worth; for longer questions with higher scores, the worth of each section should be clear.

**Essay Tests**

Many teachers consider essay questions the ideal form of testing, since essays seem to require more effort from the student than other types of questions. Students cannot answer an essay question by simply recognizing the correct answer, nor can they study for an essay exam by only memorizing factual material. Essay questions can test complex thought processes, critical thinking, and problem-solving skills, and require students to use the English language to communicate in sentences and paragraphs — a skill undergraduates need to exercise more frequently.

However, essay questions that require no more than a regurgitation of facts do not measure higher-order learning. Essay exams also place limitations on the amount of material that can be sampled in the test, a fact that may cause students to complain (sometimes legitimately): “I knew a lot more about the subject than the test showed,” or “Your test didn’t reflect the material we covered.”

Essay tests also provide students more opportunity for bluffing, rambling, and “snowing” than do limited-choice tests. They favor students who possess good writing skills and neatness and are pitfalls for students who tend to go off on tangents or misunderstand the main point of the question. The main disadvantage, however, is that essay items are very difficult and time-consuming to score and potentially subject to biased and unreliable scoring.

For better sampling of the material, it is preferable to design tests that include several different kinds of questions: multiple-choice, short-answer, and essays of varying lengths.

As you plan for essay exams, define the type of learning you expect to measure. For example, do you expect students to be able to construct a reasoned argument from evidence, to analyze weaknesses in competing arguments, to select the best course of action in a new situation, or some combination of all these things? The best essay questions are based on the cognitive skills underlying the content rather than on the content alone.

To test problem-solving skills, you must clearly communicate the format and method for solving the problems to students. Without clues about how to proceed, students may adopt a plausible but incorrect approach, even if they knew how to solve the problem correctly. If you’re interested in testing students’ writing skills, you need to stipulate the kinds of skills they must demonstrate and provide some test time for thinking and composing a well-crafted answer (otherwise, the effects of time pressure and test anxiety will usually result in poor writing).
**Tips For Constructing Essay Items**

- Distinguish between questions that require objectively verifiable answers and those that ask students to express their opinions, attitudes, or creativity. The latter are more difficult to construct and evaluate because it is more difficult to specify grading criteria (such questions therefore tend to be less valid measures of performance). Take-home tests and other out-of-class writing assignments may be more appropriate for demonstrating these kinds of skills.

- Do not allow students to select which essay questions to answer (e.g., “choose two out of five”). It’s not possible to compose five equivalent questions, and students will usually choose the weaker questions, thereby reducing the exam’s reliability.

- Write an outline of your best approximation of the correct answer with all of its sections in place. Decide on the total number of points the essay will be worth and assign points to each section. Tell students the value of each item in relation to the total grade.

- Describe the expected length of the answer, its form and structure, and any special elements that should be present.

- Make essay questions comprehensive rather than focused on small units of content.

- Allow students an appropriate amount of time. Also, give guidelines on how much time to use on each question as well as the desired length and format of the response, such as full sentences, phrases only, or outlines.

- Require students to demonstrate command of background information by asking them to provide supporting evidence for claims and assertions.

---

**Essay Question Example. . .**

Lectures covering Piltdown Man, Gradualism, Punctuated Equilibrium, and Catastrophism were given sequentially to illustrate the interplay of theory and fact in the formulation of an anthropological account of the evolution of humankind. Write a three-part essay addressing the following questions:

1. Name the major proponents of the underlined concepts above and briefly describe the significance of these people in the history of the science of evolution. (10 minutes, 10 points)

2. Select any two of the four concepts above and explain how they illustrate the relationship between fact and theory. (10 minutes, 10 points)

3. In your opinion, are new discoveries or theories of evolution really new or are they just repetitions of past ideas that have fallen out of favor? Your answer to part 3 must draw upon the four concepts underlined above and be consistent with what you have already written in parts 1 and 2. (20 minutes, 20 points)

Center for Teaching and Learning, University of North Carolina
**Using Essay Tests to Assess Competence at All Levels of Bloom's Taxonomy**

Essay responses allow you to see the thought processes that lead your students to the answers. You may be testing at some higher level of Bloom's taxonomy of thinking — perhaps within the level of synthesis — but discover in a student's answer that he/she lacks the knowledge required to begin synthesis. For example, consider the topic of asbestos, tested by essay at sequentially higher levels of reasoning as described by Bloom's taxonomy.

1. What is asbestos? (knowledge)

2. Explain how the physical characteristics of crocidolite asbestos might make it conducive to producing lung damage. (comprehension)

3. Consider the crystal structures of chrysotile and crocidolite. Why should the most common mineral be the less hazardous? (application)

4. Two controversies surround the “asbestos hazard”: (1) it's nothing more than a costly bureaucratic creation or (2) it is a hazard that accounts for tens of thousands of deaths annually. What is the basis for each argument? (analysis)

5. Design a study to reasonably demonstrate the dangers posed by asbestos to the general populace. (synthesis)

6. Which of the two controversial arguments in question 4 above has the best scientific support? (evaluation)

Office of Teaching Effectiveness, University of Colorado, Denver

*Sources:
Teaching at The Ohio State University: A Handbook (1990), Columbus, OH: Center for Teaching Excellence, Faculty & TA Development, The Ohio State University.
Teaching at Carolina (1998), Chapel Hill, NC: Center for Teaching and Learning, University of North Carolina.
Ideas on teaching (1999), Norman, OK: Instructional Development Program, University of Oklahoma.*
Preventing Cheating and Plagiarism

The prevalence of cheating on college campuses is not a secret. Methods range from the old-fashioned crib sheet to high tech strategies involving pagers and digital watches. The Internet is touted as a vast new source of educational information, but it also is a vast warehouse of papers waiting to be downloaded and plagiarized. The reasons for cheating are complicated, too, ranging from internal and external pressures exerted on students to excel to downright laziness.

**Preventing Cheating on Tests**

The best way to prevent cheating is to limit students' opportunities and, hence, temptations. Some effective methods of thwarting cheating include:

**Explain your policies:**

- Before distributing exams, explain your test administration and cheating policies to the students in a serious and professional manner. You should convey a sense of importance to the group concerning what behaviors will not be tolerated during the exam, e.g., wandering eyes, talking, and wearing of baseball caps.

- Make sure students understand if an exam is to be open or closed book before the exam takes place. If you're giving an open-book exam, specify which materials (e.g., texts, notes, references, calculators) may be used during the exam period.

- Whatever cheating policy you decide upon, enforce it swiftly and consistently. DO NOT allow yourself to be put into a position where students can accuse you of favoritism or bias.

- Reduce the possibility of "ringers" taking exams for your students by requiring all students to present identification before allowing them to receive or hand in an exam. If you choose to do this, announce the policy prior to the examination date. Clearly state what constitutes acceptable identification (e.g., student ID card).

**Design the test to discourage cheating:**

- Increase the number of tests you give to reduce pressures to excel on a single examination. High stakes and fear of failure can make cheating seem a viable alternative.

- Require students to show all work for computational or problem-solving test items.

- If many sections of a course are scheduled to take an exam at different times, you might consider designing alternate forms of the test. However, this is a fairly time-consuming practice, especially if all alternate forms of the exam are to be of equal difficulty.

- Because machine-scored objective examinations are the easiest to cheat on, some instructors will make up two copies of the same exam, rearranging the order of the questions. Exams are then distributed so students sitting next to each other have different formats of the common exam. Just be sure the two formats are clearly labeled and scored accordingly.
Use proctors:

- A proctor, or proctors, should be present during all examinations. Proctors should simply move around the room observing the group carefully in order to discourage cheating. Proctors should be cautioned to act unobtrusively to avoid contributing to additional student test anxiety. The size of the group taking the exam will determine the number of proctors needed. A recommended ratio is one proctor for every seventy-five students.

- Supervision should be maintained consistently throughout the exam and intensified toward the end. As students hand in their work, the opportunities for cheating increase.

- In situations where students request to leave the room because of an emergency (e.g., to use the restroom) allow only one student at a time to leave. Some instructors require students to turn their answer sheets face down on the desk or have a proctor hold the exam until the student returns.

Make cheating physically more difficult:

- If there is adequate seating, require students to sit in every other seat, starting with the first row and moving toward the rear of the classroom or auditorium.

- All books, notes, and materials not needed for the exam should be placed under desks or seats, not on vacant seats between students.

- An effective solution to the “wandering eyes” and “talking” problem is to ask the offenders to move to different seats.

**Strategies to Discourage Plagiarism**

Plagiarism is a common form of cheating in higher education. Often, a student who fails to adequately plan for the writing process and is forced to complete an assignment at the last minute, is more tempted to resort to dishonest practices. Providing a structure for the writing process both results in better work and makes plagiarism less likely. Since many students cannot distinguish between paraphrasing and plagiarism, you need to explain early in the course what plagiarism involves and provide guidance in proper reference notations. Include a definition of plagiarism and the University’s policy on academic dishonesty in your course syllabus.

Here are some specific strategies that encourage students to produce original work:

- Assign papers and projects that depart in structure and content from the traditional research paper.

- Require writers to incorporate information from teacher-assigned articles with their original research.

- Require writers to submit an annotated bibliography of their research sources, including a note saying where they found each source.

- Have students submit bibliographies and outlines of their papers or assignments before they begin a draft.

- Ask for photocopies of title pages of books or printouts of parts of on-line services cited in the document.
Grading*

Grades cause a lot of stress for students (and teachers). Moreover, they often seem to run counter to the ideal of fostering open intellectual discourse and, instead, create an adversarial relationship between students and teachers. Nevertheless, grades are a fact of life and, whatever your personal philosophy, their importance to your students means you must make a constant effort to be fair and reasonable and maintain grading standards you can defend if challenged. Grades need not be counterproductive if students know what to expect.

Good practices in grading include the following:

1. Make your syllabus the cornerstone. Divulge the true agenda and the kinds of evaluations that will be the basis for the grade. Give the definitions for each letter grade.

2. Be clear about any consequences to grades that will result from absences, missed tests and quizzes, late assignments, or violations of ethical conduct.

3. Keep students informed of their progress throughout the course. If a discrepancy exists between the grade a student thinks he or she has and the number in your grade book, resolve that discrepancy immediately. Spreadsheets can save lots of labor.

4. Once a policy is set, apply it equally to all students. Subjective adjustments during or after a course are likely to prove dangerous.

5. Validate grades with an alternative assessment of learning, such as a pre-post test or knowledge survey.

6. Avoid testing on material other than what you teach or using grading methods other than those stated in your syllabus.

Writing Consulting: Faculty Resources, The University of Kansas.
Planning and Explaining

Make a plan for evaluating the students and stick to it. Procedures should be decided when the course is in the planning stages. If you are working with assistants or colleagues, meet with them and decide how many and what kinds of evaluation methods are to be used. Then decide how the students' work should be graded and what proportion of the final mark each assignment, quiz, etc., will comprise. This is also the time to set out a policy for missed or failed midterms and late assignments.

Take the earliest opportunity to make the students aware of these policies by including a written explanation in your course syllabus. Also, tell students your expectations and the measures you will use to judge their progress. Explain your course goals and how the evaluations, grading procedures, and policies relate to these goals. Good planning and clear explanations will prevent confusion — and possibly anger — later on.

Records and Distributions

Keep accurate records of your evaluation of each student's performance throughout the semester. (You also should keep your records around for several years, since students may come back later to question a grade, finish an incomplete, or ask you to write a recommendation.) Such records will make it easier for you to justify and/or reevaluate a student's final grade if necessary. These records are extremely important, of course, if you decide to base the final grade on some composite of the semester's work.

If you are evaluating a reasonable number of students (say, more than 20), it also is a good idea to make a graph of the distribution of grades on each quiz or assignment. Software grading packages can help you not only plot your grade distributions but manage your record-keeping. If, for instance, you are giving a numerical grade from 0 to 50 on an assignment, you can plot a graph of how many students received a grade between 1 and 10, 11 and 20, all the way to 50. This graph will tell at a glance how the students are doing. It also will show the most frequent scores and where the middle of the scoring range is. Both statistics are informative for students concerned about how they are doing with respect to the rest of the class. Distributions will make it easier for you to see how good your evaluation method was. Uneven or badly skewed distributions suggest a poor testing method.

If you plot similar distributions for a number of assignments or quizzes, you will be able to see how consistent your marking has been and also if there is (hopefully) a trend toward improvement in the students' performances. Composite grades can also be plotted this way, making the assignment of a final letter grade an easier task. For example, if your distribution plot indicates that all the scores are bunched together, you may want to consider shifting or narrowing the range of your letter grade assignments. Attach copies of the distributions to exams for your future reference and for the use of future instructors in the course.

Hints for Grading Different Types of Student Work

Of course, the grading problems you face will depend on the evaluation method you use. Here are some specific hints for different types of evaluation.

Papers

There is nothing more arbitrary to a student than a paper returned with just a grade on it, accompanied by no comments or merely perfunctory ones. The feedback you provide to students should help them improve their writing as well as explain why you graded the work the way you did.
Your written comments should highlight both strengths and weaknesses and offer specific suggestions for improvement. Do not obliterate the text — use the margins, the back of the page, or an appended note. Try to say enough so the student has a reasonable chance of doing better next time. Resist the urge to edit the student's writing (but do point out instances when grammatical or mechanical errors interfere with your understanding of the ideas presented). Instead, focus your comments on larger issues — accuracy and completeness of information, logic, appropriateness of style — and point the student in the direction of significant improvements in thinking and analysis. If you find you are saying similar things to several students, prepare a handout covering these common problems.

This may be a useful procedure to follow in assessing student writing:

1. Read through the paper quickly — not as an editor or judge, but as a general reader of normal prose.
2. Write a summary comment that:
   - addresses the writer and his or her thesis as though both were real and counted for something beyond the boundaries of the course
   - focuses on two or three things the writer could do to most improve the work
   - encourages and recommends improvements.
3. Make selective marginal comments that illustrate your summary comment:
   - write clearly
   - use prose rather than abbreviations
   - discuss common or widespread problems in class.
4. Make specific, concrete recommendations whenever possible. For example, writing “confusing” in the margin may not be much help to a student. Instead, write something like “you lost me here — would help if you would first define inertia before proceeding.”
5. Mark only significant mechanical errors or grammatical problems.
6. Keep a record of the comments you make.

Scoring both papers and essay exams involves a great deal of subjective judgment. You are more likely to be more stringent in grading the first few papers you read than you are with the rest, and less likely to be careful in your grading when you are tired. Here is some advice that may help you avoid these problems:

- Read a few papers before you actually start grading to get an idea of the range of quality.
- Stop grading when you get too tired or bored.
- When you start again, read over the last couple of papers you graded to make sure you were fair.

You might also consider having students write papers twice. Have students submit a first draft on which you provide constructive criticism on both content and style. Then, have students submit a revised draft for a final grade, which could be based both on the quality of the final product as well as the writing process.
General Rubric for Evaluating Student Writing

Unacceptable (F): An unacceptable paper has no single, clearly identifiable thesis. It may reflect a significant misunderstanding of the topic. Its logic is seriously flawed and may contain simplistic or incoherent analysis. The paragraphs do not hold together and ideas do not flow easily from sentence to sentence. The same thoughts are repeated throughout (sometimes in slightly different language, but often in the same words). The prose is characterized by one or more of the following: simplistic or inaccurate word choice, monotonous or fragmented sentence structure, repeated errors in mechanics, spelling, grammar, and usage.

Below Standard (D): The thesis of a below standard paper may be fairly broad or uninteresting. The writing may reflect an incomplete understanding of the topic, be illogical, or lack coherent structure. The prose style may be marked by imprecise word choice, weak or non-existent transitions, and little sentence variety; major errors may occur occasionally; minor errors in mechanics, grammar, and spelling occur often enough to interfere with the reader’s understanding of the paper’s main ideas.

Adequate/Acceptable (C): The thesis of an acceptable paper is stated, but may be either uninteresting or so obvious it is unlikely to advance an argument that anyone would care to debate. The writer relies largely on personal opinion to support the thesis, rarely uses evidence, and exhibits only partially developed reasoning. The writer of an acceptable paper can choose words that are sufficiently precise, write reasonably varied sentences, and, in spite of the presence of mechanical or grammatical errors, observe the conventions of written English. However, the writer demonstrates only a minimal degree of care for the development and expression of his or her ideas.

Clearly Competent (B): The clearly competent paper is thoughtful, well-organized, and accurate. The thesis is limited, worth arguing, and supported by sound evidence. The paper makes good sense throughout and does not digress from the stated thesis. Sentences may not be elegant, but they are coherent and varied enough in structure to flow easily from one to another. Paragraphs may occasionally be unwieldy, but are structured logically, and transitions between ideas are easy to follow. The paper exhibits few errors in mechanics, grammar, spelling or usage.

Excellent (A): An excellent paper commands attention because of its insightful development, logical organization, and clear style. It has all the qualities of a clearly competent paper, but is also lively, well paced, and even exciting. Everything seems to support the thesis — paragraphs are well-developed and cohesive; sentences are varied in structure and accurate in construction; word choices are apt and precise. If there are any mechanical errors, they are the kind of occasional accidents any good writer experiences — a missed mark of punctuation, a misspelled or omitted word — not serious enough to interfere with the reader’s comprehension of the paper’s message. The writer obviously cares about the ideas he or she presents and about the language used to express them.

Essay Exams
Grading essay exams is a separate challenge from grading formal papers. In an exam situation, students must perform under pressure for a predetermined length of time without much opportunity for revision. Therefore, the standards you impose on student writing under the circumstances of an essay exam must be different than those you impose on writing done over a course of several days or even weeks.
Research has shown that the scoring of essays can be unreliable; scores not only vary across different graders, they vary with the individual grader at different times. Graders can be influenced by a number of extraneous factors, such as handwriting, color of ink, and word spacing. To ensure that you achieve as much consistency in your grading as possible, and that you mark the first test by the same standards as the last, here are some suggestions for grading practices that will increase the overall reliability of your essay tests.

Prepare model answers to all questions in advance (you may have already done so when you were devising the questions for the essay exam). The model provides a key that clarifies the major points students should cover in their responses. Before starting to grade a batch of tests, skim over several essays to determine if the model answer needs to be modified. If, through some quirk in wording, students have misinterpreted your intent, or if your standards are unrealistically high or low, you can alter the key in light of this information. The effects of an ambiguous lecture or other anomaly in teaching the material can also be a legitimate reason for altering the answer key. If you don’t see any of these problems, and you have carefully constructed the model answer, students should not be able to surprise you with better answers than yours. However, you should be open to legitimate interpretations that differ from your own.

Grade anonymously. If you know the identity of the student, your overall impressions of that student’s work will inevitably influence the scoring of the test. When grading essay questions, fold the blue books over so names are not visible (even better, ask students to use their social security numbers rather than their names).

If there is more than one essay question on the test, grade each essay separately rather than grading a single student’s entire test at once. Otherwise, a brilliant performance on the first question may overshadow weaker answers to other questions (or vice-versa). It also is easier for you to keep in mind one answer key at a time. Shuffling the papers after grading each question will help compensate for the tendency to give later papers lower scores as you grow tired.

Write comments on test papers as you grade them, but comments do not have to be extensive to be effective. Point out specific elements of the answer that were omitted or incorrect and the number of points lost as a result. For example, you might assess penalties for incorrect statements, omission of relevant material, inclusion of irrelevant material, and errors in logic that lead to unsound conclusions. Students have a right to know the reasons for the grades they receive and need specific guidance to improve their performance. Strive for a few analytical comments on the good and bad aspects of the essay rather than a detailed critique — writing too many comments tends to overwhelm students, and they may miss the main points of your critique.

Decide, in advance, if you intend to grade grammar, syntax, spelling, and punctuation as part of the examination and let your students know. Decisions of this nature should not be arbitrary. What counts for one student should count for all students.

Distribute your model answers with the corrected essays to alleviate some of the burden of writing comments on exams; this practice has several other benefits as well. Students tend to learn a little more when they compare their answers with the model, and they develop a clearer picture of why they received the grade they did, thereby reducing the number of requests that you re-grade their papers.
Problem Sets, Short Answer Questions, and Multiple Choice

Although these types of tests usually take longer to make up than the others, they are easier to grade. But difficulties can still arise. You may think you have written the perfect question with only one correct answer, but you must always be prepared for alternative answers. In the case of multiple choice questions, for example, if students are doing worse than chance on a particular question, it is likely that the question was poorly worded. In this case you must either give credit for more than one answer or toss the question out (by giving everyone credit).

Item Analysis

After a test has been given, you can perform a test-item analysis to check its validity and reliability. Most machine-scored test printouts, including those provided by MSU’s Exam Scoring, include statistics for item difficulty, item discrimination, and frequency of response.

The difficulty index is the percentage of students who answered the question correctly. Testing authorities suggest you strive for items that yield a range of difficulty levels. The difficulty index is handy for checking items you expect to be particularly difficult or easy. If results vary widely from expectations, you may need to rewrite the questions or change how you teach the material.

Item discrimination divides class scores into upper and lower portions and compares performances of the two groups on each question. For an item to discriminate well, most of the upper group should get it right and most of the lower group should miss it. Item analysis will show the correlation between the total correct score on the item and the total correct by the upper portion of the class, so the higher the number, the better the discrimination. A low or even negative value suggests that there might be some sophisticated reason why the upper group is not selecting the correct response. The question should be carefully reviewed.

Test item analysis also can show you the frequency of responses and the proportion of responses for each alternative on each question. By examining the response figures for incorrect alternatives, you can determine if all choices were equally attractive to students who got the item wrong. Ideally, each incorrect option should be chosen by an equal number of students, and if no one chooses a particular distracter, you can rewrite it before using the question again. If many students chose an incorrect option, it would be wise to find out the reason.

Responding to Grade Challenges

Grading can be a constructive process for both you and your students. It can give them the opportunity to improve their knowledge and skills and it provides feedback on your teaching and evaluation methods. By being consistent and fair, you can minimize the inevitably unpleasant aspects of passing judgment on someone’s efforts.

Occasionally students will dispute a test score or a final grade. In that case, it’s important to listen to the student. You may have added incorrectly, or overlooked work, or not been able to decipher the writing on a test. If, however, you believe the grade should still hold, most students appreciate an explanation of how the grade accords with the policies you set forth. Of course, the better the records you keep, the easier it will be to reexamine and justify your grades.

You’ll find it easier to handle grade challenges if you do not regrade exams with the concerned student looking over your shoulder. Have the student explain carefully any problems and leave the work with you. Not only does this give you time to review the work on your own, but it gives the upset student a chance to calm down.

Section 9

Documenting and Improving Teaching

Because teaching is one of the most important parts of your work in higher education, it merits regular scrutiny and upgrading. Not only is it critical for you to understand how you are doing in the classroom, others who must assess your work need such evidence as well. Whether your purpose for evaluating your teaching is formative or summative, this section suggests ways you can take stock of your own teaching, identify strategies for improvement, and keep a useful record of your accomplishments.
Why Evaluate?

Doing an evaluation is like doing research. In both cases, you try to answer important questions about a topic. The key to doing both activities well is identifying the right questions and devising means to answer them.

The key questions in evaluating teaching are: “How well am I teaching?” and “Which aspects of my teaching are good and which need to be improved?” The first question attempts to provide a global assessment, while the second is analytical and diagnostic in character.

All teachers, even the best, can become more effective. While some continually improve and approach their full potential, others make modest improvements early in their careers and then level off, or sometimes even decline. The primary difference is often that those in the former group continually gather information about their teaching and use it as a basis for improvement.

Another reason to evaluate is to document the quality of your teaching for others. The only way to provide such information is to gather it, and that means evaluation. Teaching portfolios are becoming a common way of communicating this information to others. Compiling a portfolio also helps you better understand your own teaching.

We also evaluate for our own mental and psychological satisfaction. It’s one thing to do a good job and think that it went well; it’s quite another, and far more enjoyable, to have solid evidence that we did a good job. That knowledge is possible only if we do a thorough job of evaluation.

Five Sources of Information for Evaluating Teaching*

Self-Monitoring

All teachers self-monitor whenever they teach. While most of your mental activity may be focused on the presentation or discussion, part of your attention is monitoring: “How is it going?”; “Are they with me?”; “Am I losing them?” and “Are they interested or bored?”

The first value of self-monitoring is that it is immediate and constant. You do not have to wait a week or a day or even an hour to get the results. It happens right away; hence, adjustments are possible right away.

The second value is that the information generated by self-monitoring is automatically cast in terms that are meaningful to you. You, not someone else, look at the situation and say: “This is what is happening.” You may not always know why it is happening, or what to do about it if it is something you don’t like, but you do have your own sense of what is happening in your teaching.

The very strength of self-monitoring, however, may also be its weakness. The kind of information you generate through self-monitoring is subject to your own biases and misinterpretations. Your own blind spots and lack of complete objectivity will cause you at times to misread the responses of students to your teaching.

To help counteract the subjectivity of self-monitoring, you may wish to turn to an objective source of information, one without subjective bias.
**Audiotape and Videotape Recordings**

Audio or video recordings can give you an objective view of what you do as you teach. Simply place a small audio recorder on the desk or a video recorder on the side of the classroom and let it run during a class session (or ask a colleague to run the video camera for you). You can listen to or view the tape later.

Audio or video taping gives you objective information. It tells you exactly what you really said and did, not what you thought you said or did. How much time did I spend on this topic? How many times did I ask questions? How often did I move around? These are questions the audio and video recordings can answer with complete accuracy and objectivity.

What could be more valuable than the objective truth of audio and video recordings? Unfortunately, the unavoidable problem with this information is that it is factual but meaningless in itself. A recording can tell you if you spoke at a rate of 20 words per minute, or 60 words, but can't tell you if that was too slow or too fast for the students. It can tell you whether you moved and gestured and smiled, but can't tell you if those movements and facial expressions helped or hindered student learning.

To determine the effect of teaching behavior, rather than merely seeing the behavior itself, you need to use another source of information.

**Students' Test Results**

Tests designed to assess the quality of student learning also can be used to assess the quality of teaching. The underlying objective of any teaching is to help someone else learn. Assuming you can devise a test or graded exercise that effectively measures whether or not students are learning what you want them to learn, the test results basically reveal whether you are succeeding in your whole teaching effort. Although the other sources of information identified here can partially address this question, none address it so directly as test results: "I know they are learning because they responded with a high level of sophisticated knowledge and thinking to a challenging test."

Many teachers follow the tradition of testing twice during the term and once at the end. However, weekly feedback is more effective in letting students and the teacher know whether they are learning what they need to learn as the course goes along.

The problem with using test results as a means of evaluating teaching is their lack of causal connection. Did students learn because of or in spite of your teaching? If you need to know whether your actions as a teacher are helpful or useless in promoting student learning, you need an additional source of information, such as the students themselves.

**Information from Students**

As the intended beneficiaries of all teaching, students are in a unique position to help their teachers in the evaluation process. Who better than the students themselves can tell you whether they find your explanations of a topic clear, your teaching exciting or dull? Of the five sources of information described here, students are the best source for understanding the immediate effects of teaching.
Information from students can be obtained in three ways: informal assessments, questionnaires, and interviews, each with its own relative values.

Informal assessment can be conducted via a one-minute paper at the end of a class session or through student journals. You can ask students to respond to a fairly general question, such as: “What is the most important concept you learned this week?” or “What course activities are helping you learn best?” You can structure questions to focus more closely on specific aspects of your teaching, if you’d like: “What effect has our use of think-pair-share sessions had on your learning?” Students’ comments can reveal that they are learning what they need to learn or that certain class activities help or hinder their learning.

Questionnaires can be used to gather various kinds of information: student characteristics (e.g., major, GPA, reasons for taking the course), the students’ characterization of the teaching (e.g., clear, organized, interesting), amount learned, overall assessment of the course and/or the teacher (e.g., compared to other courses or other teachers, this one is ...), and, sometimes, anticipated grade.

Questionnaires obtain responses from the whole class and allow for an anonymous (and probably more candid) response. The limitation of questionnaires is that they cannot probe for further clarification, and can only ask questions that the writer anticipates as possibly important.

You can use questionnaires at the beginning of a course to get information about the students (e.g., prior course work or experience with the subject, preferred modes of teaching and learning, and special problems a student might have). Mid-term questionnaires can give you an early warning of existing problems in time to make changes that can benefit the students. End-of-term questionnaires can yield meaningful responses to questions about the overall effectiveness of the course.

Interviews with students are a well-established way of finding out about their reactions. Either you yourself (if sufficient trust and rapport exist) or an outside person (if more anonymity and objectivity are desired) can talk with students for 15-30 minutes about the course. This can be done in a large group with a single interviewer or in a number of small focus group interviews.

Although students know better than anyone what their own reactions are, they also can be biased and limited in their perceptions. They occasionally have negative feelings, often unconsciously, about women, people who are ethnically different from themselves, and international teachers. Perhaps more significantly, students usually do not have a full understanding of how a course might be taught, either in terms of pedagogy or content. Hence they can effectively address what is, but not what might be.

Information from someone with a professional understanding of the possibilities of good teaching can help supplement and interpret students’ perceptions.

Outside Observer

A third party can often bring both an outsider’s perspective and professional expertise to the task. Outside observers do not have a personal stake in the particular course, and hence are free to reach positive and negative conclusions without any cost to themselves. They also can bring an expertise either in content and/or pedagogy that is likely to supplement that of both the teacher and the students. In addition, outside observers can make notes about student/learner behaviors and attentiveness that you may not always be aware of while you are teaching.
Peer colleagues can visit each other’s classes and share observations. The political risk is low and each can empathize with the situation and challenges facing the other. Interestingly, the observers in these exchanges often find they learn as much as the person who gets the feedback.

Senior colleagues can be of value as observers because of their accumulated experience. Although you may need to be selective and choose someone whom you respect and with whom the political risk is low, experienced colleagues can offer ideas on alternative ways of dealing with particular topics, additional examples to illustrate the material, etc.

If you are a new faculty member, consider inviting one or more outside observers to your classes at least once a semester for two or three years, to get as many new perspectives on teaching as soon as possible. If you are a more experienced teacher, you would probably benefit from such feedback at least once every year or two.

However, being an outsider is also a weakness. Outside observers can usually visit only one or two class sessions and, therefore, do not know what happens in the rest of the course. Apart from this general problem, each kind of observer has its own limitation. The peer colleague may also have limited experience and perspectives; the senior colleague may be someone who makes departmental decisions about annual evaluations and tenure; and the instructional consultant may have limited knowledge of the subject matter.

If, however, you strive to get feedback about your teaching from a combination of sources, you will get a fairly comprehensive picture.


### Responding to Feedback from Students

If you rely on students to provide information to assess your teaching, it’s important to respond to their feedback as soon as possible. There’s no need to provide the results for every item on a questionnaire or every question asked in an interview, but you might want to discuss two or three items that the group responded to favorably and two or three items that you hope to improve. If informal assessment efforts reveal some common concerns or misunderstood subject matter, you should address those issues in class.

If you’ve decided to make changes based on student feedback, explain what you intend to do differently and why. Clarify confusion regarding goals and expectations. Be sure to identify the changes you have control over and intend to change (better overviews, clearer instructions), changes you will not make (number of tests given), and those things you cannot change because you have no control over the situation (size of the class). Remember to thank students for their input. Tell them how important it is and be sure to implement the changes you negotiated and/or promised to make.

Maintain a positive attitude when discussing feedback with your students. The manner in which you request feedback and discuss the results will indicate to students whether you take their feedback seriously. Avoid being defensive, angry, preachy, or overly apologetic.
Using Student Feedback to Improve Teaching*

Asking students to critique your teaching performance can be an enlightening as well as beneficial experience. Here are some helpful hints as you consider student evaluations:

- Take several days to think over students’ feedback before reacting to any positive or negative comments.
- Feel good about glowing comments you receive about your teaching, but keep them in perspective.
- Keep unfavorable comments in perspective, too. Negative reactions from one or two disgruntled students may not accurately reflect the perceptions of the entire class. Some negative comments are meant to be constructive. Therefore, look carefully over all comments before discounting any.
- Start small. Don’t change too many things at once. Start with small, low-risk changes.
- Realize your students may not always understand your intention. They may misinterpret your intended humor and high standards as coldness or not caring, or your easy-going style as incompetence. Recognize that such misinterpretation occurs, learn from it, then move ahead.
- Avoid complacency because you continually receive good or negative feedback. Good teaching takes constant work and re-tooling. Remember, feedback is based upon perceptions that can and do change.


Documenting Teaching Effectiveness*

Teaching is a creative and scholarly activity that is worthy of peer review. Moreover, Montana State University policy requires all faculty seeking promotion or tenure to provide an in-depth assessment of their teaching. The results of this assessment, when combined with reviews of your research and service, complete your dossier. However, as of Fall 2000, many departments have yet to fully develop or implement guidelines for this teaching assessment. Therefore, many faculty must decide for themselves how to document their teaching—a process with which many feel uncomfortable. The following advice, while not university policy, may serve as a good starting point.

- The granting of tenure or promotion at MSU is based on (establishing) effectiveness in teaching, research, and outreach, and (promise of) excellence in either teaching or research. Therefore, it is essential to choose whether your objective is to demonstrate effectiveness or excellence in teaching. Though an in-depth assessment is required in either case, it needs to be more thorough if your application is based on the standard of excellence in teaching.
- The creation of a teaching portfolio should be a collaborative effort between you and your Department Head and/or Departmental P&T Committee. Regular dialog will help ensure that the materials you gather fulfill the committee’s needs.

Mountains & Minds
To effectively demonstrate growth and reflective practice, your teaching portfolio should be started as early in your teaching career as possible.

You should be well aware of all University, College and Departmental guidelines for teaching portfolios including the processes by which they are evaluated. Since requirements are now evolving, it is vital to keep abreast of changes.

After considering both the literature on teaching assessment and the collective experiences of many colleagues, a group of MSU faculty developed the following model for conducting an in-depth assessment of teaching. The model describes both the basic materials to be considered and the mechanisms for providing committees with expert scholarly reviews of teaching performance. Additional suggestions are in italics. It was designed to be adapted for use in individual departments with the understanding that teaching environments vary considerably across the campus and

**MODEL: A Departmental In-Depth Assessment of Teaching**

*Overview*

An in-depth assessment of teaching is a required component of the dossier of all candidates seeking promotion and/or tenure at Montana State University. To satisfy this requirement each candidate is required to submit a teaching portfolio (see guidelines below), which will be distributed for expert review to a minimum of three reviewers. The Department, College, and University P&T committees will then base their recommendations on both the expert reviews and, if required, an independent assessment of the teaching portfolios. As is the case in the review of research, the P&T committees rely heavily on the expert reviews.

Candidates seeking promotion and/or tenure based on the standard of (promise of) excellence in teaching must include in their portfolios all of the materials listed below except items 5 and 10. The reviews of these portfolios will be conducted by a minimum of three off-campus reviewers with expertise in teaching. No more than two of the reviewers will be selected from a list provided by the candidate.

Candidates seeking promotion and/or tenure based on the standard of effectiveness in teaching are required to submit only those items marked with an asterisk (*). The expert reviews will be conducted by a minimum of three reviewers selected from outside the Department but not necessarily from outside MSU (additional reviews may be solicited from within the department). No more than two of the reviewers will be selected from a list provided by the candidate.

The process of compiling a teaching portfolio that demonstrates growth should begin in the candidate’s first semester and all faculty are urged to regularly review their teaching portfolios with the Department Head.

*Contents of the Teaching Portfolio*

1. *Statement* - A brief (up to 500 words) statement in which the candidate describes her/his approach to teaching and learning. Candidates should specifically address how they gauge the level of student learning.
2. *Course List* - The candidate will supply a list of courses taught during the review period, number of credit and/or contact hours for each course, and number of students per course.

Note: It is recommended that the Department Head supply comparative information to help reviewers interpret the teaching load within the department.

3. *Student Evaluation of Faculty Forms* - The Department Head will provide a complete summary of student evaluation forms including a brief synopsis of written comments. The actual forms will not be included, but will be placed in separate binders and made available to the P&T committees upon request. The candidate is encouraged to supply a brief narrative offering his or her interpretation of the results. Other forms of student feedback (e.g., a Danforth review) can also be included in this section.

Note: Because the external reviewers will not necessarily be acquainted with MSU's particular campus culture or norms, we recommend that the Department Head supply information to aid in establishing the context of the numerical data. This could include, for instance, Departmental and/or College averages (where appropriate) either collectively or disaggregated by course level (i.e., freshmen, sophomore, junior, senior) or course type (i.e., survey, major, non-major, elective, required, large-lecture, laboratory etc.).

4. *Course Materials* - For each of two different courses taught by the candidate, he/she will supply the course syllabus listing course goals, a sample student assignment, a sample examination, and other relevant course materials. This will be accompanied by a description from the candidate that explains why the course is designed the way it is, how it coordinates with other courses or programs, and how the evidence presented is designed to help students meet the course goals.

5. *Student Work Samples* - Where appropriate, candidates may supply student work samples as evidence of improvements in student understanding or performance. Examples that demonstrate student growth are more useful than exemplary final products and candidates are cautioned against focusing on the work of only their top students. An interpretative narrative describing how the candidate's teaching influenced the work must accompany these work samples.

6. *Video* - A 10-30 minute video clip that demonstrates classroom teaching and a description from the candidate that explains the context of the video clip, the learning goals addressed during this segment, and why it exemplifies the candidate's teaching abilities.

7. *Classroom Observations* - Multiple observations of at least three different courses will be conducted according to the departmental procedure for peer observations of teaching, which is available from the Department Head. The observers will be selected by the Head and may be selected from outside the department.

Note: Departments are encouraged to develop a protocol that includes specific instructions on how to conduct and report classroom observations.

8. *Letters* - Ten letters from students describing their experiences in the candidate's courses will be collected. The candidate should supply the Department Head with a list of ten to twenty names of former students from whom the candidate would like letters solicited; the Head will select five student from this list. The candidate will also supply complete class rolls for at least five courses from which the Head will select an additional five students to be contacted. The candidate is encouraged to represent the complete range of courses she/he has taught (for instance, it should not be limited to upper level courses). Efforts will be made to obtain letters from both recent students and alumni students.
9. Evidence of Innovation - Candidates will provide evidence of any innovations and an explanation for why the evidence demonstrates innovation in teaching. Assessment data on the effectiveness of the innovations is strongly encouraged.

10. Contributions Beyond the Candidate's Classroom - Some candidates might be involved in educational efforts that extend beyond the individual’s classroom. This could include such activities as textbook writing, K-12 curriculum development, involvement in professional societies, or writing about teaching innovations. In cases where these activities have direct impact on the candidate’s classroom, they should be included in Section 9: Evidence of Innovation described above. Otherwise such materials may be included in this section, which will be reviewed separately by the external reviewers. The candidate is encouraged to supply a brief written interpretation of the materials.

Note: The reason that this section is distinct from general innovations is that the higher education literature suggests that the link between writing about teaching and teaching effectiveness is weak at best. However, in cases where these efforts cannot appropriately be included within the research-section of a candidate’s dossier, they should be included here.

Guidance to Candidates

The materials presented should represent thoughtful and reflective teaching. There is no expectation that every course design, instructional approach, or student assessment strategy be flawless in its implementation. Accordingly, the materials presented as evidence will be most informative if they demonstrate growth. The key to demonstrating this growth and improvement as a teacher resides in the accompanying candidate-written explanations. These explanations should succinctly describe: how and why courses were designed and structured the way they were; the specific goals of each course; how the instruction attempted to achieve these goals; how the student assessment approaches supported these goals; and what evidence is available that shows these course goals were met. Evidence of course revisions based on candidate-collected data will be highly valued by most expert reviewers. In short, although this process is known as an in-depth assessment of teaching, a focus on student learning often makes the strongest case for effective and excellent teaching.

*This model was developed by Jeff Adams, Robert Marley, Tim Slater, Elisabeth Swanson, and Russ Walker as a component of the NSF-funded Institutional Reform project (NSF-EHR #9850116).
Section 10

Information Resources

This section briefly describes the resources available through the Library and Information Technology Center (ITC).
Library Support for Teaching and Research

The MSU Libraries’ mission is to facilitate student and faculty success through the provision of information resources and services. The best, most current source of information about the MSU Libraries is the webpage at: http://www.lib.montana.edu/

Increasingly, library collections and services of interest to scholars are delivered electronically. In most curricular and research areas, full-text articles and journals can be retrieved from computers anywhere there is internet connectivity.

Faculty are encouraged to make purchase suggestions for titles that strengthen the physical and online collections. The Library values faculty expertise and relies on faculty to assist with building an appropriate and useful collection. Toward this end, faculty are welcome to visit the Review Area in Renne Library to provide feedback on titles being evaluated for addition to the collections.

The MSU’s faculty librarians, particularly Reference Librarians, are available to work with MSU faculty and their students. Reference Librarians can offer customized library instruction for classes and in-depth assistance by appointment for both students and faculty. Reference help is available online at Ask-a-Librarian: http://www.lib.montana.edu/ask/

Although online collections and services are used and appreciated by faculty and students, the Renne Library building continues to serve as a heavily used space for study, research, and group work. The main floor coffee bar, The Brewed Awakening, has become a popular gathering spot for students and faculty— one of the intellectual social centers on campus. All four floors of the building are served by wireless networking, easily accessible by portable computing devices.

Key Telephone Numbers:

<table>
<thead>
<tr>
<th>Service</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circulation &amp; Reserves</td>
<td>3139</td>
</tr>
<tr>
<td>Collections/Purchases</td>
<td>6549</td>
</tr>
<tr>
<td>Interlibrary Loan</td>
<td>3161</td>
</tr>
<tr>
<td>Library Administration</td>
<td>3119</td>
</tr>
<tr>
<td>Library Instruction</td>
<td>3171</td>
</tr>
<tr>
<td>Reference Service</td>
<td>3171</td>
</tr>
<tr>
<td>Special Collections</td>
<td>4242</td>
</tr>
</tbody>
</table>

The gateway to MSU Libraries’ collections and services is http://www.lib.montana.edu/
The Information Technology Center

The Information Technology Center (ITC) is a service-oriented organization committed to excellence in promoting and delivering information technology services and resources to the Montana State University community. ITC provides a number of services described below.

**Smart Classrooms/Podiums**

As of fall 2010, thirty-one Registrar controlled classrooms are equipped with “smart podiums” maintained by ITC and another nine classrooms are configured for laptop usage only. The rooms equipped with full smart podiums are:

- Cheever 213, 214, and 215
- EPS 103 and 108
- Gaines Hall 101, 123, 333,
- Herrick 313
- Leon Johnson Hall 339 and 346
- Lewis Hall 304
- Linfield Hall 113, 125, 234, and 301
- Reid Hall 101, 102, 103, 104, 105, 108, 201, 202, 401, 402, 452, and 453
- Roberts 101 and 218
- Traphagen 204 and 317
- Wilson 1-114

The rooms equipped with ceiling mounted projectors and cables for connecting a laptop computer are:

- Roberts 113, 208, 209, 210, 301, 307, 312, 319, and 321

A smart podium installation includes a cart on which is installed a network-connected PC, a DVD and videocassette recorder, wireless mouse, cables to connect a laptop computer, and a ceiling mounted video projector. The PC includes a high-capacity hard drive, a 3.5” floppy drive, DVD optical drive, Windows XP, the Microsoft and Corel suites of office applications, and McAfee antivirus software. ITC makes daily rounds to ensure that all components of the smart podiums are functioning properly. However, to report smart podium maintenance needs or to request the installation of special software, contact the ITC Help Desk at 994-1777.

Smart podiums are available to instructors whose classes or other events are scheduled in the equipped class rooms. Scheduling is arranged through the Registrar’s office at 994-5513. Training on the use of smart podiums can be arranged through the Help Desk. A number of other classrooms and labs controlled by various academic departments are also equipped with smart podiums. Check with the appropriate departmental office for further information.

**ITC Service Limitations**

In general, ITC is responsible for the support of the University’s information technology infrastructure. This includes the data and telephone networks, including Internet access and local and long-distance telephone service; central servers for e-mail, newsgroups, and Web pages; the general-use student computing labs; the “smart podiums” in many lecture halls; and the administrative software systems that handle the institution’s financial, human resources, and student records data. ITC provides electronic exam scoring services (including the processing of faculty evaluation, instructional, research, or administrative goals. ITC also sells computers,
printers, and related items to University accounts and provides maintenance services for those devices.

ITC also supports a Help Desk, available 7 a.m. to 9 p.m. Monday through Friday at 994-1777. The Help Desk is able to answer over 90% of all questions and forwards the remainder to other ITC offices or appropriate offices elsewhere on campus. In general, the telephone Help Desk assistance related to a given problem is free. Except for problems that ITC determines are “its fault,” services that require on-site assistance are billed at ITC's standard labor rate of $45 per hour. Most ITC services can be arranged through the Help Desk.

Among the services ITC does not provide are sales of PCs and peripherals to private individuals, maintenance of non-University owned equipment, and the loaning of computer or audio-visual equipment.

The Student Computing

General purpose computer labs managed by ITC are located in Reid, Roberts, Linfield, Wilson and Cheever Halls, the Strand Union Building, and Renne Library minilabs. These labs are funded by Student Computer Fees and provide over 350 microcomputers campus wide. Current word processing, spreadsheet, database manipulation, graphics, mathematics, and computer-aided design programs are available for student use. During the fall and spring semesters, some labs are open from 7:30 a.m. to 12 midnight, Monday-Thursday with shorter hours on Fridays and weekends. Hours vary other times of the year. For detailed schedules see: http://studentlabs.montana.edu/. USAs (User Support Associates) are trained to provide assistance for students using resources in the labs.

The campus residence halls provide additional computing resources. The Residence Life Network connects more than 3,000 individual dorm rooms and more than 700 family and graduate housing apartments to University resources and the Internet. Labs in the residence halls provide another 40 student-use computers campus-wide. For details see http://www.montana.edu/resnet/resnetfaq.html.

Departmental labs serve special purposes and are located in almost every major building on campus, making an additional 500 microcomputers available to students. Talk to your departmental staff for more information about these labs.

Laser printing is available in all of the ITC student labs and a few departmental labs.

Software Licensing

The ITC Computer Store, located in the basement of the Renne Library, facilitates the acquisition and distribution of software for institutional use on the campuses of Montana State University. ITC has negotiated volume academic purchasing agreements with many software vendors including the partial list below, and coordinates purchasing to ensure compliance with licensing agreements, compatibility with the MSU computing environment, and optimal pricing for the University. These agreements allow departments to license the use of a wide variety of software products for a fraction of their normal commercial prices. Contact the ITC Store at 994-2900. The University provides centrally funded MacAfee anti-virus licenses for use on University and student owned computers.
## Software Pricing

<table>
<thead>
<tr>
<th>Microsoft</th>
<th>Adobe</th>
<th>AutoDesk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word</td>
<td>Photoshop</td>
<td>AutoCad</td>
</tr>
<tr>
<td>Excel Powerpoint</td>
<td>PageMaker</td>
<td>Statistical Software</td>
</tr>
<tr>
<td>Access</td>
<td>Dreamweaver</td>
<td>SAS</td>
</tr>
<tr>
<td>One Note</td>
<td>Acrobat</td>
<td>SPSS</td>
</tr>
<tr>
<td>Publisher</td>
<td>Illustrator</td>
<td>Anti-Spyware</td>
</tr>
<tr>
<td>Outlook</td>
<td>GoLive</td>
<td>McAfee</td>
</tr>
<tr>
<td>Info Path</td>
<td>InDesign</td>
<td>Spybot</td>
</tr>
<tr>
<td>Lync</td>
<td>Contribute</td>
<td></td>
</tr>
<tr>
<td>Share Point Workspace</td>
<td>Creative Suites</td>
<td></td>
</tr>
</tbody>
</table>
Section 11

Advising

Academic advising has the potential to strongly influence the retention and development of university students. Through regular interactions with students, advisors can gain meaningful information about students’ academic and personal experiences, abilities, and needs. These insights can be used to help students successfully connect to their academic community and develop appropriate academic and career goals, while fostering an appreciation of life-long learning. Students place a great deal of trust in their advisors. That trust warrants that students receive dependable, accurate, respectful, honest, and professional advice.
Academic Advising: A Definition*

Advising is a dynamic process for obtaining the critical information students need to make the most important decisions about college: decisions affecting academic majors, career goals, elective courses, secondary fields of study, and co-curricular activities and life planning. Advising is an integral part of teaching: it is the opportunity to encourage students to engage in a systematic, strategic planning process and to take responsibility for their personal and professional development. The strength of academic advising lies in the commitment of faculty and professional advisors to serve as mentors, to be accessible, and to be a source of information and encouragement in the advising process. Academic intellectual and professional advising involves academic majors and the students are considered. (Adapted from Crockett, 1985, “Academic Advising”)

There are probably as many definitions of academic advising as there are advisors. Some advisors are comfortable addressing, or at least acknowledging, the broad range of events in students’ lives that may impact their academic performance, while others prefer their interactions be strictly focused on academic goals and requirements. Certainly an advisor’s responsibility includes an interest in students’ needs, availability, knowledge of university policies, procedures and requirements, academic requirements and opportunities in the curriculum, the career connections of the discipline, and current information on referral resources available to students.

Students also have an important role in ensuring the success of the advising process. They must take responsibility for their own learning, keep track of curriculum requirements, initiate contacts with advisors or other appropriate members of the academic community, keep appointments, and arrive at advising conferences prepared.

Statement of Purpose and Goals for Academic Advising

The primary purpose of an academic advising program is to assist students in the development of meaningful educational plans that are compatible with their life goals.

Goals for academic advising include:
- Development of suitable educational plans
- Clarification of career and life goals
- Selection of appropriate courses and other educational experiences
- Interpretation of institutional requirements
- Enhancement of student awareness about educational resources available (e.g., internships, study abroad, honors, and learning assistance programs)
- Evaluation of student progress toward established goals
- Development of decision making skills
- Reinforcement of student self direction
- Referral to and use of institutional and community support services
- Collection and distribution of data regarding student needs, preferences, and performance for use in making institutional decisions and policy
Academic Advising at MSU-Bozeman

Academic advising at MSU has traditionally been the role of the faculty in the colleges (declared students) and professional advisors in University Studies (undeclared students). Some colleges and departments have their own advising centers where students can make initial contact and obtain general information regarding coursework and departmental policies. The Academic Advising Center, located in University Studies, also serves as a source of advising information for core courses, for students transitioning between majors, or for academic enhancement (e.g., minors, National Student Exchange, etc.). A list of “Campus Resources for Advisors and Students” is included at the end of this chapter.

**MSU Personnel: Advising Responsibilities**

- Coordinate advising in the college
- Take care of all student-related matters not settled in the department
- Arbitrate grievances when they reach the college level
- Represent college/handle scholastics, graduation, etc.
- Serves as professional advisors

Faculty and Professional Advisors

- Academic advising for course selection and major requirements
- Connect students with faculty for course and curriculum information
- Connect students to academic and student services and resources, e.g., Writing Center, ASMSU tutoring, TRIO student support services, etc.
- Provide expertise on career related fields and internship possibilities
- Instruction
- Research
- Service Students

- Make and keep appointments with advisors, professors, etc.
- Give thoughtful consideration to courses, program and future plans before meeting advisors
- Keep advisors informed of changes in their program and/or objectives
- Thoughtfully consider an advisor’s recommendation with an open mind and be willing to discuss differing views
- Ask for help when needed
- Accept responsibility for their actions

**Academic Advising Needs of Different Student Populations**

*Entering First Year Students*

The first year of college is often a period of great transition and adjustment; it is the most critical phase of college student advising. The first six weeks are especially vital in terms of academic and social integration.
Ways to help freshman students:

- Inform students of advisor’s name, office location and hours, email, etc.
- Orient students to degree program and related careers
- Inform students of related career opportunities
- Inform students of university and curriculum deadlines
- Inform students of pertinent campus resources
- Assist students in formulating educational and career goals

Continuing Students

Sophomores and Juniors are more comfortable with college procedures and are less concerned with the basic issues of scheduling. They are beginning to think more concretely about their career/occupational goals and are eager to integrate their academic plans with these goals. For many students, this is a time when they consider changing majors, “stopping out,” or dropping out altogether. Many transfer students also arrive as sophomores.

Ways to help continuing students:

- Encourage student engagement, interest and excitement about the learning process and areas of study
- Assist students in assessing progress in core curriculum and degree program
- Discuss curricular enrichment, e.g., minors and exchange programs
- Provide information on activities, internships, etc.; how to integrate theoretical and practical competencies
- Advise students of catalog declaration, upper division credits, total credits required for graduation, GPA requirements
- Inform students of professional organizations, campus organizations, internship opportunities
- Be supportive of students reevaluating major choice

Seniors

The capstone year of college is one that ideally integrates intellectual and social experiences as students prepare to move beyond their undergraduate education into further schooling or “the real world.”

Ways to help seniors:

- Review requirements for graduation (core, graduation application, degree program and upper division requirements)
- Discuss career direction and recommending a visit to Career Services (SUB 177)
- Inform students of job opportunities (campus recruiting, interviewing skills, and resume development)
- Provide resources on resume writing, interviewing, and job searching
- If relevant, discuss and make preparations for graduate school
Advising Considerations, Legalities, Ethics

As an advisor, it is your responsibility to...
1. Be available for and to become good at advising
2. Be properly informed: look it up, ask, keep current
3. Refer rather than counsel
4. Keep good records of all exchanges with each student in an active file
5. Keep your door open, keep “at arms length,” and abide by intellectual property, consensual relationship, and other laws and policies
6. Maintain confidentiality for all records and communications (unless it is of an emergency nature and then notify appropriate authorities)

Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act of 1974 grants certain rights, privileges, and protections related to students’ educational records maintained by the University. Students’ educational records (with the exception of directory information) will not be released to third parties outside of the University (including parents and guardians), except with the written consent of the student. Students have the right to inspect their own educational records, unless they have waived that right (e.g., graduate school recommendations, etc.). (MSU Bulletin 2006-2008, p. 59)

For more information refer to the National Academic Advising Association Website: [http://www.nacada.ksu.edu/index.htm](http://www.nacada.ksu.edu/index.htm)

Advising Information

University Degree Components

- CORE 2.0 requirements - The mission of CORE 2.0 is to enhance students’ use of multiple perspectives in making informed critical and ethical judgments in their personal, public, and professional lives through inquiry and research experiences. CORE 2.0 was introduced in Fall 2004.

- DEGREE requirements - The courses required for a particular major and/or minor as outlined in the MSU-Bulletin. (See specific majors under department listings.)

- SUPPORTIVE requirements - These courses include prerequisites and foundation courses required for majors and minors.

- Restricted and non-restricted ELECTIVE requirements - Courses that are not required for a major or minor. The number of required electives varies by degree.
Board of Regents Minimum Grade Policy

Overview of New Policy (effective Fall 2005)

- A “C-” or better must be achieved for all courses except free electives. This includes core courses, required courses in majors and minors, and pre-requisite courses.
- A “D” will be considered a passing grade only for lower division free electives. Free electives are defined as any credits that count toward the 120 total degree requirement and are not required for core, major, minor, or upper division requirements.
- This policy does not affect students who entered the Montana University System prior to Fall 2005 and have been continuously enrolled (no break in enrollment of more than 2 consecutive semesters, including summer).
- Former MSU students who have not attended MSU for 12 months or more are impacted by this policy. Previously earned D and D+ grades will not apply in meeting graduation requirements, unless an exception is granted.
- Transfer coursework for transfer students entering MSU Fall 2005 or thereafter must meet the C- requirement to count as anything but free electives._
- Departments still have the authority to grant individual exceptions to this policy with respect to departmental requirements, including prerequisites. For other appeals (upper division, previous catalogs, core requirements, etc.) students should contact their Assistant/Associate Dean or the Registrar’s Office.
- If you encounter a specific situation not covered here, please contact the Office of the Provost to discuss.

Core 2.0

Core 2.0 was introduced at MSU in Fall 2004. The mission, goals, and general course categories are described in Section 4. The detailed curricular requirements are found at http://www.montana.edu/wwwcat/requirements/reqs4.html in the MSU course catalog. A core worksheet can be downloaded from the Advising Center website at http://www.montana.edu/wwwgs/advising.html.

It is important to understand that, unlike departmental requirements, decisions about substitutions for core requirements cannot be made at the departmental level. Decisions about how transfer coursework will count toward core requirements are made by transfer evaluators in consultation with appropriate departmental faculty. Core designations are listed explicitly on transfer credits when they appear on the MSU transcript. Appeals of specific core requirements are initiated by students. If you have a student who believes that either transfer coursework has not been given appropriate credit for core or that some unique combination of coursework and other experience has allowed the student to achieve a specific core area objective, the student should contact the Registrar’s Office to initiate an appeal.

CORE 2.0 is structured around five foundation courses, four Ways of Knowing courses, and a Research & Creative Experience course, which may also satisfy a particular Ways of Knowing category.

Foundation Courses

Students complete one course in each of the following areas:

- University Seminar (US) – Seminars are designed for first-year students to provide an introduction to college studies aimed at expanding students intellectual interests, improving critical thinking and communication skills, and creating a community of learners. Seminars are taught in small sections emphasizing discussion, critical interpretation of important
texts, multi-disciplinary perspectives, exploration of diverse contrasting perspectives and interpretations, and examination of arguments and evidence.

- **Writing (W)** – Students with an ACT English score of 27 or higher or an SAT Critical Reading score of 640 or higher are exempt from the College Writing requirement.

- **Quantitative Reasoning (Q)** – Q courses enable students to develop those skills that lead to an understanding of quantitatively-based problems related to contemporary society. All students must meet this requirement, either in a foundational course (e.g., calculus or statistics) or in a terminal course (e.g., Mathematics for the Liberal Arts).

- **Diversity (D)** – Diversity courses address the study of identities (e.g. race, class, gender, sexual orientation, ability, etc.), societies, nations, or national languages and cultures to prepare students to function in the global community.

- **Contemporary Issues in Science (CS)** – CS courses, which are focused on natural science or technology, examine the ways in which science contributes to the study of significant problems in the contemporary world, and are designed to help students make informed decisions about these issues.

**Ways of Knowing**

Students complete one course—Inquiry (I) or Research & Creative Experience (R)—in each of the four Ways of Knowing: Arts (IA or RA), Humanities (IH or RH), Social Science (IS or RS), and Natural Science (IN or RN).

- Inquiry courses, which are normally larger than Research & Creative Experience courses, provide students with an understanding of the methods used to discover and create the factual and theoretical knowledge of the discipline. Each course examines particular issues in the discipline while exploring its methodological and theoretical foundations. Many students only take Inquiry courses in satisfying the four Ways of Knowing categories.

- Research & Creative Experience courses build on the competencies students have developed in the foundation courses. These experiences are not limited to a student’s major field of study and can incorporate a range of authentic experiences from traditional one-on-one mentoring to group Research and Creative Experience courses. Courses intended for majors only do not carry a specific Ways of Knowing designation (e.g. MUS 490 R).

**Permitted Substitutions**

- There is a list of courses, normally taken by science majors, that students can use to substitute for the CS and IN requirements (see MSU catalog for details). A student must complete 2 courses from this list to make this substitution.

- The University Honors course UH 202 may substitute for the Inquiry Humanities (IH) requirement.

**University Core Policies**

- To receive Core designation for an MSU course, the course must have the Core designation the term the course is/was taken.

- No University Core course may be taken on a pass/fail basis.

- Most Advanced Placement (AP) courses for which students have received a 3 or better on the national exam may be applied to the Core.

- College Level Examination Program (CLEP) courses may not be applied to the Core.
Advising and Developing a Program of Study

Pre-College Credits and Placement

- **Advanced Placement (AP) credit** (but no grade) is awarded to students who took AP coursework in high school and received a score of 3, 4, or 5 on the AP test in that subject area. AP credit does fulfill core requirements. AP credit awarded to students is listed on their university on-line transcripts after it is received and processed by MSU.

- **International Baccalaureate (IB) credits** are accepted as college credits and many count toward core. Details are found at

- **College Level Examination Program (CLEP)** credit is awarded for successful performance in certain Subject Examinations. For more information refer to the Academic Information section of the MSU Bulletin or contact the Testing Service, Room 243 Reid Hall, 994-6984. CLEP credit does not fulfill core requirements.

- **Advanced Standing by Challenge:** Students who have completed the work of a college course on their own initiative and time may, with the approval of their academic advisors, instructors, department head and college dean, take a comprehensive examination in the subject matter of the course. A grade will be awarded based on the student's performance. Official permission forms for this process are available at the Registrar's Office and details are outlined in the Academic Information section of the MSU Bulletin.

- MSU has mandatory placement in Math, College Writing, and Spanish language courses.
  - **English:** Students are exempt from ENGL121W if they received a 27 ACT or 640 SAT score on the English portion of those tests. Students with these scores have satisfied the W core requirement, but do not receive university credit. Students with low scores on standardized tests (including the Montana Writing Assessment) are required to take ENGL 118 or ENGL 119 to prepare for ENGL 121W. Students are notified directly.
  - **Math:** Students are placed in appropriate courses based on ACT or SAT Math scores, CLEP credit, or the locally implemented Math Placement Exam (MPLEX). A detailed flow chart indicating the placement procedure is found at http://www.math.montana.edu/undergrad/prereq_flow.html. The MPLEX is available to students during freshman orientation.
  - **Spanish:** Students with any previous Spanish language instruction must either provide evidence of prior credits or take a proficiency test (CLEP or local test, available at orientation). The results are used to place students in appropriate courses. The introductory (MLS 101) course is intended only for those with no prior experi-

Transfer Students

Transfer students often present an advising challenge because of their varied backgrounds and access to information about how their previous coursework will specifically transfer into MSU. Transfer students who have been accepted at MSU are eligible to register for classes immediately following the advising-registration period for continuing students; for example, transfer students accepted for enrollment Spring Semester may meet with an advisor and register for spring classes as soon as the continuing students' registration period has ended in November.
Transfer students have two options for advising and registration during the summer. They can make an appointment with an advisor in the curriculum of their choice at any time throughout the summer or attend the transfer orientation session immediately preceding Fall Semester.

The official transcripts of all students transferring into MSU are evaluated by the Office of Admissions and a “Transfer Equivalency Worksheet” is generated which lists the courses/credit hours/ grades from the previous institution and the corresponding equivalent credits awarded and course equivalency (if there is an equivalent course) at MSU. This form indicates if credit has been accepted toward core credit (indicated by the letter designations for each area, ie: H = Humanities) or toward elective credit. If a course at another institution is recognized as the equivalent of a specific course at MSU, the specific MSU course number and title is listed. Take note of the grade a student received in a previous course; if a grade of “F” is listed, the course and MSU equivalent will still be listed, but of course, no credit is awarded. See [http://www.montana.edu/admissions/transfer.shtml](http://www.montana.edu/admissions/transfer.shtml) for more detailed information.

When the “Transfer Equivalency Worksheet” has been completed, the student AND the department receive a copy. Due to workloads in the Admissions Office, these worksheets may not be completed until several weeks after a student has been accepted; therefore it is common for a student to be cleared for registration and meet with an advisor before MSU has officially evaluated the student’s previous transcript. If this happens, here are some suggestions:

- Ask the student to bring an unofficial copy of their previous transcript so you can at least see what courses have been taken and infer appropriate coursework at MSU.
- Call the Transcript Evaluation Clerks in Admissions, Hamilton Hall at 994-6617 for information on the student’s transcript or to get a copy of it faxed to your office.
- Encourage students to contact you after they receive the equivalency worksheet if they have questions or concerns about the classes they registered for.

**Credit Information**

- 12 credits required for full-time student status
- 12 credits minimum for Financial Aid, Athletics, Bureau of Indian Affairs, and Residence Halls; 6 credits maximum per semester for Montana Residency requirements; 7 credits maximum for students admitted on part-time probationary status
- 12 credits and up is the same tuition fee
- Average number of credits for a semester = 12-16
- 24 credits minimum needed per year for intercollegiate athletics eligibility (and satisfactory progress). Credit for zero level courses (Math 085, ENGL 001, 005) may only be counted toward the 12 credits of eligibility each semester during the first year of attendance.
Advising Resources for Advisors and Students

Advising Information by College
Campus Advising Contacts 2010-2011

College of Agriculture
• Advising

College of Arts and Architecture
• Contact individual departments

College of Business
• Student Services Office: Reid 338 - Ph: 4681 - Christine Lamb, Assistant Dean Advising FAQ’s
• The Bracken Center

College of Education, Health and Human Development
• Department of Education: Education Advising Center: Reid 132 - Ph: 1880
• Department of Health & Human Development: HHD Advising Center - Hosaeus PE Complex - Ph: 4001 - hhdadvising@montana.edu

College of Engineering
• Contact individual departments

College of Letters & Science
• Contact individual departments

College of Nursing
• Advising Office: Sherrick 109 - Ph: 3783 - Patricia Hanson, Advising Coordinator

University College
American Studies/Liberal Studies Degree
• Gaines Hall 130- Ph: 3561 David Cherry, Director - liberalstudies@montana.edu
University Studies Program / Academic Advising Center
• Gaines Hall 130- Ph: 3532 Diane Donnelly, Director - universitystudies@montana.edu
Patricia Lane, Academic Advising Coordinator, Ph: 3532
University Honors Program
• Quad D- Ph: 4110 Ilse-Marie Lee, Director - honors@montana.edu
MSU Leadership Fellows Program
• SUB 187- Ph: 4371 Carmen McSpadden, Director - uc@montana.edu
McNair Scholars
• Gaines Hall 240- Ph: 5072 Shelly Hogan, Director - mcnair@montana.edu
Undergraduate Scholars
• Gaines Hall 130- Ph: 3561 Colin Shaw, Director – usp@montana.edu

Gallatin College Programs
• Advising: Hamilton 201 - Ph: 7160 – Terra Cusack, Academic Advisor for Developmental Education Ph: 5595- Tabby Jagger, Academic Advisor for Workforce Programs
• Gallatin College Programs is to be responsive to the workforce needs of the Gallatin Valley by developing, delivering, and continually improving quality educational programs and services which will allow individuals to achieve their goals and create opportunities that will enrich their lives.
Detailed information can be found at http://www.montana.edu/gallatincollege/
Other Campus Resources

ASMSU Tutoring - Available for all students. $3.50/hour first 5 hours; then $7.00/hour. Contact ASMSU Office - SUB 281 / 994-2933 [http://www.montana.edu/asmsu/tutorial.html]

Athletics Academic Coordinator - Provides academic support, monitors successful academic progress, and verifies NCAA academic requirements for all athletes. Fieldhouse 133A / 994-4330

Career Services - Encourage students to familiarize themselves with this office for career planning and the career resource library. Interest inventories and computerized career planning are available Gaines Hall 135 994-3532/ [http://www.montana.edu/wwwgs/careerservices.html]

Dean of Students Office - Act as advocates for students. Assist faculty in dealing with issues of academic misconduct. SUB120 / 994-5931 [http://www.montana.edu/wwwds/]

Directed Interdisciplinary Studies - Degree program designed for undergraduates interested in pursuing an area of scholarly/creative inquiry that falls outside the established departmental structure at MSU. Contact the Honors Program for information. QUAD 106D / 994-4110 [http://www.montana.edu/wwwcat/opportunities/spec3.html]

Disability, Re-entry and Veteran Services - Personalized and specialized academic support services including assistance for non-traditional-age students, eligibility and accommodations for students with physical or learning disabilities, as well as services for veterans, dependents and members of selected reserves. SUB 155 / 994-2824

Financial Aid Services - Refer students to Financial Aid Services for deadlines, questions, course-credit requirements, work-study, student employment, etc. SUB 135 / 994-2845 [http://www.montana.edu/wwwfa/]

First Year Initiative (FYI) and Office of Retention - Mentoring Program and FYI Workshops. Dean of Students Office, SUB 120 / 994-7359 [http://www.montana.edu/freshmen/]

International Student and Scholar Services - Office of International Programs, 400 Culbertson 408 / 994-7180 [http://www.montana.edu/international/issss/]

Health Professions Advising - Information for undergraduate students interested in careers in medicine, dentistry, optometry, or any of the allied health professions. Offers assistance in the exploration of health professions careers, course requirements, MCAT review, health-related experience opportunities, student organizations, and preparation of professional school applications. Contact Sheila Nielson-Preiss / Leon Johnson 317 / 994-1670 [http://www.montana.edu/dhs/hpa/]


Modern Languages Department - Spanish course placement. Gaines Hall 117 / 994-4448 [http://www.montana.edu/wwwml/]

National Student Exchange - Coordinates student exchanges for both incoming and outgoing students with over 170 colleges in the United States and its territories. Contact University Studies Office / Gaines 130 / 994-3532. [http://www.montana.edu/wwwus/nse.htm]

Native American Advising Office - Provides academic support and monitors successful academic progress. American Indian Club Room. Wilson Room 1 / 994-4880

Office for Community Involvement - Services include: Acts as a liaison between faculty, students and community agencies; provides service learning resources to students and faculty;
and conducts faculty workshops on integrating community involvement into University courses. SUB 286/994-6902. http://www.montana.edu/community/

**Office of International Programs** - Coordinates international exchanges and study abroad opportunities for students and faculty. Also provides information and advising for faculty members who want to apply for Fulbright awards and offers grants for faculty members to undertake international activities through their International Faculty Research and Program Development Fund. In addition, OIP offers information and advising to international scholars at MSU and to departments on issues relating to immigration regulations and procedures for hiring individuals who are citizens of other nations. Culbertson 400/994-4031 /http://www.montana.edu/international

**Testing Service** - CLEP (College level examination program). CLEP exams are given by scheduled appointment, for a fee. CLEP credits may NOT be applied toward CORE 2.0. P/F. Reid 243 /994-6984 http://www.montana.edu/ehhd/centers/testing/index.html

**Office of Student Success** - The mission of Student Success is to enhance the learning environment of the University; support students in the attainment of their educational objectives; foster in students a sense of responsibility, self-directedness, community, and a positive identity with Montana State University. SUB 177 /994-7626 /www.montana.edu/success

**Undergraduate Scholars Program** - Opportunities and funding for undergraduate students to engage in hands-on research and creative activities under guidance of faculty mentor and formally present their findings. Reid 418 /994-3651 /www.montana.edu/usp/

**University Honors Program** - QUAD D, Room 106D /994-4110 http://www.montana.edu/wwwuhp/

**University Studies Program** - Information on advising questions, core curriculum, etc. Coordinates US 101 First Year Seminar. Reid 418 /994-3532 http://www.montana.edu/wwwus/

**Writing Center** - Available to all students who desire help and guidance in writing papers, reports, etc. Appointments necessary. Wilson 1-108 /994-5315 http://www1.english.montana.edu/~engweb/wc/index.html

**General Academic Advising Resources**

**National Academic Advising Association:** http://www.nacada.ksu.edu/ This site features a wide range of information applicable to academic advising, as well as links to numerous additional sites.


*This section was prepared by Pat Lane and Diane Donnelly, University Studies Program / Academic Advising Center, MSU.*
Advising Graduate Students

The mission of the Graduate School is to develop, nurture and sustain high quality programs of post-baccalaureate study, set and maintain standards for graduate courses and programs, develop the resources to recruit and support quality graduate students, and guide Montana State University’s graduate program into the twenty-first century.

All faculty working with graduate students need to be familiar with the Graduate School policies and procedures. While it is ultimately the students’ responsibility to follow these policies, we often see students who misunderstand them after receiving incomplete or incorrect information from their advisors. To avoid this situation, consult the online Graduate School catalog [http://www.montana.edu/gradstudies/](http://www.montana.edu/gradstudies/) or contact our staff whenever you are unsure of a specific policy. Also, encourage your students to carefully review the Graduate School catalog at the start of their programs. Inevitably, it takes far more time, effort and resources to address issues after mistakes have been made.

**Common Issues That Cause Problems:**

1. **How do students establish in-state residency?**

   This issue is of particular concern for primary investigators who support graduate students since resident students naturally require fewer funds for tuition assistance than do non-resident students. In-state admission and fee status is granted to persons who demonstrate that their permanent residence is Montana and that they have paid appropriate taxes over a period of time. To qualify, students must meet six basic requirements, which can be found at [http://www.montana.edu/gradstudies/cat_res&fees.html](http://www.montana.edu/gradstudies/cat_res&fees.html). Students initially classified as out-of-state or non-residents must live and pay taxes in Montana for one year, while taking no more than six credits a semester, to successfully petition for residency. Students that come to Montana based on a verifiable offer of full-time employment may be eligible for residency in less than the standard one-year minimum.

2. **Can students transfer courses taken at another university to MSU?**

   Yes. The number of semester hours transferred from other institutions (non-degree or degree status) combined with credit(s) taken as a non-degree graduate at MSU may not exceed nine (9) credit hours on a Program of Study. Individual departments may have stricter standards on the number of credits to be transferred. There are a number of conditions on the credits that can be transferred, which can be reviewed at [http://www.montana.edu/gradstudies/cat_trans_credits.html](http://www.montana.edu/gradstudies/cat_trans_credits.html).

3. **Before taking a semester off, what do students need to do?**

   MSU has a continuous enrollment policy. The full details can be reviewed at [http://www.montana.edu/gradstudies/cat_continuous_enrollment.html](http://www.montana.edu/gradstudies/cat_continuous_enrollment.html). Students wishing to take time away from their programs should inform their advisors and departments of their plans. Students must understand that the six and ten year limits for the completing Master’s and Doctoral degrees are calculated from the start of their programs. Time away from a program is not considered a valid reason for extending deadlines. When students wish to return, they will need to submit an “Intent to Register” form to the Registrar’s Office.
4. **When do students need to submit a Graduate Program of Study and Committee Form?**

This important planning tool must be submitted to the Graduate School by the end of the second term of study for master’s students and by the third term for doctoral students. Failure to do so will result in the student being placed on academic probation for failing to make satisfactory progress toward a degree.

5. **How can students change their programs of study?**

A student must submit the changes on a “Change of Program” form with the signatures of the advisor and department head. Completed courses may not be removed and students must repeat any course in a program where a grade below a C- was earned. More information can be found at [http://www.montana.edu/gradschool/forms.html](http://www.montana.edu/gradschool/forms.html).

6. **How can students change their graduate committees?**

Students must submit a “Graduate Committee Revision” form with the changes, reasons, and signatures of the faculty being added or removed.

7. **What are the formatting requirements for theses and dissertations?**

The requirements for formatting theses and dissertations are found in the “Style and Composition Guide” on the Graduate School Electronic Thesis and Dissertation (ETD) Website at [http://www.montana.edu/etd/](http://www.montana.edu/etd/). These guidelines supersede all departmental and discipline standards and must be followed if students wish to have their work accepted by the Graduate School. Although it is the students’ responsibility to see that their theses or dissertations conform to the Graduate School’s requirements, advisors should ensure that students do not submit work with significant formatting errors. Please be aware of the specific deadlines for submitting a thesis or dissertation each semester.

8. **How do students set up their comprehensive exams or defenses?**

After an advisor agrees that a student is ready, the student needs to schedule a comprehensive exam or defense so ALL members can be present. The time and location of the public presentation portion of a thesis or dissertation defense should be announced within the department at least two weeks in advance. The Graduate School asks that doctoral students submit this information to the Graduate School. For inclusion on the “What’s New” section of its’ website. Students must be registered for at least three credits for these events to take place and must meet comprehensive examination deadlines each semester.

9. **Can students change their committees if they have trouble scheduling their comprehensive exams or defenses to include all members?**

The Graduate School frowns on any practice where expediency outweighs the quality of graduate education. The committee that advises a student from the beginning of his/her graduate career and was presumably selected based on their ability to support the student’s program should be the same committee that examines the student. Students should schedule all committee meetings as far in advance as is practical to coordinate all members’ schedules in time to satisfy all deadlines.

10. **How does a student arrange to graduate?**

Again, students need the agreement of their advisors. Then, assuming that students will complete ALL degree requirements by semester deadlines and are registered for a least three credits, they
can file an “Application for Advanced Degree” with the Graduate School by September 20 for Fall Semester, February 5 for Spring Semester and June 10 for Summer Semester. Failure to meet these deadlines will result in a student having to register for three credits the following semester in order to graduate.

**Common Advising Errors:**

1. **Not clarifying the difference to masters students between “A” and “B” Plans.**

Master’s programs in many fields may be taken under either of two plans. Plan “A” requires a thesis and is recommended for the students whose goals make early research experience desirable. Plan “B” requires a professional paper or project and is designed to serve those taking coursework en route to a doctoral program who wish to defer original research until they formally begin their doctoral programs or those in terminal degree programs where original research is not necessary.

2. **Not knowing what is required or what can be included in a program of study.**

The Program of Study is intended to allow graduate students to individualize their route to an advanced degree. However, there are numerous requirements and limitations that individual departments and the Graduate School have set to ensure that all degrees represent a minimum level of academic achievement. Once approved, this document becomes a contract with the DGE that defines the work students must complete before receiving a degree. Programs may be revised and updated to reflect the availability of classes and shifts in academic foci.

3. **Not knowing the requirements of a graduate committee.**

For master’s students, three to five committee members are needed. The majority of members must be MSU faculty from the major department. Adjunct faculty, faculty affiliates, faculty of other institutions, and non-academic experts may serve as members but may not chair a committee. Off campus and non-faculty appointees must submit a curriculum vitae to the Vice Provost for Graduate School for approval.

For doctoral students, departments have the choice of appointing either four or five committee members. Three or four members must be within a student’s major and at least one, but not more than two, must represent the student’s supporting area or minor (if applicable). The Vice Provost for the Graduate School appoints a Graduate Representative to all doctoral committees. Adjunct faculty, faculty affiliates, faculty of other institutions, and non-academic experts may serve as members but not as a committee chairs. Off campus and non-faculty appointees must submit a curriculum vitae to the Vice Provost for the Graduate School for approval.

4. **Signing an Application for Advanced Degree “too early”**.

“Applications for Advanced Degree,” like any form requiring your signature, should never be signed automatically. You first need to be sure or have a strong expectation that a student will complete ALL degree requirements by the deadlines applicable to the term he/she wishes to graduate.
6. Telling undergraduate students that they can enroll in your graduate course without understanding the petition process these students must go through.

Graduate courses are designed for graduate students. Exceptional undergraduate seniors may enroll in graduate courses pending the approval of a petition by the Graduate School. This process ensures that the quality of graduate courses is not compromised by the presence of inadequately prepared students. The petition form can be downloaded at http://www.montana.edu/gradschool/forms.html.
Section 12

University-Wide Programs

MSU has a number of programs that service students and faculty at the university-wide level. This section describes some of these programs.
University Studies

University Studies is the academic program of choice for 30% of first-year students at Montana State University as well as the academic home of continuing students who are transitioning into another major at MSU. The approximately 1200 students in University Studies are in the process of exploring their options before deciding on specific academic programs and majors.

University Studies Department

The University Studies program (formerly Generally Studies) was established in 1958 to serve the many undergraduate students who were not yet ready to commit themselves to a specific curriculum. For over a decade, one-third of all entering freshmen have selected University Studies as their initial academic home. Nationally, it is very common for students to be undecided about their future career goals. Following this trend, over 60% of students who enter college with a declared major change that major at least once before graduation. Students may take up to 60 college credits while enrolled in University Studies, but the majority declare a major field of study in their second or third semester.

The University Studies staff provides professional academic advising to students who range from gifted individuals with a multitude of strengths and interests, to students who are not sure of their ability to succeed in college. Additionally, University Studies advises students who entered MSU in a curriculum they later found unsuitable and wish to explore other options.

University Studies Program Components

Academic Advising
A commitment to quality academic advising lies at the center of the program. Based on the student’s interests and predicted abilities, a University Studies academic adviser will help the student prepare an individualized program to explore various areas and at the same time fulfill course requirements or electives in a wide range of curricula. Required University Core courses are particularly suitable for University Studies students. In addition, University Studies academic advisers work closely with students to connect them with faculty, courses, and opportunities of interest campus-wide.

US 101US: First Year Seminar
This course is a three-credit academic content course that fulfills the University Seminar requirement for CORE 2.0. The primary goal of US 101US is to provide undeclared students with the best opportunity to reach their academic and intellectual potential. This multi-disciplinary course, presented in seminar format, crosses the disciplines of psychology, history, and philosophy, and encourages students to explore issues critical to their academic goals. Students are challenged to become critical thinkers — to view the world from multiple perspectives and to question long-held assumptions. Successfully integrating entering students into the academic and intellectual community is a cornerstone of the program. Since its inception the course has evolved and expanded into the largest Freshman Seminar course at MSU and serves up to 800 students yearly.

National Student Exchange
The NSE program provides MSU students the opportunity to widen their educational horizons, experience diverse people, culture and geography, and enhance their academic programs. More than 180 campuses across the United States are involved in the program.
Academic Advising Center
University Studies serves as a general advising information center for faculty and students through the Academic Advising Center. In addition to providing general advising services to all MSU students, a goal of the Center is the enhancing of academic advising campus-wide through workshops and information materials, including the Academic Advising Update, which is published on the Web each semester prior to pre-registration.

University Honors Program

The University Honors Program (UHP) is a university-wide program for academically motivated students in all disciplines. The UHP was established in 1983 to attract and retain top student scholars and to provide them with challenging course work and activities that emphasize enrichment, depth of inquiry, and imaginative and rigorous learning opportunities. Special honors classes, individual research projects, intellectual activities, and honors residence halls are available to students who are admitted to the program. Students may apply to the program during their last year in high school or after they are enrolled in the university. Grades, test scores, a reference letter, and a writing sample are required.

Presently about 500 students are in the program. Honors courses are offered within the program and in departments. Most of the honors courses carry core curriculum designations. UH 201 and 202, “Texts and Critics: Knowledge and Imagination,” are the first and second courses in the program with the “V” (communication) and “H” (humanities) designations respectively. These classes are seminars with no more than 15 students and emphasize reading, writing, discussing, critical listening, thinking, and argument based on a wide range of texts, and are taught by university faculty with the assistance of upper-class honors students. A call goes out in February to the faculty who wish to apply to teach “Texts and Critics” the following year. Compensation is offered in the form of “release time” to replace faculty members in their departments, or, if overload teaching is preferred, funds may be allocated for research, travel, or equipment.

Faculty members may also propose honors seminars for upper-class students. Honors seminars, which may be designated core, generally emphasize interdisciplinary perspectives but may focus on a specific theme or topic. Class size is limited to 15 students. Proposals are due in mid-November for the following year, and compensation is the same as for UH 201/202. Team-teaching is possible.

Faculty are also invited to teach UH 204, “Great Expeditions,” a course that focuses on text(s) that describe historical and contemporary journeys. At the end of the semester, the class and the instructor take the journey. Past Great Expeditions have been to Italy, Germany, Argentina, the Vancouver Straits of Alaska, Mexico, and other exciting places.

Departmental honors sections are offered in chemistry, economics, English, mathematics, and physics. Students who write honors theses often have departmental faculty members as thesis advisors.
University Honors Program students have distinguished themselves in many ways including winning prestigious scholarships such as the Goldwater Math and Science Scholarship, the Truman Scholarship, the Rhodes Scholarship, the Morris K. Udall Scholarship, the Phi Kappa Phi National Award, and NASA Space Grant Scholarships, and have been featured in the All-USA Academic Teams. Students receive a University Honors Program degree at a special graduation ceremony. UHP graduates are currently pursuing advanced degrees at, among other places, Harvard University, MIT, Stanford University, and the London School of Economics.

Office of International Programs

The Office of International Programs offers a full range of international programs and services to Montana State University System. Responding to fundamental trends of the 1990’s which pull the United States and Montana into the global marketplace and put us into daily contact with other nations, OIP seeks to bring international education to the core of the academic and cultural life of MSU. In today’s world, every student, regardless of his or her major, needs to graduate with knowledge of other cultures and languages in order to succeed. Increasingly, cutting-edge research and scholarship in all academic disciplines require international collaboration and communication. OIP strives to provide quality international education opportunities to MSU students and faculty. Of equal importance, OIP programs make MSU accessible to capable students from around the world and ensure they have quality academic experiences. Reflecting MSU’s recognition of the centrality of international education, OIP reports to the Office of the Provost and works closely with the MSU International Education Committee in conducting its programs.

Services and Programs

- International Opportunities Resource Center
- Institutional linkages between MSU and universities throughout the world
- International education curriculum and policy development
- Study abroad opportunities for MSU students
- Support for MSU faculty conducting international activities
- International student and scholar advising services
- Intensive English instruction through the ACE Language Institute (in cooperation with American Cultural Exchange of Seattle, Washington)
- International student recruitment and admission services
- The Bozeman Friends of International Students (in cooperation with the Bozeman Rotary Club)
External Funding: The MSU Foundation

Primary responsibility for developing external funding lies with the offices of the Vice President for Research, Creative and Technology Transfer and the MSU Foundation. These guidelines are intended to clarify the division of responsibilities, avoid confusion on the part of those seeking support, promote greater cooperation and coordination, and thereby increase the productivity of the University as a whole.

The MSU Foundation is the principal fundraising arm for MSU and has the primary responsibility for cultivating, soliciting, administering, and accounting of all philanthropic gifts, awards, and endowments made for the benefit of the University. Faculty and staff efforts to raise funds are supported and coordinated through a cooperative effort between the MSUF development officers placed in each college and the MSUF central departments.

The MSU Foundation’s Corporate and Foundation Relations office works with local and national organizations to tailor gifts that benefit programs at MSU and the mission of the corporation or foundation. The MSUF can help you seek private funding by conducting prospect identification research, by facilitating communication with program officers and staff of corporations and foundations, by assisting in the submission of professional proposals, and by providing excellent stewardship for donors.

The MSUF focuses on working with individual and family philanthropic visions. By bringing together individuals and university objectives, the fundraising staff creates opportunities for philanthropic gifts. The MSUF staff encourages and assists faculty in developing relationships through research, solicitation, and stewardship strategies.

The MSUF operates a campus clearinghouse for philanthropic funding requests. This clearinghouse assists faculty and staff so that contact with corporations and foundations or individuals are strategic and coordinated. Before submitting a proposal of $5,000 or more to a corporation, foundation, or individual, you should complete the brief Proposal Clearance Form. Approval of your request via this MSUF form is usually done within one day.

Not all corporate or foundation contributions are philanthropic in nature. If you are considering a proposal for sponsored research with contracted deliverables, please contact MSU’s Office of Grants and Contracts.