Preparing for Tests and Exams

1. Introduction: Obstacles to Attaining Top Grades

Like many students at university, you may be unhappy about the results you attain in exams. You may feel that even with all you are doing there must be something more -- or different-- you could be doing to get better grades. We have all at some time or other heard of that student who only studies a couple of hours for final exams and scores A's every time. We stand in awe of those who seem to breeze through without undue effort and seem to need very little in the way of studying to nail an exam. The reasons for success, in what I think are the vast majority of cases, are less esoteric than many students think: successful students consistently apply a series of productive strategies with view to attaining clearly identified learning and grade goals throughout the academic term.

Sometimes the difficulties students have with preparing effectively for exams stem from a need to develop fundamental skills such as time management, reading for comprehension, note-taking, and coping with anxiety. If this is true of you, you might also find it helpful to read "Reading University Level Materials" and "Note-taking at University" to strengthen your essential learning skills. Some other reasons that students experience difficulties preparing for exams are related to constraints on time, lack of preparation of appropriate kinds, and a misplaced focus on the course material. In some cases students have difficulty developing an adequate understanding of the theoretical perspectives of the course or the course concepts and applying this understanding of one part of the course to another. Others try to maintain their old approach to studies and this may involve them choosing to memorize materials when it may be more appropriate to work analytically or interpretively; this in turn may lead to increased anxiety and a chance of "blanking out" in exams. Additionally, it is often the case that students seek effortless, short-term solutions to studying for exams, trying to learn a full year's work in the matter of a few days intensive studying. In sum, the reasons for failure or poor grades can often be traced to the absence or break-down of a productive approach to learning.

Providing you aren't willing to be satisfied with moderate understanding and moderate grades, then you will probably be looking for ways to overcome these concerns. These kinds of issues are common to many students and can be worked out with a little instruction and application of new strategies to your efforts. As you read through this package, be alert to ways in which you can adjust your approach to learning and studying for a variety of learning contexts. This booklet has been designed to assist you in learning a variety of skills which I encourage you to employ and challenge you to master. It will take time for you to develop your skills, and you will have to be patient with yourself and determined to achieve your goals, but your time will be well spent. The strategies contained in the following pages have been culled from a variety of expert sources on the topic of learning skills and they have been presented with a view to providing you with the building blocks to become a better student.

2. Getting Set to Study and Selecting Information Central to the Exam

For many students the concept of study brings to mind the mythology of late term cramming efforts and all-nighters . Getting set to study can sometimes be a matter of realizing if you don't get started right away and use whatever time remains you may well end up failing the exam. For the next few days you frantically compile and study your notes until you feel you have a grasp on the information, undertaking intense study sessions only to feel frustrated at your results later on. Sound familiar? The strategy of cramming at the last minute often fails because you have to assimilate and integrate vast quantities of information in too short a period of time. You are likely to feel overwhelmed and overloaded with details and ideas that do not seem connected. Such feelings will likely contribute to a broader sense of anxiety and dread about the exam. You cannot expect to perform well consistently with this sort of preparation and attitude. When you cram, you do not allow yourself adequate time to integrate ideas, to consolidate information into meaningful patterns, to analyze and criticize the ideas, to reflect on ideas so as to gain a deeper understanding of their connections, to test yourself by recitation and elaborative rehearsal. Instead, you struggle to hold all the terms and concepts in your memory long enough to make it to the exam room. Some information "spills out" on the way: the newly-learned material is not well connected to previously retained information. Under the pressure of the exam, you may find that you forget pertinent details, that you cannot see important connections, and that you cannot adequately analyze and interpret the questions so as to draw on what you do remember.

Less frantic, and usually much more productive, routines can be put in place without great effort for both long term and short term study. The key thing to do is to make reviewing a regular part of your study or homework routine. A sensible approach to reviewing regularly might entail starting a study session with a quick review of material covered the last time you studied the topic under consideration. Focus on key words and phrases. Keep this sort of reviewing brief (about 10-15 minutes duration) -- think of it as a “warm-up.” Each week or so, briefly consider recent lecture notes and reading notes from your various courses. Check the course description and list of lecture and reading titles on your course syllabus: themes, concepts, and important details should make sense together. In lectures look for repeated concepts or ideas identified by key transitions such as "more importantly..." or "generally,..." or "In sum...". In texts and articles, use introductions, abstracts, headings, subheadings, bold face type and summaries to identify important topics and material. Check past assignments, tests, and essay topics for relevant topics of study. Attend tutorials and class review sessions and study groups. Ask other students, the TA, the Prof. and so on what is important and compare this with what you thought was important. The idea is to consolidate and integrate your prior learning as you proceed through a course of study. Such consolidation and integration is most effective when it is gradual and regular.

If you haven’t been studying regularly, then there is still hope. You might find it helpful to begin with a series of basic steps to settle down to studying, begin consolidating your course work, and set your sights on a strategy for achieving a specific goal on your exam. The

steps are directed at settling you to the task of studying for the exam. They involve selecting key course information, ensuring that you are aware of possible topics for the exam, that you are establishing an environment conducive to good study, and that you are developing strategies to study and working to manage this process of study effectively.

- Complete all necessary or central course readings and compile all of your notes from various sources (such as lecture, tutorials, texts, past assignments and tests etc.) as they are relevant to your upcoming exam.

- Review past assignments and tests for topics, question types, and feedback and re-read the syllabus for the course focus and description. Often past assignments highlight key course concepts and offer example questions which you can use to test yourself. With the help of the course syllabus, determine your learning objectives and the course focus. An example of a learning objective is "Students should be able to apply the theories discussed in the course to relevant real life situations."

- Ensure that you know the format , location, date, time, focus, and weighting of each test or exam to help determine your emphasis for each course. Know what percentage of the final course grade is accounted for by this exam. (Incidentally, one suggestion for setting time limits for studying states that you would plan to spend one hour for each percent of the final grade that the exam is worth and then add one quarter of this time to account for interruptions and difficulties that you didn't anticipate. These estimates are over and above those related to completing term work.)

- Set a realistic goal for the exam and determine a daily amount of time to study each course. Write it down along with all the steps of preparing in a calendar or planner.

- Decide how to balance "study" and "regular course work" during this preparation period. Loosen, cancel, postpone, or decrease other commitments to leave more time for study and proper rest and relaxation and prepare a place to study away from distractions like TV, other people, telephone etc..

- Locate as many study aids, such as course notes in the library, past exams, or study guides, as possible. You might approach the Prof. or TA to see if they are interested in helping develop practice exam questions or you might develop a study group to build-in interaction around the course material. It should be obvious that collecting these study aids without using them to practice recalling your material is of limited value.

- Determine what the major sections, concepts, ideas, and issues of the course are. What do you need to know for each one? From your experience with course reading and lectures, what portions of the course have been given special emphasis? Why? In what ways has the instructor modelled the process of thinking associated with this course or discipline? What questions might help you to understand and recall and relate the elements of your course? It is important to note that the way in which the course is organized relates directly to "what's important" and to how you will likely be tested on this material.

- Ask: When is the soonest I can begin to study?

In general, settling down to study and selecting information central to the test or exam should be a straightforward task. These steps are constrained heavily by time pressures which, in large part, are due to difficulties students have with managing their time. Try to start early and remember that you are learning how to direct your efforts strategically to produce a more effective set of skills. A word of warning -- many students place efficiency above effectiveness when it comes to study. They rationalize that doing the work of effectively learning and studying their course work cannot be done because of time constraints. They expect to learn effectively even though they cut out important steps in understanding and storing their course knowledge. There is little point in being efficient, if you aren't getting the results you want; as you continue to use your newly developing strategies, you will find ways to streamline your approach.

3. General Strategies for Studying and Self-testing

Developing a sense of motivated interest is essential to long-term recall of large quantities of complex material, which is, after all, one of the important tasks of a student. You need to have a genuine sense of curiosity and interest in your courses in order to learn and retain material and perform well in exams. Without that sense of motivation and interest, your course work may come to seem like drudgery, a boring and meaningless chore. When that is the case, you may well have difficulty remembering what you read in your texts and hear in your lectures, regardless of what study methods you employ. Strive to find areas of interest and a personal sense of purpose in all your courses. You must take responsibility for developing your own interest in what you are studying.

Even with a strongly motivated interest in your learning, you may, as you prepare for exams, develop a sense of anxiety or dread about the upcoming exam. Perhaps you are not sure what the key concepts are. Perhaps you wonder if you will successfully remember the material and produce it on the exam in such a way as demonstrates your understanding. When it comes to preparing for exams, there is no one right way to study that will guarantee success. One thing is for sure, however; we can develop a sense of confidence from knowing **we know that we know what we know**. One way to **know that we know what we know** is to use the simple four-step strategy listed below. The strategy begins where we left off in the last section, with identifying key concepts and proceeds through understanding, organizing, and remembering key course information.

1. Identify the key ideas. That is, pick them out and articulate them. When reading, you might want to survey the text for introductions, headings, sub-headings, bold-face/italic type, key terms list, summary, conclusions, reading/learning goals, and repeated material. It is also helpful to look for a thesis statement and a statement of how X proves the thesis or to determine the information type; e.g. compare/contrast text focuses on the similarities and differences. Some other information types are definition, classification, description, explanation of a process, sequence of events, cause/effect relationships,

reasons, similarities and contrasts, generalization, hypothesis and argument, evaluation, and for and against. When making notes from text or from lectures, listen for outline topics or lecture titles or see the syllabus for lecture titles. As well, it helps to review prior notes for a "forward link" from a past lecture and to pay strict attention to that which is repeated, dwelt on, or written on the board or overhead. Be sure to elaborate the core ideas with some reference to those things which relate to the definition, explanation, comparison, or critique of a concept, idea, theory, or term.

2. Understand the key information. That is, develop a thorough understanding of course materials by reviewing notes to fill in any missing thoughts or ideas immediately. Identify and resolve unclear information as soon as possible, ensuring that the notes make sense to you. Additionally, with your full set of notes late in the term, re-read the course description and look for how the lectures have addressed the key themes, concepts, and issues of the course.

An excellent strategy for elaboration involves generating a series of generic questions which will help you to elaborate your learning and get you to consider different aspects of the material you are learning and articulate answers and discuss them in relation to the course. Many learning specialists emphasize the importance of elaborating to understanding. Many students spend a lot of their time memorizing the details of their courses and focusing on the ideas as they are presented without elaborating on these ideas, without making the ideas part of their own understanding through a process of thinking at various levels.

Elaboration means many different things: it can involve adding details to ideas or concepts expressed in your course; it can mean clarifying the meaning of some idea; it can mean articulating an explanation of the relationship between two or more concepts; elaboration can involve making inferences on the basis of the material; it can mean analyzing the idea or concept for its component parts and visualizing an image of one or more aspects of the material; it can involve applying the concept to a novel situation or creating an analogy relating a new idea to things more familiar; or it can generally refer to making a connection between the material being learned and information already known from past study or experiences. (King, 1992) .

Part of the reason for the lack of elaboration or thorough understanding is that students face a number of time pressures which, if not dealt with early and effectively, can leave them without the necessary time to consider a deeper approach to their course content. Another overwhelming reason for this is that students have only a vague sense of what exactly they need to do to elaborate effectively on their course concepts.

The procedure below, called "The Guided Student-Generated Questioning Strategy" (King, 1992), is quite simple, really. First, you are provided with a number of question stems which can be used to make course specific content questions. Second, you are to go to a lecture, do a reading, or review one of these you have already covered and create specific questions about that lecture or chapter using the question stems. Third, you answer these questions as thoroughly as you can, either individually or in study groups of

three or four. The questions are designed to help you elaborate on the content of a course lesson by getting you to think of answers to questions posed at different critical levels such as summary, definition, analysis, interpretation, hypothesis making, and evaluation. (King, 1992; Thorpe, 1993).

Ask the following questions:

What is a new example of ...?
How would you use ... to ...?
What would happen if ...?
What are the strengths and weaknesses of ...?
What do we already know about...?
How does...tie in with what we learned before?
Explain why...?
Explain how...?
How does...affect ...?
What is the meaning of ...?
Why is ...important?
What is the difference between ...and ...?
How are ...and ...similar?
What is the best ...., and why?
What are some possible solution for the problem of ....?
Compare ...and ... with regard to...
How does...effect or lead to...?
What do you think causes...?
Do you agree or disagree with this statement:....? Support your answer.

When answering these questions you might work alone or you may want to work in a small study group where you have the opportunity to gather input from your peers. As you answer the questions, try to integrate information from disparate sources, and express ideas in your own words. Do not simply repeat verbatim the words of the text or the formulations of the lecturer. By expressing the information aloud in your own words, you provide yourself with a sort of personal "lie detector": you see whether you truly understand and remember the material.

3. Organize these key ideas along with the necessary supporting information. That is, determine how the key ideas relate to each other, to ideas from other lectures and to themes of the course. This leads to you generating a "bigger picture's view" of the key concepts in a course of study. Some examples include the following. When reading, use chapter outlines or theses as organizing guidelines and look for relationships between items in the outline or thesis. When note-taking, consider Cornell notes format with key terms in a margin or a cover page for sections and lectures of a course. Finally, consider a visual information map or charting information to show how the course concepts, themes and issues are connected.

Relational Understanding refers to the idea of grouping related information together and choosing a key word, short phrase, or mnemonic retrieval cue to act as a trigger for your recall of the related details. By practicing recall using the retrieval cue, you build up a strong association between the cue and the details. Eventually, when you see the cue, you can recall easily the associated details and related ideas. Some studies of memory suggest that the retrieval cues are most effective when they are selected at the time of the initial learning. Strong, precise nouns and verbs are probably the most useful kinds of cues. If you were choosing a key word to represent this section of the handout, you might choose "Cornell Notes" or "Relational Understanding." The Cornell note-taking system can be seen as a method of relational understanding, since this strategy emphasizes how ideas are grouped or related together.

In addition, organizational charts or relational diagrams -- often referred to as mind maps or information maps-- can also be a way of grouping and organizing a large amount of information in a small space for the purposes of making it more concrete and easy to review. Four questions can guide you to making an information map: what are the major sections, concepts, ideas of the course? what do we need to know for each one? what questions will help me understand and recall and relate these sections, concepts, and ideas? how can I structure these questions and information relevant to answering them into visually or spatially organized study aids?

Whichever strategy you choose to organize your ideas, be sure to study in a way which is related to how the course is organized - e.g., it is probably not very helpful to spend the bulk of your time just memorizing definitions when the emphasis of your course lectures and readings has been to apply theoretical models to various social phenomena. Where there are definitions or concepts to memorize, use key words as memory cues and practice reciting definitions both in the terms given and in your own words. Where many theories or time periods or phenomena are compared or contrasted, consider developing summary charts and practice articulating the similarities and differences. Where perspectives on a series of issues are central, become fluent in what each perspective holds to be true, how they differ, how they sit on issues, whether one or more is superior to others and why. When the vocabulary of theory seems to be the focus, understand the following: which terms are associated with which theory; what the course or text uses as a common definition; how you would define the terms by example; and what the theory that groups the terminology is about and how it differs from other theories. Also consider what the theory and terminology are when stated in different words and what the key defining details are for one term and another.

4. Develop Your Memory and Quiz yourself. Many students believe they have "bad" or faulty memories. The real problem usually relates not to impaired brain function, but rather to unrealistic expectations about how their memories should work. Many students simply do not approach their studies with a strategy that facilitates long-term recall of their course work. These students have neglected to study so as to enhance their recall. **They have failed to recognize that understanding is not the same as remembering.**

For university students it is important to distribute your practice; that is, review newly-learned material often, starting as soon as possible after the new material is first encountered, spacing several review sessions between the initial study session(s) and the final review sessions before an exam.

Several brief intermediate reviews of course material serve to refresh your memory for the details and also afford you opportunities to see emerging patterns, connections, and relationships among ideas and concepts. Frequent effective reviewing not only helps to reinforce your recall of important concepts, but also highlights areas where your comprehension and recall may be faulty. The sooner you identify areas of uncertainty and confusion, the better. You can take action early to eliminate your problems so as to avoid last-minute panic while cramming for a test. In so doing, you counteract the natural process of forgetting. If you do not review regularly, and if regular reviewing is not built into the class discussions, lectures, and the texts, then you are likely to forget significant portions of what you learn, even if you understand the material well. Then your final review sessions before an exam become re-learning sessions that may make you feel nervous and anxious.

Mnemonic devices refer to systems and techniques that aid and improve recall. They also can function as useful retrieval cues when you employ relational understanding or chunking. Such techniques are consistent with established principles of learning and memory such as meaningfulness, association, organization, visualization, attention, and interest. They can include abbreviations, acronyms, rhymes, images, numbers, phonetics, and so on. They involve associating the details you wish to recall with something else that is memorable because it is funny, bizarre, vulgar, or sensual, for instance. To cite one example, you could recall the spectral classifications of stars used by astronomers by remembering the mnemonic "Ottawa boasts a fine gorilla, knowing many new stars." The first letters of each word in the sentence correspond to the classifications O, B, A, F, G, K, M, N, S commonly used to classify stars.

One key advantage of mnemonics is that they help you to test your memory. Various other strategies exist for this as well -- re-do assignments, essay questions, cue-cards for terminology, anticipate questions on the exams (these may come from old assignments, class, essay questions, labs, chapter reviews, tutorial discussions, past exams, study partners, study guides etc...), look at past tests, sketch out answers to these questions, form a study group to make questions and discuss answers from memory (try to answer detail questions, concept questions, and questions which focus on their relationship to the course and beyond from memory), write key course ideas on strips of paper or use flashcards and randomly choose these to talk about. Maybe choose three strips at random and discuss their meaning and interrelationships. Lay the strips all out on a table and organize them into categories or draw information maps. From memory, answer questions you generated in step two. Have somebody quiz you, practice labelling diagrams, and filling in charts. When making notes, use organizing feature to suggest rehearsal mode; e.g. the Cornell method, which uses key words in a column, is good for definitions.

Self testing provides feedback which is an important ingredient to any good study routine. Feedback should be collected both during the term and from your own work during study through self-questioning and self-testing techniques. Using the feedback you collect is vital in improving your approach to your course content. Some feedback comes from assignments and tests in the course but many students find these too infrequent to give them a clear sense of how they are faring in the course. For this reason, it can be very important to make your own feedback. One of the best ways is to test yourself regularly.

There are many kinds of tests and exams, but in general, the preparation steps described above will be effective regardless of the testing format. Some students mistakenly assume that they should focus exclusively on memorizing details when the format is multiple choice, and on broad patterns when the format is short answer or essay. In fact, you also need to see the broad patterns, connections, and relationships to be successful with multiple choice tests, and you need to be able to provide supporting details to write effective short answers and essay answers. Though these general strategies can go a long way to improving your approach to studies, you may find it helpful to consider some specialized preparation strategies and in-test strategies for multiple choice and essay style exams.

4. Preparing for Multiple Choice Exams

The strategies that we have covered thus far in the booklet should be helpful in preparing you with the necessary knowledge needed to succeed with multiple choice exams. For students who lack essential learning skills or who fail to apply the kinds of active strategies we have been discussing, multiple choice exams are extremely difficult. Some students have even gone so far as to label themselves incapable of writing multiple choice exams effectively. Some have even taken the step of changing out of a major area of study to avoid having to take exams in this format. In probably the majority of cases, these extreme responses are unnecessary; these students would have done better to examine the way they were preparing and adjusted their style of learning and studying to equip themselves better for these often difficult exams. If you're having difficulty with multiple choice exams, you will probably want to do what you can to make your situation better.

The reasons why these tests are so difficult have to do more with the structure of the exams than the level of difficulty of the material. Many students make the assumption that multiple choice exams are simple and do not require a rigorous approach to study. If you can understand not only how to prepare, but how to approach and analyze the structure of multiple choice questions, you will have a much clearer sense of how to take the guess work out of multiple choice exams. In terms of their structure, multiple choice exams have a few unsavoury characteristics. First, these tests typically have many questions to answer and the topics you studied are typically scrambled and shuffled. Second, the ideas you learned about in class or in the text may be reworded in different

ways: colloquially, technically, by example, or by analogy. Third, very often the multiple choice test is not simple recognition of basic ideas but recognition of the answer to a reasoned problem which makes use of the learning from the course. These questions often go beyond the material covered in class or require that you apply knowledge from the course to go beyond straight memorization, to make an analogy, or to solve a novel problem. **You cannot just be familiar with the material; you must be able to write it down, talk about it, and analyze it.** With all these characteristics, it is no wonder that multiple choice tests are both under-estimated by some students and revered by others.

We begin with a series of in-test strategies and then apply these to a few example questions, highlighting the structure and purpose of each question. When appropriate, we mention additional preparation strategies that could be used to prepare for the questions:

•PREVIEW THE EXAM. As you browse through, take note of those questions which seem easier (i.e., those questions you think you can answer) and perhaps plan to skip those which seem harder, setting time limits, and getting settled; keep to time divisions for questions as they are usually equally weighted; (see In-test Strategies, page 20.)

• START WITH QUESTIONS YOU CAN ANSWER READILY. Don't waste time labouring over troublesome questions at the start. Be sure to get credit for items you know well.

•RECYCLE THROUGH THE TEST. Now try the questions you could not do on the first attempt. Sometimes the answer will occur to you simply because you are more relaxed after having answered other questions. Sometimes, too, your answer to one question provides a clue to the answer of another.

• SET GOALS FOR TIME AND PACE YOURSELF ACCORDINGLY. Allocate your time according to the relative worth of questions. Try to save a few minutes at the end for review and revision. Remember: your first answer may not always be your best answer. Change answers, but only if you have a good reason for doing so. For instance, changing an answer from, say, selection "b" simply because your response to the previous four questions was also "b" and you cannot believe that five questions in a row would have the same item as the correct response, is likely not a good reason; be flexible in your approach.

•READ THE QUESTIONS CAREFULLY: twice if necessary. Avoid jumping to conclusions about what you think the question asks.

• CIRCLE OR <u>UNDERLINE</u> KEY WORDS IN QUESTIONS. Multiple choice tests examine your ability to read carefully and thoughtfully as much as they test your ability to recall and reason. Watch for words like "all," "always," "never," "none," "few," "many," some," "sometimes." (see Descriptive Words, page 13.)

•TRY TO RECALL A CONCEPT FROM MEMORY or think out the answer before looking at the options. Doing this successfully may help you "wade through" the alternatives and find a reasonable answer or choice.

•CONSIDER THE COVER-UP STRATEGY, whereby you read the question and try to answer it by recall before looking at the alternative answers;

•CONSIDER THE TRUE/FALSE LABEL STRATEGY whereby you label the alternative answers as true or false statements and then look for a pattern in the answers;

•SOMETIMES ALTERNATIVES DIFFER BY ONLY ONE OR TWO WORDS or in the order of one or two terms. These can seem very confusing. It helps sometimes to read the stem of the question (that's the question part) with an alternative while covering up the others. By methodically thinking through the alternatives this way, you may be able to make more sense of the options by labelling them true or false and eliminating those that don't correctly complete the question.

•USE THE HINT OF HIGHLY SIMILAR PAIRS -- this says that often the answer is imbedded in one of two very similar pairs and the "most correct" answer is often the one that correctly uses course terminology; consider the all or none of the above cues -- if two of the preceding alternatives are opposites then one of them and the all or none of the above choice is also wrong;

•BE PREPARED TO CHANGE YOUR ANSWER if you can determine a clear reason why your first response is incorrect -- many students report difficulties arising from changes that are made on the basis of nervous feelings;

•YOU MIGHT WANT TO TRY TO ANSWER ALL THE QUESTIONS FROM THE SAME SECTION OF THE COURSE to offset the mixing of questions inherent in the design of the test -- this demands care be taken that answer sheets are correctly completed and that all questions have been answered; consider guessing when there is no penalty for a wrong answer.

•BE ALERT TO TERMINOLOGY WHICH LINKS the alternatives or questions to key areas of the course, lectures, or chapters of a course's materials -- this may help you narrow the field of possible choices and think through to the best answer.

•BE WARY OF DESCRIPTIVE WORDS which are overly exclusive or overly inclusive. These absolute terms tend to portray things as right or wrong where this is often not the case. Words like always, never, completely, and only are absolutes. Relative words like often, usually, seem and may are often more accurate.

•TRANSLATE DOUBLE NEGATIVE STATEMENTS into positive ones. Examples like "Not lacking" or "not none" become "having" and "some" and this can reduce confusion. Note that these are often partly in the stem and partly in the choices of a particular question.

•IF YOU MUST GUESS, look for some of these possibilities: the style of an answer option is very different from all of the others - this may disqualify it; the grammar of the question stem is not in agreement with the grammar of an alternative; some alternative is not in the area or topic of the question, but comes from some other part of the course- this may disqualify it.

•OVERALL, remember that you are looking for the best answer, not only a correct one, and not one which must be true all of the time, in all cases, and without exception.

Multiple Choice Question Practice

To assist you in applying the strategies we have been talking about, we have included a set of example notes and questions in the following pages. The notes are representative of the kind of notes you might be studying from for multiple choice questions. Take some time to read through the notes, paying specific attention to those notations which mark the relationship between ideas while you try to understand them. Then, once you have completed the notes, examine the example questions and the discussion that follows each. Look for how the questions have been developed from the notes and attend to the in-test and preparation strategies mentioned. By understanding how multiple choice test questions can be built from course notes, you may be better able to construct example questions of your own. And, these example questions should help you to better understand how to apply the skills that you have been learning throughout this booklet.

1. The memory strategy derived from Miller (1956) involving organizing disparate pieces of information into one related, meaningful group is referred to as

(a) organization
(b) the Cornell method
(c) elaborative rehearsal
(d) chunking
(e) SQ3R

Question 1 is typical of roughly a third of the questions you might face on a multiple choice exam in that it tests knowledge that was explicitly taught in the course lectures and texts. To answer the question you need not go any further than the content of your notes or readings, but answering this question correctly involves recognizing that the question is essentially testing a definition of a concept. A slight twist in this question is that the definition is given first and you must label it with the correct concept word from the list of alternatives. Studying for this question is fairly straightforward: practice recalling the definitions of key concepts and practice matching the definitions with the correct concept word label. A hint for working with this kind of question in an exam: read the stem of the question first, noting the key words (here the key words are "Miller, 1956" and "one related, meaningful group") and try to answer the question from memory before proceeding to the alternatives. The advantage of using this approach is that you have an answer in mind to compare to each alternative -- this often gives you a greater sense of confidence in your answer and may reduce "second guessing".

2. Which of the following is not related to the process of elaborative rehearsal?

(a) adding details to ideas and concepts
(b) analyzing component parts of an idea
(c) restating knowledge in your own words
(d) practicing remembering the information
(e) none of the above

Question 2 is somewhat different from the first question, primarily in that it tests in detail the knowledge you have learned in your course. To answer this question correctly it is important to note that this kind of question forces you to go beyond straight memorization of concepts from your course. To prepare adequately for this kind of question, you will have to look more deeply at the basic information and you will probably want to apply strategies which help you elaborate and understand the significance of finer details which are related to the concepts.

3. In the study by Bahrick and Hall, 1991 we find that graduates of college mathematics courses recall high school math knowledge for many years after. According to Bahrick & Hall, which of the following would you expect to be true of a group of university graduates who did not take math courses at university:

(a) they would recall their math from high school to essentially the same extent as those who took math courses in university
(b) most would recall little or none of their high school math 50 years after
(c) they would recall best those things which they learned more about in their university courses
(d) both (b) and (c)
(e) all of the above

Question 3 is representative of a third kind of question you are likely to face when writing a multiple choice exam. This question is different from the first two in that it involves applying the knowledge you have learned or thinking about it in a new way which may not have been taught explicitly in your course. **This question tests your ability to reason through the relationship between a theory and evidence which was used to support it and apply this understanding to cope with a hypothetical situation.** (Note, as well, that this question is a good deal longer than either of the first two questions and that the options are a little more tricky.) To answer this question well, you will have to be thoroughly knowledgeable about the theory and its actual findings and then be able to apply this knowledge to determine a possible outcome for the hypothetical situation offered. Studying for this kind of question should probably include elaborative review and practice recall of the theory and perhaps some creative thinking about what might change in a variety of slightly different circumstances from those presented in the theory.

If you were to face a question like this one in an exam, you might want to start by reading this question twice to be sure that you have correctly understood what is being asked. The question stem is made up of two parts: the context reference for the question, which tells us to think back to something we have studied (here it is Bahrick and Hall's 1991 study of periodic retrieval); and the question part. You might want to pause after the first part of the question stem to recall the study done by Bahrick and Hall before moving on any further. Because of the length of the alternatives in this question, you might want to read the question part of the stem along with each alternative individually to keep clear on what you are being asked. This kind of question seems to pop up more and more in multiple choice exams and chances are you will eventually face a test with questions like this. Questions like this one are **thinker questions** and you can probably see how simply memorizing the definition for "periodic retrieval" would leave you less than prepared to answer question 3.

(Answers: 1(d); 2(e); 3(d))

5. Preparing for Essay Style Exams

For students who are comfortable with their essay writing skills, the onset of final exams featuring essay questions or short answers usually brings a sense of consolidation to a year's work and offers an opportunity to display the knowledge and thinking skills developed over the course of the year. Some students, however, are not quite so comfortable with the thought of doing essay exams; if you are one of these students, you will want to consider some ways to prepare which can foster this feeling of comfort. Doing well on essay style exams, as is the case for any exams at university, demands that you be well and thoroughly prepared with the concepts, ideas, and theories, and arguments of the course. It is vital that you understand the relationships between elements of the course as there is often an emphasis on the content of the discipline, the theoretical perspectives used to understand the course, and on the way knowledge is defined in the course. You need to be able to think analytically and critically and articulate your thoughts in written form.

Typically essay style exams have fewer question than we see on multiple choice exams, and often the few questions that are offered are related to each other quite closely, but worded and focussed slightly differently. Sometimes the test calls for the student to answer all questions, but often you are required to make selections, say a or b or choose three of seven. Questions typically emphasize some analytical and critical process around themes of the course with reference to particular theories, ideas, concepts, readings, or lectures through special direction words such as compare, contrast, discuss etc. In this section we'll look at a variety of these direction words and consider related preparation strategies. Next, we will look at a series of example questions and demonstrate how to interpret them to provide exactly what is requested. As well, we'll look at a series of in-test strategies to assist you with the actual writing of these exams.

Some general suggestions for studying for essay style exams follow. Perform elaborative rehearsal of key concepts, ideas, theories with a view to becoming fluent in the concepts of the course. The key focus here is on understanding the key issues, themes, and concepts of the course on a "big picture" level. This kind of understanding suggests an emphasis placed on the student understanding and demonstrating the ability to discuss the connections among the themes and issues of a course. As well, many courses offer students critical tools in the form of theoretical models which students are expected to be able to discuss and apply to course related situations. Thus, preparation needs to focus less on detail than on the broad themes, their interconnections, and on the application of critical tools to course content.

Effective writers of essay style exams also tend to emphasize the importance of gathering and constructing possible questions that would test the knowledge and skills learned in the course. You may want to look to course assignments for the kinds of questions to look for and for feedback on how to improve your answers. Past exams - used as possible models - and questions given on assignments or introduced in class as "something for you to think about" offer a good basis. A keen student may also construct some questions on the basis of her understanding of course themes and issues and critical tools. Answering these questions as self-tests (perhaps by forming an outline of ideas rather than by writing out the answer long-hand) may help you to "pull the course together". Study groups may also be very

helpful in this regard because different members of the group often have a different way of thinking about concepts and come up with different questions to test the same course content.

As you begin to study -- and especially as you begin to write -- PAY ATTENTION TO ACTION WORDS (discussed below from Pauk, 1993) and be sure to read the directions carefully. Many students lose marks simply because their answers do not respond to the language of the questions. They may write about the subject matter mentioned in the question, but not in the precise manner that the question requires. Be sure that your response matches the requirements of the question. The following list organizes some key words that are found in examination questions. When you preview a test, circle or highlight them as reminders of what your answer should include and how it should be focused and structured. Do not try to memorize this list; simply note the subtle differences in meaning among these examination "action words."

ACTION WORDS

IDENTIFY

The first group comprises question words which elicit direct answers and may tend not to elicit developed answers. Consequently, they may be rarely seen on essay exams. Nonetheless, they appear, and when they do, they often imply that the student should explain or elaborate.

LIST - Write an itemized series of concise statements

ENUMERATE - Write in a list or outline form, making points concisely one by one

DESCRIBE - Recount, characterize, sketch, relate in a sequence or story form.

DEFINE-Give clear, concise, authoritative meanings.

STATE - Present main points in brief, clear sequence, usually omitting minor details and examples. SUMMARIZE - Give the main points or facts in condensed form, like the summary of a chapter in a text, omitting details and illustrations.

DIAGRAM - Give a graphic answer, a drawing, a chart, a plan, a schematic representation.

EXPLAIN

As a group, these words tend to suggest fully thought out and demonstrated answers. These terms tend to be a little slippery and it is often advisable to clarify the meaning of these words within the context of your course.

DISCUSS - Consider various points of view, analyze carefully, and give reasons pro and con.

ANALYZE -Summarize fully with detail in accordance with a selected focus, consider component parts of ideas and their inter-relationships

EXPLAIN - Clarify, interpret, give reasons for differences of opinion or of results, analyze causes.

ILLUSTRATE - Use a word picture, diagram, or concrete example to clarify a point.

OUTLINE - Organize a description based on main points and subordinate points, stressing the arrangement and classification of the subject matter.

TRACE - In narrative form, describe the evolution, development, or progress of the subject.

COMPARE
These action words are premised on an analysis which works to integrate ideas under focus; emphasizing similarities, differences, and connections between these ideas deepens our understanding of the ideas and may help you contextualize ideas more effectively.
COMPARE- Look for qualities or characteristics that resemble each other. Emphasize similarities, but also note differences.
CONTRAST - Stress differences, dissimilarities of ideas, concepts, events, problems, etc., but also note similarities.
RELATE - Show how ideas or concepts are connected to each other.
Related words: DISTINGUISH.

ARGUE.
The words in this group direct the student to take a position on an issue and defend his or her argument against reasonable alternatives.
JUSTIFY - Show strong reasons for decisions or conclusions; use convincing arguments based on evidence.
PROVE - Establish the truth of a statement by giving factual evidence and logical reasoning.
Related words: AGREE, DISAGREE, DEBATE, DEFEND.

ASSESS
Writing an essay question with these action words involves invoking acceptable criteria and defending a judgment on the issue, idea, or question involved. Underlying questions here include "to what extent?" and "how well?".

CRITICIZE - Express your judgment about the merit or truth or usefulness of the views or factors mentioned in the question.
EVALUATE - Appraise, give your viewpoint, cite limitations and advantages, include the opinion of authorities, give evidence to support your position. (cf., CRITICIZE)
INTERPRET - Translate, give examples or comment on a subject, usually including your own viewpoint.
REVIEW - Examine a subject critically, analyzing and commenting on it, or statements made about it.
Related words: INTERPRET, RECOMMEND.

You can see that the various question words require you to be thinking at a variety of levels. It should be clear that you must go beyond simple definition of terms. The thinking that is involved in answering these questions is something that you have been practicing all year long as you have written papers and participated in tutorials. Here you are asked to demonstrate your ability to apply these skills to your course content.

Essay Style Practice Questions

Earlier in this booklet we included a set of example notes on the topic of memory and then discussed a series of multiple choice questions which could be derived from them. In this section we will examine a few example essay style/ short answer questions based on the same notes. It is important, once again, to understand how the questions were developed from the notes so that you might be able to construct your own example questions. As you read each question, attend to the action words which direct you and try to interpret what the question is asking you to do; you should find that this helps you apply the strategies we have been discussing.

1. Define SQ3R and discuss its relationship to the other strategies we studied in this section of the course.

This first question is probably best understood as a short answer question because of its specific focus. This question is reasonably direct and tests knowledge which was learned explicitly in the course. Note the direction words define and discuss and the emphasis on the relationship between this strategy and the others studied. Preparing for this question would likely involve elaborative rehearsal of the concept SQ3R and of its relationship to other strategies. Depending on the limits of the question, a detailed answer which involves a brief description of both SQ3R and the related strategies may be important. Not only would you want to list the components of SQ3R (survey, question, read, recite, review), but you might also want to elaborate on the meaning of each of these before proceeding to related the strategy as a whole to other strategies. An appropriate way of detailing the relationship between the strategies is that SQ3R seems to involve and coordinate a series of the strategies studied.

2. Outline the research done by Bahrick and Hall, 1991 and discuss its implications for the study of memory.

This question is more involved than the first and could appear as an essay question on an exam. Note the direction word "outline"; it indicates you must, instead of defining a concept or memory strategy, briefly review the research done by Bahrick and Hall, 1991. The next part of the question asks you to discuss implications of the research -- this would involve understanding and talking about the findings of the research (in this case, that periodic retrieval seems to strengthen long-term memories) and asking yourself what the findings imply about the memory process. In essence you are being tested on your understanding of the conclusions of the study and on your ability to see the relationships between these conclusions and the rest of what you have studied. It should be clear that you would require a solid and detailed understanding of the course material to answer this question well and that simply reciting definitions would likely not be sufficient preparation. The other, more active, methods of study talked about earlier (practice testing, question generating etc.) would be good choices here assuming your general knowledge of basic concepts was firm.

3. In the "Improving Memory" segment of our course, we considered a series of memory strategies, including "chunking" and "organization". Describe these strategies and discuss

the different ways in which they can be applied to learning different kinds of information. Is one superior to the other? Why? Why not?

This question goes beyond the first two questions in that it involves not only definition and analysis, but also critical judgement. We are first asked to describe the strategies and then to compare and contrast their application to learning different kinds of information. We are then asked to consider whether or not one strategy is superior. The answer to this question involves reliance on either course content which explicitly answers this question or on a measure of original thinking done which extends course concepts. Preparation would involve a thorough understanding of the concepts, thinking on how these concepts might be applied in various settings, and critical thinking on how one might be superior to the other.

IN - TEST STRATEGIES

Once you have prepared, it will be important to develop a strategy for approaching the actual writing of the exam. In the exam, read over all of your choices and make selections early. Divide your time so that you know how many minutes you have per question and make a brief plan for each question before writing. Plan a little time to review. Begin with the easiest alternative to accumulate marks quickly and to boost confidence.

•Read over the questions, make necessary choices, and plan time. Note the relative worth of questions so you can plan your time accordingly. A question worth 50% of the grade should probably take 50% of the allotted time. Decide which questions you want to do, if you have a choice. It is often advisable to begin with questions you can do readily. Do not worry about doing the questions in order unless the professor specifies otherwise. If you fall seriously behind your time plan during the test, leave adequate space for the question you are working on, and start answering the other questions. You will be more likely to get a passing grade if you answer all the required questions at least partially rather than trying to make one or two answers perfect.

•Re-read the questions, carefully noting what each question asks you to do. At this point your knowledge about organizing essays from key words like "compare and contrast" and "discuss" will be helpful in focusing you on what to say and how to organize it. Many students lose grades because they fail to answer the question; instead they ramble on about material that may be closely related to the question but not precisely what the question requires.

•Organize your thoughts before beginning to write with a brief outline, mind-maps, diagrams. A well-organized answer will be better received than one with the same points but with a less coherent presentation.

•Write a brief introduction including your statement of thesis adapted from the question you are answering. Tell the reader how you will prove this. For example, if the question says "Compare and contrast radical feminist and liberal feminist approaches to equality." then

you might begin with "Liberal feminists and radical feminists differ in terms of their view on equality. This is clear when one considers the theoretical stance each group takes on the origins of inequalities between the sexes, and on the differing stances each takes on proposing solutions to this inequality..."

•Keep your point straightforward and clear. To do this, use clear transitions to link your points. As well, include some examples or references to authors of your course; a few can be memorized and a few paraphrased (and it is wise to consult with your marker about conventions for doing this). Examples demonstrate your grasp of the subject matter. References to specific and precise examples from readings and lectures support and illustrate your points.

•Sum up simply to reinforce the coherence of your answer and review the paper for obvious errors, legibility, labelling of questions, and for things you might want to change.

When writing essay answers, favour a direct, concise, precise writing style. Do not waste time trying to compose a graceful lead paragraph as you might if you were writing an essay; get to the point quickly and directly. State what you intend to discuss and develop those ideas with well-chosen examples. Demonstrate that you can analyze and evaluate the subject matter; do not merely repeat information from readings and lectures. The essay exam is an exercise in thinking and expressing yourself, not in memorizing and parroting. In other words, don't just stop at defining your terms; demonstrate your ability to think and express yourself using these terms.

For the sake of your reader, be sure to write legibly, even if you have to print, and write on every other line. If your writing is virtually indecipherable, you may lose credit simply because the grader cannot understand what you have written. Writing on every other line produces a less crowded appearance, and also allows you to add material to your original answers when you proof-read them. If you use several exam booklets, be sure to number them before handing them in, for example, "1 of 3," "2 of 3," "3 of 3." Protect yourself in the event that one booklet becomes misplaced.

For OPEN BOOK EXAMS, the important point to remember is that you should prepare effectively and thoroughly. Do not expect to be able to simply look up everything you do not know: you will not have adequate time to do so. Be prepared to use your texts and notes efficiently. Know where to locate information you think you will need when writing your answers (quotations, dates, definitions, graphs, diagrams, etc.) But do not let yourself be lulled into a false sense of security such that you do little or no prior preparation.

For TAKE-HOME EXAMS, follow the basic guidelines for essay exams. You probably will not be asked to do lots of new research for the take-home essay, nor will you be given as much time as you would if you were writing a formal essay. Be direct in your writing and use straightforward organizational patterns. Demonstrate the breadth of your knowledge of the subject matter by referring to a variety of sources when providing concrete

examples to support your main points. Ensure that your responses are analytical and evaluative where appropriate.

For ALL TESTS, arrive a few minutes ahead of time, but be wary of frantic last-ditch cramming with classmates outside the exam room: you may find that such conversations clarify nothing and only serve to make you nervous and anxious. You may feel some degree of tension or excitement because of the coming test. Such arousal is normal and perhaps even desirable in the sense that it indicates you are alert and ready. If you feel overly anxious -- if your heart is pounding, if your stomach is full of "butterflies" (really just stomach acids being secreted) -- then calm yourself physically by attending to your breathing. Breathe deeply, slowly, rhythmically. You can also reduce physical tension by alternately tensing and relaxing various muscle groups. You might consider sitting in the front of the room to minimize distractions from other students. Be prepared to use all the time allotted for the exam; do not be upset or flustered if other people finish early. For all you know, they may have given up without having finished the test, or they may have neglected to do part of the test through sheer carelessness. The next section talks about these relaxation skills in more detail.

6. Reducing Exam Anxiety and Improving Concentration

If you've got this far and you still feel that concerns you have about being anxious have not been taken care of, then it is time to consider how you are thinking about the exam. First, put the exam in perspective. Determine the value of the test or exam in terms of the course grade from your syllabus; calculate your existing grade in the course and determine what grade you require to reach a certain objective in your course. When you calculate your standing, assume you will continue at least as well as you have so far in the course. Figure out what grade you'll need on the exam in order to get the grade you would really like in the course. Also, figure out what your final grade will be if you continue with your present level of achievement. Sometimes exams are worth relatively little compared to the total for the course and so it may not be worth getting overly worked up about this exam. (Some exams, of course, are worth relatively more and should be approached accordingly, with greater time careful self-testing in preparation.) After calculating their existing grade, some students actually find out that they are doing better than they thought they would. Some find a concrete goal in terms of a grade to shoot for on the exam and this helps them focus and begin study with better concentration. Remember that exams measure what you can demonstrate about your learning thus far in a course of study, not your worth as a person.

•**Know that you know what you know**. Much of exam anxiety comes from a fear of poor performance. If you can test yourself adequately prior to an exam and go in with the knowledge that you do know your stuff, you might find your anxiety diminished.

•Some anxiety is normal in an exam situation. In fact, some would say that to a degree, anxiety is facilitative of sharp concentration and alertness. When anxiety begins to impede your ability to perform to your ability, then it may be time to seek further help with it. If

you find your anxiety to be extreme and accompanied by headaches, nausea, feelings of despair, shaking and trembling, or blanking out, then it might be worth looking into services for reducing stress and anxiety at your campus Counselling Centre. The relaxation strategies and exercises provided take time to develop and will probably be most productive for exams a few months down the road, given a few months of diligent practice.

•Symptoms of stress or anxiety can be worsened by drastic changes in sleep and eating routines, but they can be diminished with some physical activity like walking, swimming, or skating.

•Breaking the study into smaller, one hour, or half hour, time units and inserting a break in between the sessions of study can be helpful in maintaining productive activity and providing a much needed rest or time-out. The few minutes break offers you a chance to stretch, it allows you to focus and concentrate on a reasonably sized package of information, and allows for some sense of progress on a regular basis.

•If you're very short of time, you might try focusing the bulk of your time on areas that need work rather than on those which you already know and can remember well. This way you can cover more of the course material. Though some people experience a little anxiety from working through the hard stuff, many feel that this strategy offers a chance for greater effectiveness and course material coverage.

•Beware the frantic student! It is hard sometimes to establish a controlled outlook for an exam, but it is easy to lose this outlook when you come into contact with somebody who is very highly anxious. The natural habitat of this kind of highly stressed individual is the main entrance to the exam room, just before an exam begins, trying to learn those last bits of information before the exam. If this is you or if this scenario seems familiar to you, then you might want to be aware that this may raise your anxiety at the worst possible time. Beware of picking up on the concerns and stress of other students. Probably we pick up more stray anxiety than we need to. If you review minutes before the exam and this helps you, then you might want to do so just out of range of the exam room.

•Try to eliminate negative self statements such as "I'm going to fail this exam for sure because I'm such a big dummy." Whether negative statements are accurate or not, they work to convince us that they are accurate and this has an impact on our behaviours and self concept. This low self concept, in turn, may limit our ability to perform to standard on an exam. Replacing negative statements with genuine positive statements like "I'm studying hard and I did passably well during the term, I should do similarly well on this exam." may help curb anxiety and bolster your sense of confidence.

•Try to focus on the task at hand. That is, focus on the activities of studying for and responding to questions on the exam rather than on potential negative consequences. Catastrophizing - i.e., focusing on grim forecasts of future jobs, lifestyle and so on, are more likely to raise anxiety than to help you control it.

Concentration Skills

•some people like to keep a pad of paper nearby as they work so that they can jot down or write out interruptive thoughts and distracting ideas. By doing this you don't risk worrying that you will forget about these tasks, and you acknowledge that the concerns are important enough to warrant attention, but not so important that they must come before your work.

•it is often a good idea to "park" ideas that are bothersome and tend to distract. This idea involves setting a time when you will deal with a particular problem or concern and leaving it behind temporarily while you focus on other things.

•try to determine a clear goal for what you want to accomplish for the learning session. This may assist you in focusing your attention on the specific tasks at hand, one by one, and provide you with important feedback about your progress.

•try to focus on the task at hand and avoid looking into the potential longer term consequences of doing well or poorly which often leads to catastrophizing.

•do the most important tasks first so that you can know that anything else that comes to mind as a distraction is less important than the thing you are doing.

•try to maintain an "I'll try to do the very best I can under the circumstances" attitude rather than an "It must be perfect" one.

•learn to recognize when a distracter is more important than the task you're presently doing. Also, learn to deal directly with the cause of that distracter whenever possible. Sometimes by removing the cause of a major distracter, it is possible to save time that would be wasted worrying later on.

•try to maintain a regular place for study which is free of your bigger distractions, such as the TV, the fridge, and so on.

•keep your work space free of clutter and try to keep it dedicated to the task of study. Sometimes this reduces distractions and assists you reaching a better state of concentration. Reading on the bed, for example, is probably not a good idea for good concentration. Working at a desk that you always use for such purposes will support better concentration.

•try to work for a set period of time so that you know an end point is in sight. Restlessness sometimes gets worse when it seems that the work you are doing has no end in sight.

•have all your books, notes and working tools available. Needing to get up to search for lost or misplaced items can add to distractions.

•to reduce the anxiety associated with preparing to study you might begin by organizing your books and work space to aid you in keeping your desk free of distractions and on focussing on the task at hand. You might also plan time for "warming up" as part of your

study routine. To do this, begin with something that's familiar to get started. As well, it sometimes helps to review the good results of the past to put yourself in a confident frame of mind.

•to reduce anxiety associated with the time following a study session, you might take a physical break to help you reduce the symptoms of stress and to peak your alertness and energy. You might also want to end each study session with an overview of a section to boost your sense of completion and confidence. As well, you might find studying early in the term to be less anxiety-provoking because of the reduced amount last minute study you have to do.

•identify your areas of concern early in the term and check them out. Often those who feel uneasy about exams are those who have discovered that they have gaps (large or small, few or many) in their understanding. By examining concepts which are unclear as the course proceeds, you reduce these gaps and build your confidence along with the knowledge of the course.

•discuss your course work with other members of the class. By discussing the course focus and ideas related to the course, you are likely to determine some fairly common ground regarding the important aspects of the course to be tested. This may also give you an ideal chance to discover other points of view about the course ideas and focus. Group study is an excellent way to work actively to study.

•if you feel anxious because of the poor state of your notes, you might try borrowing a friend's notes to fill in where there are gaps in your notes or use a tape recorder to keep up with professors who don't allow questions or who move too quickly. At all times try to keep your notes organized by date and look for the main ideas for each lecture as they relate to the course outline. Notes that you make from the text should reflect the organization of the ideas presented in the text. Consider using the Cornell style of notes which includes a margin for questions, comments, and key words which are used to trigger larger chunks of information. Finally, don't leave your notes until the end of the term to find that your notes are incomplete: instead, review the notes regularly through the term to clarify and complete them and then review the portions which are not clear with the Prof. or TA or a classmate.

•in general, test and exam anxiety is often marked by a generally negative point of view. As you are working, try to repeat positive affirmations. Remind yourself of the positive experiences you may have encountered thus far in the course and tell yourself that your hard work will pay off. Tell yourself you can do it. You might find it helpful to remind yourself of the elements of the course that you do know; focusing on what you are not sure of only raises your anxiety.

•some students feel anxious only during the exam or test. Some ways of reducing anxiety during the test follow: peruse the whole exam to discover which questions you are able to do with relative ease and plan to do these first. The result is likely to be a little more confidence and the comfort of knowing that there are no easy marks that you missed on the exam.

•examine the marking scheme of the test or exam and plan to divide your time evenly among the available marks of the exam; e.g., spend ten percent of your time on ten percent of the marks for the test. While you may not stay strictly with this limit, it is worthwhile to know how many minutes you should spend per percentage point in the exam. Following this guideline gives you a sense of progress and feedback about how you are doing. It is important to keep track of your time so that you have an opportunity to answer all questions: after all, it is better to give a 75% answer on all questions than perfect answers on 50% of the exam.

•some students even find it helpful to set mini-breaks at specified points during the exam during which they close their eyes, relax their hands and do deep breathing exercises. Even thirty seconds can help bring down your symptoms of stress if you use one of the various relaxation strategies.

•at all times try to focus on the process of answering the question rather than on the end result.

7. Conclusion

Throughout this booklet we have tried to outline a series of strategies related to learning effectively and studying well for exams. We have tried to highlight ways in which you can take an active role in your studies by suggesting active learning strategies which we have compiled from numerous sources. These sources include published materials on study and learning skills and the work we have done with our students. We have taken the position that doing well on exams is best achieved through the application of active learning strategies which promote comprehension, elaboration, and critical thinking and that good results are seldom attained when students cut out key steps in learning. We have looked at a variety of strategies for multiple choice and essay style exams and have offered example questions which we analyzed to demonstrate the thinking that must go into preparing for and writing these exams. We have tried to offer strategies related to increasing concentration and reducing anxiety, knowing the important role they can play in learning and memory. Finally, we have included a list of helpful resources should you decide to investigate exam preparation strategies further. Best of luck as you begin to apply and hone your new found strategies!

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