

The Savvy Scholar:
How to Retain
Your Canada Scholarship

# - he Savvy Scholar: How to Retain Your Canada Scholarship 

INDUSTRY, SCIENCE AND
TECHNOLOGY CANADA LIBRARY

DEC
BIBLIOTHĖQUE
INDUSTRIE, SCIENCES ET
TECHNOLOGIE CANADA

Prepared by<br>Professor Danton H. O'Day<br>Erindale College, University of Toronto<br>for<br>Industry, Science and Technology Canada

© Minister of Supply and Services Canada 1992
Cat. No. C2-201/1992E
ISBN 0-662-19736-4
PU 0020.92-01

Alternative formats of this document can be prepared upon request for the visually impaired.

## Aussi disponible en français.

- able of Contents
1 Introduction ..... 1
2 The Complexity of College and University Life ..... 5
3 Note Taking: Lectures and Reading ..... 9
4 How to Study and Learn ..... 15
5 Preparing for and Writing Exams ..... 21
6 Time Management Is Critical to Success ..... 27
7 Problems and Solutions ..... 31


## 1 <br> Introduction

Asa Canada Scholar, your exceptional work in a pre-university high school or cégep program ${ }^{1}$ has been acknowledged through the awarding of a Canada Scholarship. You should be proud of your accomplishments and be ready to face the challenges of college or university with renewed enthusiasm and with the knowledge that you have the ability to succeed.

The problem with academic success in high school is you are expected to maintain your previous, exceptional grades under entirely new conditions. But college or university is not like high school. So, for many students, the grades they achieved in high school often become elusive in the college or university environment. For the Canada Scholar, the need to maintain a first-class average to retain one's scholarship can sometimes add additional pressures. The reality of the situation is simple: you have the ability to do well but the first thing you must do is adapt to your new environment. After all, isn't that what life is all about?

First we'll look at some of the challenges you will face at college and university. Then we will see how you can overcome them. Along the way, I'll give you some practical hints to help you use your intellect to the fullest. With effort, the academic standards you realized in high school should once again become attainable.

[^0]The transition from high school to college or university, especially in science and engineering, can be devastating for Canada Scholars. Not only is it hard to adjust to the increased freedom and independence, but the amount of information you will be required to learn, at times, will seem endless. You will undoubtedly find college or university to be more intellectually challenging than high school. Many top students in high school get by with little effort, with minimal studying and lots of cramming. As a result, such students may have poor "study stamina." Later we'll look at ways to develop good study habits and to develop the ability to study for the extended periods that are required for success at college or university.

At college or university the rules change and, often, so do the grades. Typically marks drop by 10 to 15 percent and, when this happens, dreams may seem unattainable. First year is tough. But, you have the capacity to survive and, with some changes in routine, to do as well as you have become accustomed to doing. To accomplish this, you need some basic information and a few rules to keep you on the track to success. Some things you can do immediately to make the transition to your new life as a college or university student are outlined in the next section.

## The First Few Months Are Critical

Your initial months at college or university will be extremely critical. Here's a short list of some things you might want to do:
_ make up your mind to succeed

- know your campus inside-out
- learn where support groups, counsellors are located
- learn how to use the library
- develop your time management skills
- plan your schedules
- get into a study routine
- be prepared to ask for help.

We will deal with most of these subjects in more detail below. One thing that this booklet cannot do is help you make your personal transition from the high school to the college/university mentality. This transition is affected by all sorts of factors that range from one's background environment (e.g. are you from the country, a small town or city?) to personal maturity (i.e. how independent are you?). If it is possible, you should make an attempt to visit your campus before the school term actually begins. In this way, you can learn the ins and outs of your new environment, free of the pressures of student life. If this is not possible, then during orientation week you should read the information that is handed out and take any guided tours of the campus facilities (e.g. library). Find out early on where the student services are located (e.g. Writing Labs, Learning Centres, Career Guidance, Student Counselling, Medical Services, etc.). Learn about clubs and support groups on your campus.

One thing every student can do before arriving on campus is to select the courses that will meet your needs for the specific program you are interested in pursuing. Read the school calendar carefully, noting the specific recommendations for your future area of specialization. All of the courses you need or want may not be available that year, so you may have to change your schedule to compensate for this. Similarly, due to scheduling conflicts, it's not always possible to take all of the courses you want. It doesn't hurt to have alternative choices. When possible, take a balanced set of courses. Don't weigh yourself down immediately with an overly challenging course load.

It takes time to adjust to any new environment. It can be especially difficult when you move away from home for the first time and lose the immediate support of friends and family. Keeping busy and being sociable can help alleviate the problems of isolation and loneliness that most students will feel to some degree
or other. Remember, you are not alone. Other students are in the same situation. Support groups and counsellors are usually just a short walk away.

This general guide is designed to help you get on track in your first year at college and university so that you can retain your Canada Scholarship. I hope you will read it completely as soon as you get it. You should also consider reading some of the reference material listed at the end of this booklet or check for similar books at your local library. Finally, you might take a summer course in word processing and use of a computer. Congratulations on your Canada Scholarship and good luck in your college or university studies.

## Notes

## 2 <br> The Complexity of College and University Life

## Life at College and University

In many aspects, college and university differ greatly from high school; in others, they are very similar. The most significant difference is the increased freedom that you will have. This might seem like a good thing but it can work against you. For example, since you are free to attend or miss lectures at will, you may be tempted to skip them. Your classes or lectures will often be very impersonal events. You will sit in a large lecture hall listening to a professor standing in the distance, lecturing you on topics that were never covered in high school and, at times, which seem meaningless.

Except in rare instances, you will not be missed if absent or acknowledged if present. It will be up to you to decide what is important and what is not. It will be up to you to decide whether or not to study. You alone can decide whether or not to do what's asked. It will be up to you to decide if you should hand in an assignment. It will be your decision whether to attend a lecture, lab or tutorial. It will be up to you whether you remain anonymous or get the most out of your years at college or university.

Your hours in class will vary with the courses you have chosen. Most courses have two to three hours per week of lectures. Some have four. In science and engineering you not only have a full slate of lectures, you also have to attend laboratory periods, work in practical sessions and go on field trips which will range from two to four hours per week in each course. Some disciplines, such as mathematics and computer science, also have tutorials which focus on the practical aspects of the courses and provide you with individual attention from teaching assistants.

Science students usually enrol in five courses per semester while engineering students typically have six courses per semester in their first two years. This number may vary slightly from school to school depending on the program. Thus depending on your chosen curriculum, you will have between ten to thirty or more hours of class time per week. In disciplines which have few class hours, more outside reading and other assignments are usually required, while in the science and engineering, time must be spent preparing for labs and writing lab reports. It's very easy to see that your free time, as a student in science or engineering, is significantly reduced by the large amount of in-class time and by other regular commitments such as lab reports. Thus, it is imperative that you get into an academic routine so that you not only get your day-today work done but also are prepared when exam time rolls around.

## Professors

A major impact in your school life will be made by your professors. These are the people who design and teach the courses. Groups of faculty members decide what courses are important and which groups of courses constitute a meaningful curriculum. Individual professors or, at most, small groups of them, design and teach their courses within the overall framework of a curriculum that is designed by another group and approved by a curriculum committee. In engineering, the curriculum must also be approved by an accreditation board.

You will note that most, if not all, professors are highly qualified individuals. In the sciences and engineering, they should all have PhDs , but their ranking system may at first be confusing. When I was a student, I was quite confused about the terminology for professors. It seemed to me that there were only a few real professors but they had a lot of assistants and associates. Well it turned out that they all were
professors but differed in their rank. They start out as assistant professors and progress through the associate professor rank to "full" professors. If they live long enough and do some work of extreme merit, they may become professors emeritus when they retire.

Science and engineering departments still consist mainly of male faculty. For female students, academic role models are few and far between at most schools in Canada. As a female Canada Scholar you are in an excellent position to change the situation in the future. For the present, however, the challenges women face in male-dominated environments may negatively affect their studies. If you have concerns in this area, you should talk with one of the college or university counsellors. Often there are female graduate students in most, if not all, areas of science and engineering. If so, as discussed below, you will likely find a knowledgeable and friendly ear among this group.

The Canada Scholarships Program also offers support through Mentor Clubs, available at some universities and colleges, with senior Canada Scholars and faculty people ready to give you academic and personal guidance to help you do your best in first year. For more information, contact your awards office or the Canada Scholarships Program, Awards Division, Association of Universities and Colleges, 151 Slater Street, Ottawa, Ontario, K1P 5N1, Tel.: (613) 563-1236.

## Teaching Assistants

The professor is only one part of your academic world. You will undoubtedly come into contact with many other people who are there to help you get your degree. The most important of these are teaching assistants. They include tutorial leaders and laboratory demonstrators who are generally graduate students. They are less experienced than your professors. However, they are well educated for the positions they hold. They are also more available than professors.

In some cases teaching assistants give many, if not all, of the course lectures (e.g. in mathematics departments). In science and engineering, the teaching assistants usually run or teach the laboratory and tutorial sections of courses and mark lab reports and problem sets. In most disciplines the assistants will mark essays, reports and, in some cases, tests and exams. There is the potential in such situations for discrepancies between the expectations of your professor and the teaching assistant. That is why you must understand why you receive the grades you do. Read all your graded work to determine why you received the assigned grade. If you believe a discrepancy exists, do not hesitate to discuss it with the teaching assistant and the professor.

One final point about teaching assistants: being closer to your own age, they may appear to be more approachable than your professor. As a result, they can often be a valuable source of information about job opportunities and other concerns.

## Living in Residence

The great benefit of living in residence is that it places you close to school facilities. You won't have to waste a lot of time commuting. This will give you more time to devote to your studies and to your social life. For the most part, you will be living in a community of students with a common goal: to earn a degree. You may develop friendships that will likely last longer than your years at school - perhaps a life-time. But not all students are as dedicated to learning or have the same ambition as you. Self discipline will be critical. You will have to remind yourself that the reason for your stay in residence is to succeed in your studies, not just to have a good time.

Developing good relationships with other students in residence will provide a valuable aid to your success. If you need some information, notes, or other data for your studies, it will never be more than a short walk
away. This will maximize the time you can devote to your work.

If you share accommodations with other students, remember to respect their needs and wishes. Do your best to be a good room-mate. If you are not comfortable in your residence, this will very likely interfere with your progress as a student. If you do have troubles, try to talk them out with the people involved. If that doesn't work, then try the residence adviser or someone else in the residence or housing office. Often the wrong people are put together, but with a few complaints and a little shuffling of student bodies, it doesn't take long to get the right combinations together.

## Living Off Campus

There are also good and bad things about living off campus. Today, it is common for most undergraduates to continue living at home. In some instances, several students will share an off-campus residence. In all of these situations, students must commute to and from school, which costs time and money. Similarly, having to cook meals, wash clothes and clean may all take their toll on time available for studies. Living at home with parents may mean less time will have to be spent on these things but you may face different issues. It may be difficult, for example, to tell others to be quiet because you need to study. Space may not be available for a quiet study area. Thus, each student faces different sets of conditions that may help or hinder his or her success in school. Many of these issues will come up later when we cover studying and time management.

Notes

## 3

## Note Taking:

 Lectures and Reading
## Lectures and Their Importance

Most often, lectures will serve as your primary source of information. In many courses, if you understand the lecture material and can communicate that understanding on tests then you will likely have no problem getting a good grade. However, most science and engineering courses also have other components such as laboratory exercises, problem sets, tutorials, field work and assigned readings. In certain courses or programs, the practical aspect may be central, with the lectures providing background information on what you are actually doing. If you are to do well in a course, you must do well in every aspect of that course, not just the lecture part.

In lectures, you will not only get the basic course information, you will learn some other more subtle things that are not part of the actual curriculum. You will learn how your instructor approaches problems. You will learn their personal foibles. You should be able to get some idea whether the instructor wants you to think and express your own ideas or whether he or she wants you to parrot back their ideas. Sometimes the instructor will give hints about what material is especially important and what questions may actually be on course exams. That's why you must follow this law: Never skip classes.

It is up to you to attend all of your lectures. If you don't show, often no one is going to care. At college or university you are treated as an adult. However, many students are not ready for the freedom or the lack of supervision. They skip a lecture because they are not in the mood. Or, there is something more interesting to do. Soon, they are missing lectures on a routine basis.

At times it may be essential to miss a lecture for valid reasons (e.g. medical appointment). When time is short, it may be more beneficial to work on a problem set or an essay that is due than to attend class. This is a personal decision that should be made carefully. Aside from all the philosophical reasons noted above, there is nothing more frightening than looking at an exam paper and not knowing what the question means because you missed that particular lecture! Believe me, I've been there.

## Taking Good Lecture Notes

Taking good notes is a skill that can be developed by anyone. The truth is, few students take the time to develop note-taking skills. Most students write too much material, using too many words. If you are continually asking your classmates what the instructor just said, you probably are taking too many notes.

In most cases, instructors lecture at a rate that permits students to write down all of the major points. It is important for you to learn how to identify what is important and what is not. You should write down only the essentials and this takes practice. Here's some pointers to help you decide what is critical:

- Listen for lead-in phrases. "This is important..." is a classic lead-in phrase which leaves nothing to the imagination. "Let me put that another way..." is not as evident but is equally important. Why? Because in the second case the instructor is stating the same point or premise in a different way. He or she is making sure the students get the point. If you got the point the first time, it is not necessary for you to write down all the different ways the instructor says the same thing.
- Make succinct notes. Your lecture notes are not meant to be erudite expressions of your educational competence, they are meant to
inform you what you have to know. The simpler your notes are, the easier they will be to study. Just put down the meat of the matter in point form, not all of the flowery phrases.
- Develop a shorthand. To make effective notes you should develop your own shorthand. Most people do this automatically to a small degree. You want to get ideas down fast and get them right. Thus, you should enhance your shorthand as much as possible by adding to your repertoire of short forms of words.
- Leave room in your notes for changes. When you make your notes during lecture there will be areas that are confusing. In addition, some of the topics will be covered again in secondary sources of information (e.g. required readings, etc.).
- Leave wide margins. This way you can make queries and comments to draw your attention to potential problems in your notes. A simple "?" in the margin will draw your attention to a problem, but you may want to add some additional comment to remind yourself why you questioned the material.
- Ask questions. Whenever problems exist you should clear them up with your instructor. If you are confused by something the lecturer said, likely your classmates are as well. Although it can be intimidating to ask questions in lecture, now is the time to get past such hang-ups. It is better to clear up any confusion immediately before it becomes a more serious problem.
- Spell words correctly. Make sure any new words you encounter are spelled correctly the first time you see them. This is especially important when you are dealing with new terminology. Get it right the first time!
- Edit your notes. To develop your note-taking skills you must assess whether you are taking too many notes or not. You also have to determine if you are getting down all of the important points. After the lecture, you should edit your notes. Read your notes over and delete all of the unnecessary words. Remove anything that does not add to the meaning of the notes. Then analyze what you have deleted. If you have deleted large amounts of material because you have written down the same points two or three times when once is sufficient, then you have to restrain yourself from writing so much. Making repetitive notes interferes with your comprehension of the lecture since you are so busy writing you don't have time to think about what is being said. It also means you will have to waste valuable study time reading and editing out useless or repetitive information.
- Review your notes early and often. The lecture does not end when you leave the lecture hall. Ideally, to prepare yourself for the next lecture and to prepare for exams, you should review the lecture material shortly after you leave the lecture hall. If you read the notes while the actual lecture is still straight in your mind, you will find that it is easier to make any corrections or clear up any contradictions. When you prepare for the next lecture by reading the notes of the previous class, things are put in perspective.
- If reading has been assigned, do it! Insert any relevant notes from your reading directly into your lecture notes if possible or as close to the topic as possible. This will increase your understanding of each aspect (lecture and reading) of the material. When you write exams and reports you will be able to show the
relationship between the textbook and lecture material. You will also be able to see contradictions or different points of view. If the material you read suggests there are errors in your lecture notes or brings up contradictory points, see your instructor to clarify the situation.


## Develop Critical Thinking

Learning to think critically appears more difficult for some people than it really is. You can develop your critical thinking skills simply by asking one or more of the following six simple questions: What? Where? When? Why? Who? and How? I call them the five Ws and an H . Although these are all words we know and use, they are very powerful when used correctly. A word of warning is necessary: When used carelessly these words can also make you look less than intelligent!

Imagine you are sitting in a lecture hall. The lecturer enters and begins to speak. You can begin to use the five $\mathrm{W}_{\mathrm{s}}$ and an H immediately to get you on track and thinking critically about the topic at hand. What is the topic of the lecture? Is this lecture a continuation of a general theme or a new topic? What is the first thing the lecturer has said about this topic? Usually, this is extremely important information because it sets the stage for the whole lecture and often tells you exactly what is going to be discussed. Why is this topic under discussion? Is the lecturer preparing you for an essay that is due or is this simply a continuation of the course sequence? This leads to related questions: How does the material relate to previous lectures and to the general course content? Where is the lecture leading? Is the lecturer setting the stage for some major conclusions or generally summarizing basic information with no specific goal in mind?

You should realize that not all questions will be relevant at all times. In a history course, "when" may be especially relevant but in chemistry "how" may come into play more frequently. To keep yourself on track, some general questions you will ask yourself throughout all of your courses will be: What will be on the exam? How much do I need to know on this specific topic? What chapters should I read in the textbook? When is this problem set, report or essay due? Who is responsible for this topic?

These are but a few of the many ways of asking this basic group of questions but they will make you aware that you are already using the five Ws and an H to some degree. Who's that girl/guy? When will this boring lecture be over? What am I doing here? These questions have been asked by all of us. It is only one step further to employing the five Ws and an H more effectively in your quest to become a college/university success story.

## Reading Effectively

If you are to survive and succeed in the college or university system you must become an effective reader. Reading must become easy for you because in college/ university it is a way of life. Students have an extensive amount of reading to do in the forms of essays, books, articles, research papers, technical manuals, legal documents, etc. The more able you are to separate the wheat from the chaff, the more efficient your reading will become. The end results will be better comprehension, better grades and less time spent reading.

An important skill you must develop is speedy scanning. In fact it's one of the most enjoyable and easiest ways of improving your reading skills. For example, when you read a novel you do not read every single word all of the time. Generally, a good reader scans the page, getting the gist of what is going on or what is being explained by selecting key words and phrases. This is an art learned by the regular reader. At
times you will stop scanning: you will read every word that is written. You may savour the way the author turns a phrase. You may revel in the unique way an idea or feeling is expressed. You may reflect for a time upon some clever insight. Both of these interdependent abilities, scanning and detailed reading, must be developed if you are to be a successful reader at college/university. The best way to mature as a competent reader is to start reading and do it often.

To use your textbooks effectively, you must make notes in your notebook. There are many reasons for doing this. First, you are going to have to decide what notes to write. Next, you will actually transcribe that information into your notebook. This means you will have to think about the material. You will be thinking about how the author stated the point and then how you are going to write that information in a succinct, clear way.

Getting things right the first time goes a long way to assisting the learning process. When you copy out references or when you quote people, make sure what you copy is exactly as it appears in the material you are getting the information from.

## Reading Critically

Of course, knowing what to write comes from your experience of being critical. We have dealt with this subject above in the context of lectures (Develop Critical Thinking). You should also ask yourself questions as you read.

It is important for you to assess the credibility of what you read. Don't accept everything at face value. Everyone who writes has reasons for doing so. Some write to sell their ideas. Some write to educate. Still others write to entertain. People often assume that because some big name has said that it is so, it must be so. But it "ain't necessarily so," as the old song said. Sometimes the lines get crossed and the unsuspecting
reader can get misled into accepting ideas he or she might otherwise disagree with or, even, find offensive. Textbooks rapidly go out of date and even experts can be wrong or biased. Sometimes experts overstep the boundaries of their knowledge and sometimes personal bias, not the facts, colours the way an author writes. After all, authors are no different from you. They just have a drive to put their ideas down in writing.

Every chain has a weak link, often several. Where are they in the author's thesis? If an author states something as fact, ask yourself if there is a reasonable basis for the writer's statements. If the author offers an opinion, is it reasonable or is there some basis for refuting his or her ideas? The more you read, the more developed your critical abilities will become, but only if you put some effort into developing these abilities. Let's look at some routine questions.

Who is making the statement? Does the author have credentials in the area that is being talked about? What does she base her conclusions upon: feelings, circumstantial evidence, or fact? In some areas it is impossible to learn the truth and in these areas opinions or circumstantial evidence may be acceptable. Why does the author make certain statements? Does he belong to a particular school of thought that pushes a certain idea to the exclusion of others? Are there ulterior motives underlying her statements? Is the work itself critical? comprehensive? selective? Are enough data given to permit the reader to make a critical assessment?

Finally, consider when the book was written. Books on many subjects go out of date rapidly. Is this true for the area you are reading? For example, a biology book written ten years ago could be full of errors, misconcep. tions or ignorance while an English text would likely suffer no comparable obsolescence. Get the most recent books you can. Make sure they are written by experts. Read more than one author to get more than one point of view and variations on a theme. But, most of all, think about what you are reading.

## Notes

## 4 How to Study and Learn

## Get into the Study Habit

To be successful you must get into a study routine. You want to make studying a habit so that you will be uncomfortable wasting time. This means you must have specific times when you study and specific places where you study. For example every night after dinner you should have a period of time that is devoted specifically to doing your course work.

At college/university, you should select a quiet area, usually in the library, where you study between classes. Know that this area is used for nothing else but working on course material. At home or in your room in the residences, you should have another quiet area with a desk that also is used solely for study purposes. If you study in your room, you should request understanding from your family or room-mates regarding your desire to have a quiet environment in which you can work. This area should be well lit and as distraction-free as possible. You should work at your desk, not lounging on the bed.

## The Proper Study Area

Studying at the kitchen table or in front of the TV is a bad habit. You must separate your work and play areas. If you attempt to study in an area where you also relax, your mind will be getting conflicting messages. When you set up a study area, all of the signals will emphasize that this is a place of work not play. It will be easier to get into a study routine in such an area.

The requirements of your study area are minimal. You should have a good work surface such as a student desk. The area should be well lit and free of any distractions. If you study in your bedroom, as most students do, make sure your bed does not look inviting. A bed is a great area for arranging your reference
materials. This serves two functions: it puts all of your material close at hand and it covers the bed so you are less likely to get the urge to rest when the going gets tough.

At your desk you should have the basic reference materials such as a dictionary and a thesaurus. You should also have pens, pencils, erasers, geometry sets, calculator, and paper (e.g. unlined, lined and graph paper) available. Staplers, scissors and other accessories round out the efficient work area. A computer is a serious consideration for anyone in science and engineering. If you don't have your own personal computer, access to one is usually available in the school library. In short, the less you have to search for things, and the fewer times you have to leave your study area, the more effective your study periods will be.

Finally, your work area should be free of distractions. If you want to do your best, TVs and stereos should not be on while you work. Your family should be asked to keep any noise to a minimum and you should learn to mentally shut out any extraneous noise that any normal family will generate. In residence, you and your room-mates may be able to decide upon a mutually agreeable period during the evening when noise can be kept to a minimum. In some instances, a low level of background music may drown out any unwanted sounds. This is a white noise effect which some students like to have. If you start singing along or playing rhythm with your pens and pencils, the music is dominating. Anything that takes your mind away from total concentration on your work is a negative influence and will serve to decrease your learning. The less you learn, the lower the grades you will get.

## Study Tricks

It's one thing to sit for a few hours at your desk and another thing to actually do some worthwhile work that counts while you are sitting there. It's not how long you work but what you accomplish when you are supposed to be working. There are several ways to make sure that the time you spend studying is used effectively and wisely.

First, plan your daily work schedule. You should tackle the toughest subjects first when you are fresh. Leave the topics you enjoy or which are the easiest for you until last. A word of caution: Don't leave the easiest stuff too long or you may find that you keep putting it off. I once got the worst grade in the course I found easiest because I kept putting it off until the last minute only to find I was cramming the material for the final exam! Thus, planning your schedule is very important.

You should usually leave mechanical work for last. Things such as typing the final draft of a report or plotting graphs for which the data have already been calculated can often be left until near the end of your study time when you are least fresh. Again, be careful that you aren't doing such work when you are too tired to do a good job.

One way to keep yourself on track when you study is to test yourself. After you have read a section of material, see how much of it you retained by making notes from memory, then comparing everything you wrote down with the original material. This will reinforce what you have learned and point out what you have forgotten.

There is no point in sitting at your desk for hours if you are not learning. Sometimes a break at the right time is more valuable than continuing to fool yourself that you are accomplishing anything. Alternatively, you might decide to set smaller goals so that you can feel that you are accomplishing what you set out to do.

Get to know your personal signs of inattentiveness. For example, if you can't remember what you just read or have to read a passage or sentence over several times, you are no longer studying effectively. If you are playing "table top hockey" with your pencil and eraser, computer games, or "wastepaper basketball," you are not studying effectively. Take a break or reassess your goals. Then get back to work!

## Learning Textbook Material

There are two classical approaches to learning from textbooks: the PRWR method and the SQ3R system. Let's have a short look at each one because one of them may specifically fit your needs.

The PRWWR system has four steps: preview, read, write and recite. First you look over the material to be covered and in a few minutes of scanning try to get the gist of what it's all about, how it's presented and how it's all tied together. This orients you for the next step: reading the whole section. The PRWR method encourages you to mark your book by underlining and making notes in the margins. I believe that it is better to make succinct notes than mark up your textbook but this decision is up to you. After reading and marking your text (making preliminary notes), you begin distilling. Go through your notes/markings and write down the essentials in your notebook. Then recite the study notes you have written over and over until you remember them.

The first three steps should be completed at the same sitting but the last will be done later. You must go back and study your notes several times, as explained below, to be sure you have the information stored in your long-term memory. Don't sit back satisfied after you have completed the third step and don't leave the studying of notes until just before the exam.

The SQ3R method is similar to PRWR but has five steps: survey, question, read, recite and review. First
you scan the material and then ask yourself a series of self-generated questions. For example, the title of the selection might be "Human growth and its measurement." Some questions you might formulate could be: How is growth defined? How is human growth measured? Are there different approaches to measuring human growth? Asking questions as you read will not only keep you alert, it will also help you remember. If the author states, for example, "The evaluation of human growth has a long history," you could ask yourself: How long is long? How did the measurement of human growth begin? Who was the first to record such measurements? After you discover the answers you will find they are easy to recall because the author will seem to be answering questions you have posed. We have dealt in depth with such questions in the section Develop Critical Thinking.

As you read, you will make study notes as you did for the PRWR system, but only on one part at a time. When you have finished reading a section, test yourself on what you have learned. To do this, look away from the page and attempt to recall what you have just read or written down. Write down what you recall in point form. If you missed a lot of points, go back and read the section again. Then go on to the remaining sections, repeating the steps: question, read and recite. After the whole selection has been completed, review it and test again what you have retained by reciting.

The PRWR and SQ3R systems have been used by many students. However, a modified PRWR scheme may be more useful. In fact many successful students, who have never heard of the two unpronounceable systems, employ this system automatically.

The method involves three components: (1) preview, (2) read and make notes and (3) study. We will give the acronym PRS to this system. With the PRS system, you first preview the material to get some idea of where the author intends to take you. As you read in the second step, you make notes under the
same headings as the text. Making notes in your notebook will force you to think about the material so that you can put it in your own, succinct way. Write any questions you have in the margin of your notebook. If the author doesn't clear up these questions, you can look them up in other books or pose them to your instructor later if you still feel they require answering. When you have finished reading, reread your notes to make sure they are clear. Any problems can be cleared up by rereading the parts of the text that remain confusing. Later, you will study your notes as many times as it takes you to remember most, if not all, of their content. Where applicable or possible, join your textbook notes with your lecture notes to compile your course study package.

Now let's get to the bottom line. It's up to you to do the required reading. It is not essential for you to follow anyone's system be it the PRWR, SQ3R or PRS methods. These are guides to assist you do your task effectively and efficiently. These systems have helped students but they are not perfect because no one system can meet the needs of every student. In the end you should do what works for you. Most importantly, plan your time so that your reading can be done reasonably, not in a last-minute panic. The earlier the work is done the more time you will have to review it before being tested on it. The more you review it the more you will remember.

## Problem Sets

In mathematics, physics, chemistry and engineering, exams and tests tend to focus upon problem solving. Rather than simply allowing students to reiterate what was covered in lectures, labs and readings, the learned material must be applied to solving problems. While it will be important to learn many basic equations, being able to use them will be critical. Often the test problems will be unique but they will be based upon concepts and theories that you
have studied and learned. In these courses, it is common for instructors to permit students to bring in lists of equations, to use their textbook and/or to use programmable calculators to do the problems. So, it is important that you understand the meaning of the equations plus the conditions under which they are valid.

In preparation for exams, you should attempt to do all problems that are assigned. Time should be taken to do any problem sets found in your textbooks. Many engineering students suggest that you limit your time per problem. In this way you won't spend all of your time stumped on one problem when it would be better spent solving others. Sometimes, when you put a problem aside for a while and come back to it later, you will often see the solution. If you continue to have difficulty, then ask your instructor or teaching assistant for help.

Books are available that contain problem sets for self testing. A tutor can also help you with problems. As you develop your problem solving ability, your way of analyzing and thinking about problems will develop as well. Once you learn how to solve a problem, try some new questions to ensure you actually understand the difficult concepts.

## How Can I Remember All This?

Although the concept of memory is changing, introductory courses in psychology often refer to shortterm and long-term memory. Memory involves perceiving something, storing that information in the brain and retrieving it later. In short-term memory something that is learned can be recalled for a short period afterwards. Because of decay in the memory process, as time passes less of what was learned can be recalled.

Most students seem to prefer the short-term approach to learning. A large number cram for their
exams. They spend most of the semester collecting material rather than studying and applying it. Then at the last minute, often only days before a major test or exam, they read and apply all of the material relying on short-term memory to get them over the examination hurdle. Some survive using this technique, but most students cheat themselves by cramming. They cheat themselves on at least two fronts: they never attain the top marks they could and they never truly learn anything in depth. Furthermore, by committing material to short-term memory, that information is soon lost, depriving themselves of a storehouse of knowledge that will help them do better in subsequent courses. In areas such as engineering where problem solving is critical, cramming simply does not work.

Getting information into long-term memory requires reinforcement of the learning process. Forgetting begins immediately after something is learned. The more things that are learned at a point in time; such as during a lecture, the faster will be the loss of memory for the individual items that were learned. A person who is allowed to visualize a list of words, seeing each word individually for a few seconds, and then is asked to recall the list of items, will begin to forget the list very rapidly. For example, if only four items are learned, the person will essentially have forgotten all of the items after only 15 seconds! However, when the same material is relearned, there is practically no limit to the length of time that material can be recalled.

Okay, theory is fine but what does all this mean to your success in college/university? Within 24 hours after a lecture your recall drops to less than 30 percent of what was covered. If you review and apply the lecture material after 24 hours then your recall of it will level out at about 50 percent. Neither of these percentages is good enough to get you safely through a course. Neither is good enough to generate the marks you deserve! How do you generate the higher
percentages you require? You have to review the material even more. If the course material is reviewed again after a week, your retention of that material will increase to about 70 percent. If your final review is the third review, then almost all of the material will be remembered. The message is clear: it is important to review and apply your course material at least three times.

Remember, the number of times a specific person will have to review and apply course material will be influenced by a large number of factors. First of all, not all students are created equal. Some learn material faster and easier than others. Second, the ease of learning the material and the number of repetitions required to retain it will depend on how difficult the material is to the student in question. For some, learning physics or calculus comes easily and little studying is required. For others, these subjects remain difficult no matter how often they are worked on. Other things will also play a role in your remembering. If there is a vast amount of course material to learn, it will be more difficult to remember everything with ease unless the material is strongly implanted in your longterm memory by extensive repetition and application.

It is also important to note that remembering will depend on how well you concentrated when you studied the material. Simply rereading your notes is not sufficient. Many tricks to help you study are outlined in this chapter. Also you must study and apply the material over a period of time. Reading the material three times in the same day is nowhere near as effective as studying and applying it three times spread over several weeks. So keep in mind, relearning material three times over an extended period of time will work for the average person but is not a guarantee. Find out what works for you.

It is essential to reinforce your learning; it is central to your success at college/university that you attempt to strengthen your long-term memory in all of your courses. Getting a good grade in one course is important but there is more to it than that. Each year at college/university provides the scaffolding for the next. This is especially true in science and engineering where a storehouse of facts is central to your success now and in the future.

If you don't commit the material learned in prerequisite courses to long-term memory, the base of your education will be weak and you will find that, as the years progress, your workload will become increasingly difficult. Rather than progressing from what you learned in previous courses you will often have to go back over the basics before you can progress in subsequent courses. If you build a strong academic scaffold through frequent review and study, then each subsequent year will become easier. With this will come better grades and more postgraduate opportunities.

## Preparing for and Writing Exams

## Organize Notes into "Study Packages"

It is easier to learn material that has meaning than to learn nonsense. Thus it is easier to remember strings of words than it is to recall jumbled sequences of letters or numbers. With repetition, meaningless alphanumerics such as your licence plate number can be recalled. But a vanity plate with a known word (e.g. a person's name) on it will be remembered much more easily than a series of random letters and numbers. Furthermore, words and ideas can be recalled in a more facile manner if they are part of a concept or package of information. For example, one can learn that the Cell Doctrine of biology was proposed by Schleiden and Schwann in 1835 . This involves rote memory. But as more details are learned about cell structure and function, it becomes even easier to learn increasing numbers of facts as they continue to clarify and enhance your understanding of the cell and how it works.

The same goes for learning course material. The more you learn and understand about a topic, the easier it will be to add to and enhance your knowledge.

Once you have accumulated all of your notes on a specific topic from lectures, labs, field trips, tutorials, movies, etc., you will put the information together into a complete package. This is the first step. Next you will remove any unwanted or repetitive material. Confusing information can be clarified by reading your textbook or consulting with your instructor. Finally, time permitting, it is best to rewrite each section as a complete and neat "study package." In this form it will be easy to read and to study.

## Study Actively

Most students study passively. They simply read their notes over a few times and assume this represents studying and learning. It doesn't. Why this approach is not very effective will become clear as you read this section.

Imagine in your mind one of your favourite paintings, drawings, cartoon characters, or something equally complex. Now, with that picture in your mind, try to draw what your mind sees. Unless you are unusually gifted, your drawing will bear no resemblance to what you are seeing with your mind's eye. However, if you tried to copy the original rather than your imaginary drawing you might find your drawing was a little better. Furthermore, if you copied the picture many times, each time your drawing would get a little better, a little more accurate.

Practice makes perfect. Why is this so? Because you are developing the skills of coordinating your bodily components. Let's take one second to examine this. When you look at a painting you visualize what exists. When you remember it, you again visualize it from memory. But so far you have not involved any other body actions. So when you try to remember the picture and draw it, the proper connections between your mind's vision and the nerves that make your hand attempt to draw the picture are not coordinated. We could make this more complex but it isn't necessary. It's better to take another example.

Imagine you see a billow of smoke on the horizon and later read a detailed report in the paper that a farmhouse burned down. If you tried to explain what happened to your friends, your second-hand experience would not be truly adequate. But if you were standing near the house when it caught fire, if you felt the heat, smelled the burning wood and plastic, if you saw the flames and billowing smoke up close as the sounds of
fire engines and yells of frightened and busy people filled the air, you would never forget that experience.

## The Multisensory Approach to Learning

In a less dramatic way you can use the multisensory approach to force yourself to learn your material in a way that will never let you forget it. Let's examine how we do this and, along the way, give some more relevant examples.

As you study, write down important words and phrases and tricks in solving problems. Say them out loud as you write. In this way you will not only see the material, you will hear it. You will also translate the visual picture of the words on the page into a mechanical act of writing. This will involve the nerves of your body: cells of the retina picking up the image, transmitting it to the brain where it is translated to the action of writing.

As detailed below, flash cards are helpful for learning large amounts of facts because they involve both mental and physical events in the learning process. For example, they are a useful tool for learning languages and difficult equations. When you use these equations and diagrams to subsequently answer questions, you are again using many different mental and physical approaches which enhance the learning process. Similarly, when you begin to communicate in a foreign language, the learning of new words is facilitated.

To summarize, study actively using all of your senses. If you make your study material come alive, you will learn it more completely.

## Use Self Testing to Develop Study Stamina

I've continually stressed the importance of relearning your course material. You must review and apply your material at least three times if you want to be able to remember it for extended periods of time.

For many students, going over the same material several times is boring. They would rather tackle something new than rehash old work. They find it tiresome to cover the same old material time and again. It can't be repeated enough. Reviewing your work regularly is the most important thing you can do because it results in the shift of information from shortterm memory to long-term memory.

How do you keep yourself on track? How can you develop study stamina? How can you develop the ability to keep studying for extended periods of time? The most effective means is through self testing and problem solving. Not only will this keep you at the books longer, it will ensure that you know your material. Through self testing you will be able to see the strengths and weaknesses in your knowledge. By testing yourself you will reward yourself and encourage yourself to continue even in courses you find difficult.

The simplest method of self testing is simply to read a subheading from your notes and to scribble down everything you can remember from that section. You don't have to write down everything, just make short notes (e.g. key words). Then compare your original notes with your jotted points to see how many of the important things you remembered or forgot. This serves two functions: it reinforces what you did remember and it points out clearly what you didn't. The points you failed to remember will be so obvious that you will be less likely to forget them the next time. If you do this a few times, the material could remain with you for life!

Another tool of self testing is the flash card. Write an equation or definition on one side of a small card and the term or word on the other. Shuffle the cards and test your knowledge by seeing if you know the meaning of the word or the equation. It is an old trick but it works. Self testing with flash cards will also ensure that you spell key words properly and that you get the names of people or theories correct.

Terminology is an integral part of science and engineering courses and learning the correct terminology in such courses is an essential stage in the learning process. The student must be able to apply the terms and equations to solve problems. It can't be stressed enough that problem solving is central to engineering and certain other disciplines (see section on Problem Sets).

## Before the Exam Begins

Make sure you get a good night's sleep before any major exam. After all, you've studied the material well and are ready. Trying to cram last-minute information into your brain at the expense of sleep will work against you. When you get up in the morning, review your course material to refresh your memory and get your mind set into the subject of the examination. Finally, arrive on time for the exam but not too early. Students have a tendency to gather outside of the exam room beforehand. This only serves to increase anxiety levels.

## When the Exam Starts

Be sure to listen carefully to any verbal instructions that are given by your instructors or whoever is administering the exam. Almost all exams contain some errors. Typically, these errors are announced at the start of the exam period. Note any changes or additional information that is given. Ask questions, if the information is not clear. This is not the time to be shy!

Read the complete exam before you start to write. If the whole exam is multiple choice, short answer or is clearly too long to read within a few minutes, you would not do this. But if the exam is essay format, problem solving or a combination of question types, it is often most beneficial to read the whole exam from start to finish. There are several reasons for doing this.

First, you will be able to determine how much time you should allocate to each question or problem. If you do not budget your time properly, you may find that you spend too long on a simple question worth few points while not leaving time for a major question. The difference could mean a failure rather than a pass or a B or C rather than an A .

A simple but useful approach is to assume that the instructor has weighted the marks allocated to each question based on the importance of the material, its difficulty or the amount of work involved in answering it. Thus, in a three-hour exam worth 100 points, you would have 180 minutes for those 100 points or 1.8 minutes per point. So , in the perfect situation, you should only spend 18 minutes maximum on a 10 -point question. Use this system with discretion. But you have a better chance of getting top grades if you answer every question than if you don't get them all done!

There's a second major reason for reading every question. A simple analogy will drive the point home for you. How many times have you bumped into someone you have met unexpectedly? You are shopping and all of a sudden a familiar face asks you how you are. Your mind goes blank as you try to remember his or her name so you can introduce the person to your friend who is with you. You can't remember it, so you spend an embarrassed moment waiting for the person to move on. As they leave, and you begin to relax, their name leaps into mind: but it's too late. The same thing can happen on exams. You know the answer but it refuses to give itself up. Leave it alone and before you know it, it will come back to you. There is a third reason for reading the whole exam before you start to write: you can plan a method of attack for writing the exam, as detailed in the next section.

## Writing the Exam

Now that you have read the exam, you will know which questions will be easy for you to write and which ones will be more difficult. Begin with the easy questions. Remember, you did not write the exam and the instructor did not ask you what you thought should be on it. So, the first question on the exam may not be the easiest one for you. Maybe the last question, or one in the middle, is easiest. If so, begin there. Watching your time allotment, answer the easiest questions first and progress to the more difficult ones.

Why? Because as you answer each question, your confidence will be reinforced. Furthermore, your subconscious mind will be working on the other questions. Like the situation where you later remember the name of the person you bumped into by accident, you may recall answers or important points if you leave the question for a while. But, it is important to work only on one question at a time: Don't jump around. Write one continuous answer then go on to the next. If you have an idea for one question as you are writing another, make a note in the margin of the other question to remind yourself. Then get back to the question at hand.

It is important to make sure that you are answering each question properly. Understand what is being asked before you begin to write. In some courses, extraneous data or information is included to test how well you understand the material. Underline key words and phrases in the question and make sure that none contradicts what you think is being asked. Think about what is being asked, make notes and then write. A logical answer will be worth more than a disorganized jumble of ideas. In problem solving, the steps used to solve the problem should be clearly laid out.

When you are finished your exam, reread your answers. Make sure your discussion, conclusion or solution fits with what was asked. This is another reason for allocating your time properly. Sometimes, in the heat of the moment, you spell words wrong, miss a step in solving a problem, or get things backwards because of poor writing. Sometimes a decimal point or unit of measurement will be misplaced or deleted. You can correct your answer or clear up confusion.

Here are some other considerations when you are writing an exam:

I Can diagrams be used? In engineering and physics, diagrams and formulas are essential. In biology, a diagram can make explanations of complex processes and events clearer. When they are used, be sure they are clearly drawn and labelled. If you are good at drawing you may be able to exploit this talent on many tests.

I Can some of the points be listed or placed in a table to save space and time?

I Can material from other courses be used (but sparingly) to support your answer and show your diversity of knowledge?

I In essay-type questions, have you drawn your answer from the total course content? In the tension of exams, there is a tendency to be short-sighted and remember one or two lectures on a specific topic but not the whole picture that the course projected.

## Learning from Mistakes on Examinations

Since it would be impossible to cover all aspects of examination writing, I have not dealt with specifics. One cannot prepare for all of the different approaches that all of your instructors will take in making up exam questions or in assigning grades to the answers to those questions. The best defence, as they say, is a good offence. Be prepared. Know your material.

If you are still not happy with your grade after reading it, you should compare your answers with the examination key (if the instructor provides one), with your lecture notes and with your textbook. You should note not only what you did right but also what you did wrong. An instructor must judge your complete answer on a question. So wrong statements decrease your grade while right statements increase it. In the end, your grade will be the result of your strengths and weaknesses in answering the questions.

In spite of doing all of this, if you are still not satisfied with your mark, you should make an early attempt to get assistance from your instructor. There are many reasons for this. One of the major causes of such problems is the inability of certain instructors and students to communicate effectively. Some students simply cannot get on track with how certain instructors lecture, write exams or grade them. This is a fact of life. But often a face-to-face interaction with your instructor can go a long way in alleviating such problems.

Notes

## 6 Time Management Is Critical to Success

## Balancing the Student Time Budget

A$s$ a student you are going to find that organizing your time will be imperative. You will have not only lectures to attend but also tutorials and practical sessions. You will have reading assignments and various reports, essays and problem sets to do. On top of all of this, you will have to find time to study in preparation for quizes, tests and examinations. If you work, you will have to juggle your hours on the job with those at school. Finally, you will want some free time to enjoy yourself. Effective time management is not only critical to your survival as a student, it is also central to your success in life. The good news is: effective time management is relatively easy.

## A Three-tiered Approach

The simplest approach to student time management is to use a three-tiered system: day-to-day, weekly and monthly. This method revolves around the student timetable. First, make a complete, detailed timetable that includes all of your weekly commitments. From this list of weekly commitments you will immediately know what has to be done on a daily basis. But each day, new and often temporary commitments have to be met. Meeting them is aided by a "To Do" list. Finally, a schedule of long-term (monthly/school term) commitments is maintained. To some degree, most students already use one or more of these levels of time management to keep on track. It's only a short step to augmenting this basic approach to effective time management. Many bookstores and stationery stores sell student planners and organizers that you might use to keep all of this information together.

## The "To Do" List: Getting Things Done on a Daily Basis

The "To Do" list is a simple means of dealing with each day's commitments. At night or at some other convenient time, make up a list of the important things you have to do the next day. The list can consist of everything from purchasing food and concert tickets, to preparing reports, making phone calls and looking up references. Making lists and doing what's on them is a simple route to achieving goals and good grades.

As things are completed, they are crossed off of the "To Do" list. As new commitments come up, either add them to the list or, for long-term commitments, add them to your long-term schedule. In this way, you will never "forget" to do things. Your list will always remind you.

Such a list can also save a lot of time. For example, you won't forget to hand in something that is due and, as a result, you won't have to travel back to school to submit it on time. You will be able to do several things at once. Thus, if a problem set or essay is due, your "To Do" list will remind you to hand it in after class rather than having to go to the professor's office. These little time savers add up. Not to mention the grades you can save by being on time!

## Weekly Commitments: The Complete Student Timetable

Every student makes up a timetable listing his or her courses. This timetable indicates where and when courses are held. Typically, the timetable includes your class schedule from 9 to 5 on weekdays. At college and university, some classes are held in the evening and, at times, on Saturdays. Once students know when and where their classes are held, they rarely refer to their timetable. However, the timetable can serve as your front line in time management. It will also reveal exactly how much free time is available to you.

When you make up your course timetable, make it a seven-day schedule that starts when you wake up and ends when you go to bed. Indicate the amount of time you spend at meals. It is important that you schedule time each day for proper meals and you should include some time for exercise. Don't forget to list the weekly hours you work at a job or commit to team sports, club meetings, etc.

Once your weekly timetable is complete, it will be clear where free blocks of time are available. Some of these may be as short as an hour. Others will be several hours in length. Short periods of time (e.g. between lectures) can be used to get basic tasks done such as looking up references, doing short assignments or rewriting/text editing a report. Longer periods can be used for work that requires more intense effort (e.g. preparation of reports and essays, doing problem sets). Time available in the evening and on weekends can also be used for in-depth study of large portions of course material and dealing with difficult problem sets. The point is that every available time slot should and can be exploited effectively to enhance your learning and your grades.

## The Monthly Schedule: Commitments at a Glance

The monthly schedule keeps track of your term commitments: when essays, and major reports and problem sets are due, when exams are scheduled, etc. A large calendar with spaces is best for this purpose. This schedule allows you to see your upcoming commitments before they arrive. It will help you avoid doing a rush job on an important assignment. It will mean that you can allocate your study time equitably when two or more exams and/or other major commitments all fall within the same day or week.

Always start your assignments in ample time. Use your term schedule and fill in any essay and report assignments as soon as they are assigned. Don't procrastinate. Do the work as soon as possible after it is assigned. Doing the work early will ensure that all of the important points are included, will give you more time to think about what you have done and will reduce the likelihood of making serious mistakes.

## Self Assessment Is Critical

If you have a full time job or an active social life, are a member of several clubs and/or teams and still intend to get good grades, you might find it difficult, if not impossible, to meet all of your commitments. Most students must work very hard at their studies to get first-class grades.

The best way to judge whether you are spreading yourself too thin is to examine your marks. If your grades are not as high as you expected, then you must re-examine how your time is being allocated. If it is imperative for you to work due to financial need, then you might consider limiting other non-academic aspects of your life to compensate for lost study time caused by job commitments. Just keep in mind, your four years at college or university will pass very quickly. If you balance your time effectively between studying, work, socializing, eating well and exercising you will be happier with your life as a student. But the key words are "balance" and "effectively."

One aspect of self evaluation that requires attention is the approach to doing assigned work. It is common practice for students to calculate the value of a piece of work towards their final grade and then spend time on that work based upon its "value." Thus work worth a small percentage of the total course grade will get less attention than assignments allocated a higher percentage. When you are strapped for time, this approach can improve your chances of success. However, you should make every attempt to avoid getting into this situation. Remember, if an instructor has assigned work on a topic, it invariably means that the work is important even if the mark assigned to it is small. Realistically, however, it is important to do all of the assigned work even if, on rare occasions, you may have to submit work with which you are not totally satisfied.

Notes

## 7 Problems and Solutions

Asa Canada Scholar, one of your concerns will be about maintaining your high academic standing. You will want to do this for several reasons, including the desire to maintain your scholarship and to open doors for your future as a scientist or engineer. At times, when you were younger you may have felt that you were being unfairly assessed but because of your youth and naivety you did not complain. Now, as an undergraduate, you should be ready to stand up for your rights.

## Dealing with Questionable Marking

You've just had your exam returned. The grade isn't what you expected. After rereading the exam you still feel ripped off. The first thing you should do is run to your professor to complain. Right? Wrong! The first thing you should do is recheck your answer against the question that was asked. Then ensure that the critical information you received from lectures, readings and tutorials, etc., is included in the answer (i.e. consult your study package). If there is a posted exam answer key, consult it. If you still feel that your grade is questionable then go to your professor and ask why you received the grade that you did.

The point of going to the instructor is not so much to change your grade but to understand what you did wrong. It is very unlikely that the grader made a serious mistake in grading your paper. What is more likely is your answer didn't conform to what he or she expected.

Now remember that you are questioning the marking with the full knowledge of the relevant course material at hand (i.e. you have read your study package). If the professor asks you questions about your exam question you will be able to respond with your reinforced knowledge. Sometimes the professor doesn't get the drift of your exam answer. By being ready to answer any questions that he or she
now has, you will impress him or her with your knowledge even if your answer did not communicate that knowledge effectively. This can work in your favour just as being unprepared will work against you.

There are a few other points that will help you argue your point effectively. It's often a waste of time to quibble about grades. Make sure you have a valid complaint and that any grade change will be significant. Make sure any increase in grade you are requesting is worth your time and the time of the instructor. For example, if you only expected to get a one or two percentage increase on an assignment that only contributed five percent toward your final grade, it wouldn't be worth your time or the instructor's complaining for the marks. In this case your maximum overall grade increase would only be one-tenth of one percent. Your time would be better spent studying than tracking down your instructor and discussing the situation.

If the grade increase will be significant, for example, if it will raise you from one grade level to another, you might consider asking to have your exam regraded even though the contribution of that particular mark to your final grade will be minimal. Also if you are worried that such small mistakes may happen again, it doesn't hurt to find out why the marks were not given. In this case, tell the instructor you are not asking for more marks but simply want to understand what you can do next time to improve the situation. This is a mature approach that is often appreciated by instructors. In the final analysis, you have the right to question any grade. The above is a guide to help you decide whether it is worth the effort.

## How to Deal with Failing a Course

You've just received the results of your first test, quiz or mid-term in a course. You've failed miserably. You knew you were having trouble understanding the
course material but somehow you hoped to get lucky. Now what do you do?

The answer to that question is difficult. To maintain your Canada Scholarship you need to successfully complete a full course load for the year. One of the easiest things to do is to drop a first-term course and take an additional one in the next term. Usually you can drop a course around the middle of the semester without any academic penalty. Check your school calendar or see the Registrar's Office for course drop/add dates. Also consult your Awards or Scholarship Office for suggestions on coping with the situation. Dropping courses can be a bad practice. It means you have to make up the course by retaking it or another one, which can increase your course load. Dropping a course can have financial implications and may affect your Canada Scholarship. In engineering you need accreditation so every course is critical. For these reasons you might decide to stay in a course you otherwise would consider dropping.

If you are considering dropping a course, you need a little more assistance. One of the first things you should do is talk to your instructor(s) about the problem and ask for their advice. In spite of what is said, many instructors do bell curving of grades. So your grade may not be as bad as it seems. If you do have a problem your instructor may give you additional readings or suggest some remedial work to get you on track. He or she may suggest an alternative textbook that is easier to read or that may take an approach which is easier for you to follow. It will also make the instructors aware that you are concerned about your education and the poor showing you made on the exam. If you do raise your grades, your instructors are likely to take this into consideration when assigning your final grade.

If you are failing a course that has more than one section, you may find that attending lectures given by another instructor (in addition to your own) will improve your comprehension. Finally, you might consider hiring a tutor. Tutors advertise on college/university bulletin boards and in student newspapers. Some departments will arrange tutors for students in need.

## Plagiarism and Cheating

This section really fits into the word to the wise department. But it needs to be said: the surest way to sign your academic death warrant is to cheat. Cheating takes several forms but the punishments for cheating are less varied. A questionable or not extensive cheating incident may get you a zero for the work in question or, more likely, a zero for the course in which you cheated. Cheating on a major exam could result in expulsion from the college/university with the incident being recorded on your academic transcript for a number of years.

With the need to maintain a first-class average, you must avoid the temptation to maintain your grades by cheating. It will affect not only the specific course you are in, but also can have major implications to your future in your chosen field.

There are many types of cheating. You must not copy from another student's paper, report or test. Taking unauthorized materials into an examination room is not allowed. Even if you don't use them, the simple possession of "cheat sheets," unauthorized books, information stored in programmable calculators, etc., is a very serious matter.

Plagiarism means submitting another person's work as your own. If you must copy ideas verbatim, put them in quotation marks and give credit to the originator of the quote. If you paraphrase, indicate who you have paraphrased. Plagiarism is one of the most serious of academic crimes.

Don't be misled into believing that you can use someone else's paper or laboratory report from a previous year and submit it as your own. This is a common practise and it can be academically fatal. The damage it could do to your career far outweighs the chance that you may get away with it.

Cheating has become a matter of utmost concern to educators. New methods of detecting cheaters and of dealing with them are being employed. Students who cheat are just setting themselves up to become an example for the perils of cheating. Look in your college/university calendar or handbook to find out how cheating and plagiarism are dealt with if you feel the desire to take the chance.

## Getting Help

Be sure to take advantage of the diverse support systems that are available at your college/university. From the first day you arrive until you are ready to graduate, colleges/universities offer help on everything from using your library effectively to looking for a job. Learn where essential people and services are and then use them!

The Canada Scholarships Program offers support through Mentor Clubs that are available at some schools. Go to the Registrar's Office to find out if there is a Mentor Club on your campus.

## Other Books to Help You Succeed

Many books deal with any specific problems you may have. If you need extra help, you might consider using some of these books:

Baker, William. Reading Skills. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1974.

Cash, Phyllis. How to Develop and Write a Research Paper. 2nd ed. New York: Arco, Simon \& Schuster, Inc., 1980.

Churchill, E. Richard. Make the Grade: Essays and Reports. Los Angeles: Price Stern Sloan, Inc., 1989.
Deese, James and Ellin K. Deese. How to Study. 3rd ed. rev. New York: McGraw-Hill, 1979.

Lewis, Nora J. Student Time Manager. Toronto: Trilobyte Press, 1992.
Pauk, Walter J. How to Study in College. 3rd ed. Boston: Houghton Mifflin Co., 1984.

Reinking, J.A., Jane E. Hart and Andrew W. Hart. Improving College Writing: A Book of Exercises. New York: St Martin's Press, 1981.

Twining, James E. Reading and Thinking: A Process Approach. Toronto: Holt, Rhinehart and Winston, 1985.

This booklet is based upon a previous work by the same author, which offers special insights. For a complete guide that puts all aspects of university life into perspective, consult:

O'Day, Danton H. How to Succeed at University. 2nd. ed. Toronto: Canadian Scholars' Press, 1990.

## Looking to the Future

Going to college or university will be one of the most exciting times of your life. The intellectual ability you have demonstrated in high school will likely be pushed to the limit. You will get the chance to see what you are capable of and what opportunities lie ahead for you. You can develop friendships that will stand the test of time. You will test your wings socially, physically and intellectually. The skills you learn will be used throughout your life. The more you get out of your education, the more rewarding your postgraduate life will be.

The rules and suggestions provided in this guide are concepts that can help in all aspects of your life. The skills you learn are transferable. College and university not only give you an education consisting of facts and information, they provide the opportunity to think creatively and to present your thoughts in a professional manner. They give you the opportunity to grow as an individual. As a Canada Scholar, you are already on the road to success but all roads can become bumpy and challenging. How you develop in this exciting phase of your life is up to you.

```
LB2343.34/.C2/03
O'Day, Danton H.
The savvy scholar : how to
    retain your Canada
BTRX c. 2 aa ISTC
```


## DATE DUE - DATE DE RETOUR

| 3 march | 93 |
| :--- | :--- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |


[^0]:    ${ }^{1}$ Because of the diverse regional differences in the naming of educational programs and institutions that exist within Canada, the general term "high school" is used subsequently to refer to any institution that provides certification for college or university entrance. Similarly, "school" encompasses all eligible undergraduate institutions including universities, colleges, cégeps and institutions as defined by the Canada Scholarships Program.

