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YOU AND THE UNIVERSITY

Only fools are certain ... it takes wisdom to be confused.

Julius (Groucho) Marx, American comic (1890–1977)

KEY CONCEPTS

- **WHY STUDY AT UNIVERSITY?**
- **GRADUATE ATTRIBUTES**
- **TRANSITION TO UNIVERSITY**
- **POTENTIAL STUDY PROBLEMS**
- **SKILLS FOR ACADEMIC SUCCESS**

Introduction

Congratulations on entering the world of higher education. Your attendance at university may be an important part of your expectations and goals in life. So what do you hope to gain from tertiary study? Is it a step to a future career? Are you here to broaden your mind? Are you here to gain an academic qualification? Or are you here until you decide upon your direction in life? Whatever your reason for choosing to attend higher education, you do so knowing that there are substantial financial costs (e.g. fees) involved and that it will require your commitment with respect to time, hard work, as well as other sacrifices.

Having chosen to study a course with a science component, a number of possible pathways for the future are available to you. It may be that you wish to work in robotics, marine biology, computer animation, or the pharmaceutical industry. It may be that you wish to train for a professional qualification and embark on a career as a doctor, nurse, science teacher, speech pathologist, or an electrical engineer. It may also be that a background in

the sciences, with its requisite analytical and critical thinking skills, is the ideal background for a career in areas not normally associated with science, such as management, finance, international relations, or law. Whatever area of study you choose, or your ultimate career destination, a university degree should not be seen as an *end point* but rather as a potential pathway to other possible career options and life experiences. In order to make the most of the *first step* into higher education and to make your time at university as productive as possible, you need to enhance the skills essential for successful study.

There are many resources available to assist in your tertiary studies. In addition to the course-specific textbooks for your various topics, there is a wide variety of books and electronic sources, such as websites, available to assist you to develop your learning skills. Some of these resources are listed in the appendices at the end of this book.

Graduate attributes

A university education in any area of the sciences is about the development of two types of skills and knowledge: firstly, the knowledge and skills *specific* to your particular area of study, and second, the range of *generic* skills and knowledge expected of all university graduates, but which are also context dependent. This second group is usually referred to as *graduate attributes* and includes such skills as:

- Literacy and numeracy
- Critical and analytical thinking, including problem solving
- Information literacy and research skills
- Written and oral communication within a professional context
- Management of time, resources, and tasks
- Cooperative and leadership skills for establishing and maintaining professional relationships.

These graduate attributes are those it is expected you will develop through your experiences at university, and as such, they are rarely if even explicitly taught as part of the set curriculum for your courses.

Imagine for a moment that you are in the final year of study in nanotechnology at the University of Eastern Australia and that there are one hundred students in your class. At the end of the year, you and your classmates, as well as students from other universities (nationally and internationally), will be seeking employment. In late December there is an advertisement in *The Australian* newspaper for:

Scientific Officer (Nanobiotics)
(Professional scale SO1: \$50 500–\$58 750 pa)
Micro-robotics Division
KLAATU Technology Corporation
Melbourne Office

You look up the website for the KLATU Corporation and download the essential selection criteria to be addressed in the application, which may include:

- Recent graduate in a technology area (e.g. nanotechnology, robotics, engineering)
- Demonstrated written skills for technical reports, grant applications, and publications
- Ability to work as a member of a small team
- Demonstrated ability to analyse complex research data
- Ability to develop and apply new research techniques to solve existing problems
- High level interpersonal and communication skills
- Demonstrated ability to work effectively under pressure with tight deadlines
- Ability to supervise technical staff.

So when the staff in the Human Resources section of the KLAATU Corporation look through the job applicants the one thing that all applications are likely to have in common is an appropriate university qualification. What will set the applicants apart will be the ability of each applicant to demonstrate their aptitudes, skills and capabilities under each of the other selection criteria. So you can see the importance of all the things you learn at university.

This is just one example of the importance of graduate attributes, but the principle applies to most, if not all, professional positions, whether you are applying for a position as a physiotherapist, a teacher, a vet, or a mining engineer. Thus the goal of this book is to provide you with the means whereby you can develop some of the professional skills essential to the science-based professions.

Transition to university

Going to university for the first time has been likened to starting a new job or moving to a new town. There are many things about the university culture and regulations that will be new to you. The types of problems encountered by students in any science-based course can be unique to that course, and for each student. However, many of the difficulties faced by you as a new student at university are common to most students, irrespective of whether you have just completed secondary school or have not studied for some time. Some of the challenges are directly related to aspects of teaching and learning, but social, economic, personal, and health factors all have a part to play. On top of this comes the demanding workload expected of students by the teaching staff, the pace and level of the work, the sometimes unclear demands and expectations (from the students' perspective) of different topics, the different nature of the teaching approaches, and the need to learn the general conventions of the higher education system. At this point let us look at the nature of the differences between the secondary school experience and what to expect at the tertiary level.

As Table 1.1 indicates, perhaps the fundamental difference is that at university you are treated as an adult and that you are expected to make your own independent decisions and take responsibility for your own learning. It has been often said by students that university has a 'sink

or swim' approach. This aspect of self-reliance is exemplified by comments made by students about their university experience.

Table 1.1 Differences between higher education and secondary school

Higher Education	Secondary School
Attendance in higher education is entirely by choice	Most people in Australia today attend some compulsory secondary education
Higher education is expensive, so you pay for it either in the form of HECS, or full fees	Secondary education is nominally free but costs are considerably more if you attend a private college
The academic year is 26 weeks divided into two 13-week semesters, with major assessments at the conclusion of each semester	The school year is about 40 weeks long with classes extending over the whole year
Class sizes can be very large, sometimes more than 1000 students, and you are just a 'face in the crowd' of a student population of 20,000 or more	Classes generally have 30–40 students and you may be the top of the pecking order in your school or college of 1000 or so students
Each topic has a set curriculum but there are many additional skills you need to learn that are outside the content of your topics	You work to a rigid and set curriculum guided by your teachers and external examination authorities
You need to work out your own timetable, and find the time and place of your lectures, tutorials and other activities. Attendance in many classes is optional	You spend the large part of each day in a structured learning environment, with fixed classes and set breaks for lunch and recess
You will need to set your own priorities, monitor your own progress and become an independent learner	You can rely on your teachers to remind you of your responsibilities and to guide your learning
University is an environment where you are expected to take responsibility for your own actions and their consequences	As a 'child' you are nurtured and protected by the school system, which sets the tone in terms of the moral and ethical requirements
Handing in set work is entirely up to you, no one will check to see if you have done so. Feedback is mostly written so it is up to you to seek help or clarification	Set work is regularly marked and checked with direct feedback provided by the teachers as to how well you are doing

I came to Australia to study with much anxiety but this week (Orientation Week) has helped put some of my fears at ease. The system here requires very much more of students, where back home the teachers tell us exactly what to study and how to study it. I now know that I will need to learn in a new way to become more independent just like the local students if I am to be successful.

Rangit, first-year Chemistry

I am finding it really hard going at the moment. I like having someone around to tell me whether I'm doing the right thing or if I'm on the right track. I find this really helps me. Also, as a student doing three lab courses I seem to spend a lot of time doing things without knowing why I am doing them nor understanding what it is that I am actually doing.

Celia, first-year Biology

University study is very hard. It is very demanding and time consuming if you do all that is required of you. I think a good student needs to learn self-discipline and organisation. There are so many things to get used to. I guess you have to rely on yourself. It's really like a

process of self-discovery isn't it? It would be very helpful though to get more guidance and clear explanations of course requirements.

Carla, third-year Biology

I like university so far, it's better than school, really big though compared to the school I went to. One of the things I miss compared to school is that we don't really have any proper discussion times. We just seem to be always busy doing things. It would be nice to have more small-group tutorials so we can actually ask questions and not just answer problems. It's all just lectures and labs and computer stuff but little opportunity to actually ask questions.

Nick, second-year Information Technology

One of the key things I have learned over the last three years is to not give up when things get difficult. You need to learn to make sacrifices for the sake of your study and to keep your mind focused on why you are here. Go to all your lectures and tutorials and get as much information from other students. You have to learn to accept failure as part of success. And also remember to have a good time.

Beverley, third-year Nursing

It's all about dedication and working your butt off. The most important thing I have learned is to take responsibility for myself and work things out. You have to. The faculty staff have their own things to do so they cannot look after you. Once you realise it's all up to you it's not too bad.

Paul, third-year Engineering

The common areas of difficulty experienced by new students can be categorised as:

- academic preparedness
- academic progress
- financial affairs
- personal concerns
- family and social issues
- isolation
- uncertainty.

Let us take a look at these difficulties by referring to a range of questions asked by students in their first year of university, some of which you are likely to ask yourself.

Academic preparedness

- Are you in the course that was your first choice?
- Did you study in this subject or topic when you were in high school?
- Have you been away from study for a number of years?
- Are you 'burnt-out' after Year 12 or HSC?

- Are your academic skills up to the requirements of higher education?
- Will you cope with the workload demands?

Academic progress

- Are you lagging behind in your course?
- Are you regularly late handing in your assignments?
- Do you often miss lectures, tutorials, or laboratory classes?
- Do you find the level of work required of you just too difficult?
- Is there simply too much to do?
- Is the approach to teaching and learning at university not what you expected?

Financial affairs

- Is money always a problem for you?
- Are your fees due?
- Are you working too many hours at McBurgers?
- Have you got enough money for rent, food, and travel expenses?

Personal concerns

- Are you anxious, stressed, or just not coping?
- Do you have relationship problems?
- Have you recently lost a friend, family member, or a pet?
- Are you suffering a personal crisis of identity?

Family and social issues

- Is your brother/sister/mother/father getting you down?
- Is your wife/husband/girlfriend/boyfriend not supportive enough?
- Are your children just too demanding?
- Do you have a suitable place at home to study in private?

Isolation

- Do you feel all alone and confused?
- Do you feel like a little fish in a very big pond?
- Do you lack confidence to join university social or sports activities?

Uncertainty

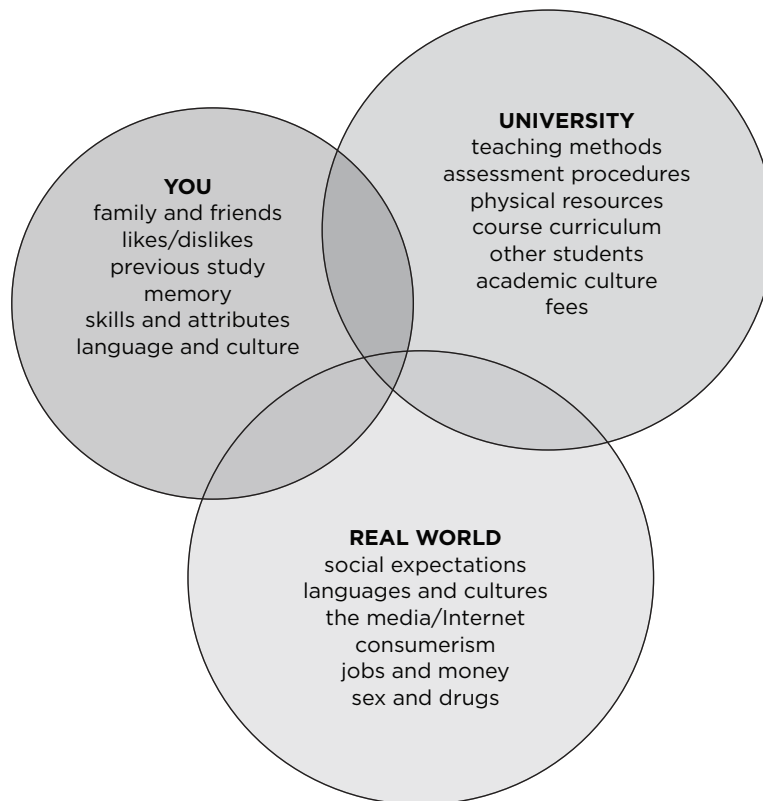
- Are you concerned about your career and future job prospects?
- Are you anxious about all the questions above?
- What is the meaning of life, the universe, and everything?

These and many other difficulties have been faced by students in the past and will continue to face students into the future. The key question you have to ask yourself is:

How do you balance your life so that you can fulfil all your study requirements, but still have a life outside of study?

Unfortunately there is no simple or quick-fix answer to this question. We all have to work things out for ourselves, but valuable allies are at hand. Family, friends, spouses, and fellow students, as well as agencies on campus, are all sources of support and assistance available to help you come up with a solution that works for you. In a simplistic way, a diagram can be used to describe the factors that can impact on you and your studies, as shown in Figure 1.1.

Figure 1.1 Representation of the three broad aspects of your life that may impact on your studies



Studying is a balancing act where you have to adjust your lifestyle to enable you to do things that you want to do, as well as the things you need to do to fulfil the requirements of university, and your life outside of study. This can be represented by the three discrete areas in the diagram above: you and your life; the world of the university; and the larger world. What you need to do is to find the right balance between the different facets of your life. Unfortunately there is no easy way of doing this, and some of it will be a matter of trial and error. One of the key strategies in balancing your commitments is to have a systematic approach to the management of your time, and this will be the subject of the next chapter.

Skills for academic success

So a key question you may be asking at this stage is, ‘What are the skills required by students to succeed at the tertiary level?’ To look at a possible answer to this question, two groups in science topics (first-year and third-year students) were asked to list the qualities they believed to be most important to them as a student in a science-based course. The responses were collated and put into one of ten categories. Table 1.2 shows the student rankings of the top five listed categories.

Table 1.2 Rankings by first- and third-year students in response to a question about the nature of the qualities and skills required for successful study

Student skills for success	First-year students (N=132)	Third-year students (N=92)
Motivational aspects	1	1
Student affective components	2	5
Work ethic and self-discipline	3	3
Cognitive/learning strategies and skills	4	2
Metacognitive skills	5	4

As you can see, each student group listed the same five aspects as most important, but in a different order. Both groups rank motivation as the key factor for success. The third-year students placed a greater value on cognitive/learning strategies and skills. The affective components are those things that impact on your emotions or feelings, that is, things that make you feel good or bad. These things were rated the second most important factor by first-year students, but were the least important for students by the time they were in their third year.

Recommendations

As we have now seen, all students commencing university have some difficulties adjusting to the new world of tertiary study. This is a natural part of the growth and development of each of us as human beings. We hope that the challenges you meet during the course of your academic life will enrich you and lead to educational, vocational, and personal development.

The following is a list of strategies that may help you overcome, or at least lessen, some of the difficulties associated with being a commencing student:

GENERAL HINTS

- Maintain consistent and conscientious effort and motivation.
- Stay up-to-date with set tasks.
- Establish a routine that suits your study needs and your course requirements.
- Seek assistance early when and if you need help.

SPECIFIC HINTS

- Attend any academic orientation programs and relevant preliminary lectures.
- Form a peer study group, particularly for those subjects you may find difficult.
- Familiarise yourself with the university and all of its resources.
- Seek clarification of expectations, requirements, and assessment procedures.
- Know when and where to find your lecturers and tutors.
- Find out where else to seek help: counsellors, study advisers, or senior students.
- Have a flexible study plan that allows for leisure and social activities.
- Learn to ask questions, such as ‘What should I do next?’ or ‘Who should I ask?’
- Do all the compulsory work required of you and hand it in on time.
- Be prepared for lectures, tutorials, and laboratories by reading ahead.
- Learn how to effectively use all the resources available to you.
- Do something straight away when problems arise; don’t just leave it.

Summary

Like all new and unfamiliar environments, university at first can seem a large, impersonal, and unfriendly place. If you are an international student, are from interstate, or from a rural community, you may be among those who feel most isolated. You may get homesick and sometimes fail to see the relevance of your study tasks. At times, a normally able and successful student may lose interest and become disheartened with a particular topic or course. So why bother? Well, keep in mind the following:

- You are paying for your education, so get the most out of it.
- Success or failure is largely dependent on you.
- Study can be fun and enjoyable. It beats many of the options.
- You are studying for a purpose.
- Think about tomorrow, but act today.