



**Study Guide for those reading FdSc Marine Science**



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Divers leaving the beach for the coral reefs, Tofo, Mozambique © Jason Birt

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# 1. How to work independently

It is a key feature of this course that as you progress through the two (or more) years we start to get you to do more. This is what makes university study different from school or college. The key to success on this course is to become an independent learner and take responsibility for your own learning. This is not easy hence the next few sections will guide you in becoming an independent learner.

This particular section is adapted from a series of guides produced by the Plymouth University for their students starting a degree. There is a lot of useful information here and it will help you loads to spend a while reading through this and subsequent sections. We thank the Plymouth University team for making these available to all our students.

## 1.1 Managing your time

Organising your time and tasks will help you to work more efficiently, thus, enabling you to make the most of your course. Organising your study time, however, can be quite challenging when you have a number of other important commitments, such as employment, family, friends and a social life. If you approach your academic and personal responsibilities in a planned and structured way, you should be able to fulfil your important commitments.

### **Managing your time on a yearly basis:**

Before you can organise your time on a daily or weekly basis, you will need to be clear about what is expected from you on your course on a more long-term basis. In other words, you need to know exactly what work is due, as well as the associated due date, or deadline.

It is worthwhile to be clear about the structure of the academic year so that you can determine a realistic time management plan, both on a long-term and short-term basis. Being clear about the arrangement of your course in terms of what each module will demand of you will enable you to manage your time effectively. Completing a table with important information about your modules is one way in which you can visualise the commitments you have over the coming months. Once you have these details, consider re-writing or displaying this table somewhere prominent in order that you can be frequently reminded of your long-term study tasks.

Once you have met a deadline, make sure you indicate this on your table. This will be a visual reminder of what you have completed and the tasks you have yet to finish.

### **Managing your time on a daily/weekly basis:**

The college organises some of your time by providing you with a timetable of lectures at the beginning of each semester. This timetable may have some spaces on it, making it appear as though you have a lot of 'free' time. However, it is during this 'free' time that a lot of your work is going to be accomplished and you are responsible for managing this time, not the college, although we will help.

Once you have received your course timetable and are clear about your future deadlines, you are in a good position to begin to plan your daily/weekly schedule. Planning and organising your time on a daily/weekly basis will help you to remain focused on both your immediate and future study commitments.

Also, ensure that you allow for **breaks** during periods of study. Most people are only able to concentrate effectively for twenty to forty minutes before they need a short break of about ten minutes. How long you study for will depend on what kind of work you are doing and on how you feel. Experiment to see what works best for you. If, upon completing the study timetable, it is clear that you have insufficient time available for studying, you may need to consider how you can reduce the time spent on other activities. For example, you may find that you are employed for too many hours and you are missing study time because of work. You need to decide whether you could actually do without the job, or at least cut down the number of hours spent at work.

Remember, you are a full-time student so you should allow about 40 hours per week for study (including lectures). Carefully examine all that you do to see where you can cut down. To get the most out of your course, you will need to have a high level of commitment in terms of hours and effort.

#### **Useful tips for saving time:**

- Work on developing competency in skills such as word-processing, reading and note-making, which can be so time-consuming if done inefficiently.
- Avoid writing notes in full sentences; use keywords, abbreviations and headings instead.
- Keep all your notes in one place and file them using an organised system, such as numbering, colour-coding, labels etc. Ensure that you always make a note of the source of the information – otherwise you run the risk of ‘plagiarism’.
- Read only that which is relevant. If something looks interesting, but not relevant for your current assessment, make a note of it for future reference.
- If it is a requirement to word-process an assessment, try typing your notes directly onto the word-processor rather than handwriting them first.

#### **Tackling tasks:**

If you feel that, even after creating a work plan for yourself, things are getting on top of you, make a list of all the tasks you need to work on for that day/week or holiday period (on paper it may not seem that bad). Then sort the tasks into the following categories:

- Long tasks requiring a lot of concentration.
- Short tasks requiring a lot of concentration.
- Short tasks requiring less concentration.

#### ***then...***

- Break them down into smaller tasks. These will be easier for time management purposes.
- Prioritise these tasks (either in terms of time requirements or importance).
- Allocate them to the time slots you have identified.

- Complete a task and then allow yourself a break – you deserve it! Do a little each day on tasks you think are long-term or difficult to handle. Little and often is the rule and even spending just 10 minutes for five or six days in a week will soon enable you to see progress on a bigger task like the project. You can successfully use short periods of time for very specific study tasks such as:
  - Arranging piles of paper in the correct order.
  - Jotting down questions you want to use when using a particular book.
  - Recalling the key points you have just read above by writing them on a card.
  - Drawing a diagram or cross-section.
  - Sketching the first ideas on an assignment.
  - Creating a spider diagram of your first ideas.
  - Calling a friend to check your understanding of a question.

#### **Tips for meeting deadlines:**

- **Start early:** If you write something down, even if it is only a few ideas on a scrap of paper, you will feel as though you have made a start. As long as you are careful to put the piece of paper in a file or folder where you can easily find it, you will slowly build up a pool of resources for what you have to do. It will help you get started immediately you have been given an assignment.
- **Plan an outline:** Make some outline plans of what it is you are going to write or design. Allow yourself several tries; do not feel you have to 'get it right' at a first attempt.
- **Make a rough draft:** When you have enough material, try a very rough draft of your final piece of work. You can re-draft your first rough outlines until you are satisfied.
- **Use college time to the full:** You can make a start at many tasks before you leave for home, such as seeking information from the library, working quietly in an empty classroom or talking to a friend about the task you have to do.
- **Organise your notes:** So that you know where to find them at a glance. Consider colour coding your notes with stickers or in plastic or cardboard folders, for example.
- **Use a marker:** Use a marker in a book (though not books which are the property of the library or of someone else): a bookmark, a card or a 'Post-it' note, as a reminder of questions you want to answer and/or which pages are relevant.
- **Make the best use of computers:** Type in ideas when you get them, and save them for editing into their most appropriate place at a later stage.

## **1.2 Creating a study environment**

Managing your study time is one important aspect of getting organised; creating a suitable study environment is another. This is because the environment in which you study can, to a certain extent, determine the quality and quantity of work you are able to produce. While it is possible to study in many different places, such as in a park, on a train or in a library, it is useful to set up a regular study environment in which you can settle into work quickly and find things easily. Such a setting should also facilitate the deeper concentration required for successfully completing certain study tasks, such as revising for an exam or working on a project.

#### **Where to study:**

Studying at home is perhaps the most convenient place and, thus, many students make it their study headquarters. This environment, however, may not always be the most effective due to numerous distractions, such as the telephone, television, children or unexpected visitors. If you have established a study base at home but find that you are not working as effectively and efficiently as you could, ask yourself how the following elements might facilitate or hinder you when you are trying to work:

- **Lighting:** Is there sufficient lighting? Is it too bright? Is the work space well lit, or only portions of it?
- **Temperature:** Is it too hot or too cold? Can the temperature easily be changed?
- **Noise:** Is there a lot of background noise, such as traffic, the television, or people talking? Do you prefer to work with or without background noise? Do you prefer to work in complete silence?
- **Comfort:** Is the environment a pleasant one in which to work? Does the decor leave you unable to concentrate?
- **Access to facilities:** Do you have adequate access to certain facilities, such as toilets and refreshments?
- **Privacy:** Is it sufficiently private? Are you frequently interrupted by family, friends, housemates? Is the door always open, or can it be closed?
- **Company:** Do you prefer to study when you are alone or when you are with one other? Do you prefer to work in a group?
- **Work space:** Is the desk a suitable size and style? Does your chair support your back? Is it a suitable height? Are you able to leave your work spread out or do you have to pack it away? Are files organised and stored close to your work area? Do you have enough storage space for all your work?
- **Computer:** Do you have a computer/word-processor? Is it necessary to have one? Is it the appropriate specification? Is it installed, ready for use? Does it take up all your work space?
- **Materials:** Do you have enough materials such as paper, pens, memory sticks, dictionary/thesaurus, calculator, diary, and other stationary? Do you have what you need to complete an assignment such as the appropriate reading material, module outlines, the essay question, deadline information?

Although you have now considered what you need in your 'ideal' study environment, it is important to note that it may not always be possible to create the perfect conditions. You will need, therefore, to be patient and flexible at times. Attempt to study even when it is in less than favourable circumstances. Nevertheless, pay attention to what works for you and repeat it each time you study. If you spend a lot of time in a particular environment, it is clearly worthwhile making it as pleasant and comfortable as possible.

If you are unable to create your own space at home, consider alternative locations:

- **College/public library:** Libraries are generally quiet places to work, providing an atmosphere conducive to study. Consider booking a private study room, in which you can work alone or with others. Alternatively, use a study cubicle which provides you with some privacy. Avoid seating yourself in a position which gives you a view of the whole room or large numbers of other people.

- **Empty classrooms:** Consider working in an empty classroom. As this environment is naturally associated with study and learning, it should not be too difficult to settle into your studies. However, ensure that the classroom is free for use - you do not want to have to move to make way for a class if you are busy studying.
- **At a friend's house:** Think about studying at a friend's house for variety. You may work better if you vary the environment in which you work. If it is possible, set up your own space in a different house. Swap your space for someone else's if this helps you to keep motivated. Do whatever feels right for you.

### **When to study:**

It is important to consider not only where you study, but when. To get the most out of your study time, think about whether you are working at the right time for you. Do you prefer to study in the evening when the children are in bed, or are you a morning person, only able to concentrate before lunch? If you work at the 'right' time, you will feel more comfortable and will be more productive than if you force yourself to work at an inappropriate time. However, if you feel like working at other times, then do so; you will not always be able to work at the 'right' time if something unexpected happens.

The key is to practice different strategies until you find one that you feel comfortable with. Experiment by working in different places at different times - you may be surprised at how flexible you can be in your approach to studying and learning. Using different approaches to study will add variety into your routine, may facilitate the development of more effective and efficient study practices, and help keep you motivated when you are at a low ebb.

## **1.3 Lectures and how to use them!**

Lectures at Cornwall College Newquay vary in length, but most are about one hour long. Typically, the lecturer talks at length on a particular subject to students who are generally expected to listen and take notes. Lectures are an important aspect of the learning experience at college and, thus, you will need to make the most of them if you are to make good progress on your course. A lecture may provide opportunities to:

- Be shown how arguments and explanations work.
- Be shown how to apply techniques.
- Hear how the language of the subject is used.
- Hear a synthesis of a range of information and views on a topic from a variety of sources clarify technical terms.
- Summarise essential facts.
- Test your knowledge.
- Prompt you to research further.

As lectures are an important part of learning, there is no substitute for attending. Reading notes that others have taken, downloading them from Moodle or picking up a textbook will not provide you with the same valuable experience. This is because other student's notes may be inaccurate or incomplete and if they contain the student's own comments you may be unable to distinguish the

lecturer's words from the student's thoughts. **Reading a book is not an alternative to going to a lecture – they should be used in different ways to complement each other.**

There may be occasions when you are not able to attend lectures. If this happens, use another person's notes as a starting point for further reading or download the material from Moodle. Then obtain details of any work that was set in the lecture and, after apologising for your absence, ask the lecturer how you should attempt to fill the gap in your own notes.

### **During the lecture:**

What you do during a lecture can depend upon how the lecturer conducts the session; some lecturers prefer to lead the session without interruption while others involve their students and encourage participation and discussion. Different lecturers, thus, have different styles and you will soon tune-in to the preferred style of your lecturers.

In addition to distinct personal styles, lecturers have different roles depending upon the requirements of the course, subject material and assessment criteria.

What you actually do during a lecture will serve to either help or hinder your learning. If you feel that you are not getting the most out of your lectures, but are still uncertain as to the reasons why, consider engaging in the following process.

### **Tips for actively learning in lectures:**

#### **1) *Actively listen:***

- Pick out the main reasons from the less important ones:

‘There are four main reasons for...’

- Try to understand what is being said; rephrase the main points in your head:

‘So what that means is...’

- Mentally summarise what has been said so far.
- Make notes to aid your concentration and help you to remember what was said.
- Attempt to think of examples to support what has been said.
- Ask yourself if you agree with what is being said.
- Listen even if you disagree; accept that different people can have different points of view but can both be right.

#### **2) *Concentrate and understand:***

- Position yourself where you can clearly see the lecturer and any visual aids being used.
- If you find it difficult to concentrate, because you are tired for example, you could consider tape-recording the lecture, though don't forget to ask permission from the lecturer first. Recording the lecture may mean, however, that you don't concentrate as you are relying on the tape. You



will still need to tune-in to the lecture. In addition, you will need to find the time to listen to the tapes and make notes.

- Listen for key words and try to rephrase what is being said. Rephrasing will facilitate a better understanding of what is being said.
- If you do not understand, ask the lecturer to repeat what s/he has said or seek clarification. It is important to be clear about what is being said, so do not be afraid to ask.
- Note that the lecturer may spend more time on one issue than another; you may be expected to deal with some issues on your own.

### **3) *Select and note:***

- If lectures are your main source of information, then you will probably have to write down a lot to be sure of getting what you need.
- However, try not to take down the lecture verbatim. This will only leave you with a mass of notes to sort through and the problem of sorting out the main points from the detail and, whilst taking extensive notes, you are often missing the next important point.
- If the lectures are backed up by handouts and textbooks, then you may need very few notes.
- Avoid writing details you can easily get later from a textbook.
- Consider using a colour coding system which would help you to organise and read your notes after the lecture. You could, for instance, highlight important points in yellow and those issues you didn't understand in red.
- If a lecture is poorly delivered and packed with detailed information, you may have to write a lot just to keep track.
- If the lecturer is lively and seizes your imagination with striking examples, you may learn more by concentrating on listening, and writing only occasional key points and topic headings.
- Above all, make sure that any notes you take are in a form and format which will be easy to understand when you review them.

### **4) *Question:***

- You will find that some lecturers encourage questions and discussion during or at the end of each class. Others prefer to give individual help in tutorials.
- If there is time at the end of the lecture, take the opportunity to ask for further explanation of anything that was not immediately clear. **You are unlikely to be the only one who did not understand.**
- Do not be afraid to go to see a lecturer to clear up any difficult points or seek further guidance. If you arrange a suitable time and place, most lecturers will welcome your interest in their subject.
- Question everything that was said in the lecture, or shown on a visual aid. How important was the information? Think critically about what the lecturer presented.

### **After the lecture:**

The stages in this active learning process are not only undertaken during lectures but also after, and between, them:

### **5) Review:**

- Having invested an hour or so in attending a lecture, it is worth investing a bit more time afterwards reviewing your notes, say about twenty minutes.
- Additionally, reviewing the lecture material at various intervals will help you to retain the information over longer periods of time.
- Therefore, as soon as possible after the lecture, re-work your notes. Re-read, fill in any gaps, clarify uncertainties and add extra material as appropriate. This is important as this part of the process will root the subject matter more firmly in your mind and makes your notes easier to use for essays and revision.
- Build topic summaries which aid your understanding and provide you with good revision material. This is far more valuable than merely rewriting lecture notes.
- If you don't already have a filing system to store your notes, consider setting up one. This will save you time in the long term.

### **6) Revise:**

- Revision of your lecture notes should take about ten minutes and should immediately follow the review stage.
- From memory, attempt to make a list of the most important points and write down any definitions or key formulas. Then check this to see that you have remembered correctly.
- This part of the process will again reinforce the retention of the information.
- You may wish to revise with other students to assist your learning of the material.

**Stages 5) and 6) may sound like hard work but reviewing and revising your lecture notes will reinforce your understanding and enable you to remember more of the material. These stages will save you a lot of time in the long run.**

### **7) Read:**

- Use time between lectures to read material around the topic area. Follow up on references used in the lecture and refer to the reading list for further sources of information.

### **8) Question:**

- Formulate questions around issues about which you are uncertain and take them with you to the next lecture in the series. It is important to resolve any doubts about the material as soon as possible so that you can move forward with your learning.

## **1.4 Note-making**

Whilst studying at Cornwall College Newquay, you are likely to create copious amounts of notes, whether from lectures or tutorials; from books, written or computerised information (e.g. the internet); on visual images, such as film, video or artwork; or on your research methods (e.g. laboratory procedures or findings). These notes are a valuable resource for your learning and they will build up quickly during your studies. They can help you to record and map what you are learning and then to recall and understand it later. You may depend upon your notes for revision, as well as

for preparation for essays and other coursework assignments. It is important, therefore, to develop efficient and effective skills for creating notes.

Taking notes can be useful for study but to make notes is to take a more active approach to creating a written record. Note-making is a more intellectual task than note-taking as it involves selecting, analysing and summarising what you hear or read. It also involves being able to strike a balance between listening/reading actively and making a record of it. Note-making is an active approach to study as it:

- ...forces you to think, because you have to make decisions about what to write.
- ...helps you to pay attention to what you are reading, or listening to.
- ...aids your understanding of new material if the notes are organised in your own way and in your own words.
- ...helps with concentration.
- ...helps you to remember more information.
- ...makes it easier to distinguish between important issues and detail.
- ...provides a permanent record.
- ...facilitates learning; lectures or books can become clearer later upon reflection and reviewing of your notes.

### **Note-making techniques:**

Anyone can make notes, but it is difficult to make good, concise, brief, accurate notes which may both reflect and comment on the nature of the information you are referring to and which you can use and understand at a later date. There are, however, a number of techniques which you can use for making effective notes. The application of these techniques will depend to some extent on the context and your subject, and you will need to adapt the following techniques accordingly.

Before applying a technique, you need to be clear about the purpose for making notes. For example, you may need to make notes for a short-term purpose, such as to remember to do something in the near future, or for a more long-term reason, such as for an exam at the end of the semester.

### **Sequential/linear note-making:**

This traditional approach typically involves making notes in the form of lists or phrases. Notes of this type can be made for different purposes and can include more or less detail, as required, or to highlight points. The main features of good sequential/linear notes are:

- Key words and phrases;
- Headings;
- Sub-headings;
- Conciseness;
- Underlined or highlighted key points;
- Margins or written on every other line to allow space for comments or future additional notes;
- Inclusion of diagrams, flow charts and colours (if appropriate);
- Suitable layout.

### **Pattern note-making / Mindmapping:**

This technique is a more visual method of note-making than a linear approach. This approach uses arrows and circles to connect key words/phrases and should lead to the creation of a spreading pattern in all directions, rather than just words which start at the top of the page and work down. The main features of pattern note-making/mindmapping include:

- Starting with a central heading/concept in the centre of the page;
- Noting key words, ideas and/or concepts which surround the central idea/concept;
- Heading and subheadings highlighted with boxes/circles;
- Underlined or highlighted key points;
- Conciseness;
- Use of symbols (such as \$, \*, + etc.), images and colour as necessary;
- Arrows/lines ('branches') to link key words, ideas and/or concepts and to show developments/process e.g. 'this leads to ...'. These branches should radiate from the central topic/idea.
- Semi-structured layout using a page sideways (landscape), and the notes are restricted to this page.

There are a number of other methods of visually, or graphically, representing what you have heard or read. Experiment with one or more of the following if you prefer to make visual notes:

- **Spider Map/Spidergram:** This is a technique of using diagrams or patterned notes to represent a central idea or subject and associated details.
- **Series of events chain:** This diagram is used to describe the stages of something, the sequence of events or the goals, actions, and outcomes of an individual or event.
- **Continuum scale:** This diagram is used to illustrate time lines showing historical events, degrees of something, shades of meaning (Likert scales) or ratings scales.
- **Compare and contrast matrix:** This is used to highlight the similarities and differences between two things.
- **Fishbone map:** This figure is used to show the causal interaction of a complex event or phenomenon.
- **Cycle/Process:** This is used to demonstrate how a series of events interact to produce a set of results again and again.

Essentially, any note-making pattern or diagram that works for you as an aide-memoir is effective. Experiment with them and see what works for you. The important thing will be each time to choose the approach which best suits your needs.

### **Highlighting, annotating and underlining:**

**Underlining** involves drawing lines under the print with a pen, or (coloured) pencil. **Highlighting** involves covering the print by using light-coloured felt markers or highlighting pens. **Annotating** involves making brief notes in the margins of the page in order to explain or comment upon the material. These note-making techniques can allow you to pick up the meaning of the text when you come back to it at a later date.

Underlining, highlighting and annotations are a valuable way of focusing your attention on the text and making you pick out and think about the main ideas. They also force you to leave a trace on the page of the sense you have made of the text.

Use these methods as long as this is not where your note-making ends otherwise you may end up with most of the page coloured in fluorescent yellow or pink and covered in a scrawl of notes! If you tend to cover most of the text with highlighter, it may be wise not to have a pen in your hand for the first reading.

If you decide to highlight the reading material, consider making notes in a separate notebook or index cards rather than on the text itself. This is because a textbook is a cumbersome place in which to store notes. Given that you will be using more than one source for your assignments, it would be difficult and impractical to carry around your all notes. Avoid trying to write first drafts of assignments from highlighted or underlined notes. It is usually necessary to take written notes as well; just highlighting parts of a photocopy from an article or book is not enough. By summarising the relevant parts of what you have read you will begin to understand and remember the material.

### **Summarising:**

Bringing together notes you have already made to make a new, condensed version can be useful. This is called summarising. Summarising the material in your own words will actually save you time, since once you put the information in your own words you won't need to waste time working out the meaning of a passage you have highlighted, every time you re-read it.

Putting the notes into your own words also means that you are not likely to commit plagiarism (using others' work and representing it as your own).

### **Storing your notes:**

Having spent a considerable amount of time making notes from various sources, it is worth spending a little more time developing your own system of organising them. This will save you time in the long run as you won't have to waste time searching for notes you made a semester ago. Consider some of the following tips for storing and organising your notes:

- Keep all notes on the same subject or topic (essays, lecture notes, issues from a seminar, photocopied articles) together.
- Use colour coded files, one for each subject and use dividers/tabs to divide into sections.
- Number the pages and create an index or contents page in your storage file.
- Above all, keep the storage system simple. If it takes a long time to negotiate your system, it is probably too complicated.
- If you are storing notes on disk, use one disk for each subject area. Remember to always have a copy on the network drive (H:\ drive), memory stick and/or paper.
- Don't file photocopies until you have read and understood them.
- Try to create a space for your notes that won't be disturbed by others.

## **1.5 Independent reading:**



There are many different types of reading material available, including magazines, the internet, newspapers, journals, novels and textbooks. During your time as a student, you will need to consult one or more of these sources to fulfil the requirements of your course. Reading at higher education level means that you will have to read certain recommended texts in detail and read selectively from a wide range of secondary texts.

The type of reading material you select will determine which reading technique you employ. For example:

- ...when you read a **novel**, you start at the beginning and read it right through to the end with only a few breaks. When you are reading for pleasure you don't worry about having to recall any of the details later.
- ...when you read a **magazine** you read more selectively - in short bursts and you will flick through the pages.
- ...when you consult a **reference book** you may read only one or two paragraphs, but you read them very carefully, making sure you understand every detail.

Whereas a novel or magazine can usually be read effortlessly and quickly, reading an academic source usually takes more concentration, time and effort. This is because you will need to remember more of the content than other types of material, such as a magazine, and often have to critically evaluate it. Different sources, therefore, require different kinds of reading skills. You will need to develop these skills if you are to make the most of the time you spend reading.

### **Stages of reading:**

As part of your college study programme, you will be expected to undertake a considerable variety and quantity of reading. However, reading is not simply about picking up a book and ploughing through it as quickly as you can. If you are to make the most efficient use of your reading time, there are a number of stages of reading that you may benefit from going through. These stages will invariably differ according to the purpose of your reading which will, in turn, determine the technique that you use. The first important stage is that of preparation.

#### **Preparation:**

Before you even begin the task of reading, it is important to ensure that the material you have selected is suitable for your needs. Although this may seem like common sense, it is quite easy to pick up a book that is not actually appropriate. This can lead to a lot of time wasted. First, refer to your notes to see if there is a reading list. Examine this list and highlight the books that look interesting and appropriate. If there is no reading list then ask your tutor for book recommendations. Remember that there is likely to be a lot of demand for the same few books so consider also searching for material that is not contained in this list. However, ensure that the book is relevant for your needs and is not out-of-date.

You are expected to read widely; do not just use those sources included in the reading list. There is a wealth of information out there and it is anticipated that you will explore as many different sources as you can. There are a number of features of a book or journal that can be checked in order to further ensure that you have selected a suitable source. These organisational features can provide you with an overview of whether the book is actually worth spending time on:

- **Title page:** Check the title and any sub-heading - does it seem relevant to your need? The title page can provide some indication whether or not the book or article is in your general field of interest as well information about the level of the literature, the author's name and qualifications, and the year of publication.
- **Front and back cover:** Read the back cover, sleeve notes, or preface (the sleeve notes often borrow from the preface or introduction to the book). This will give you an idea of the author's scope and intention in writing the book.
- **The table of contents:** This gives you information about the scope of the book, the way it is organised, and the main chapters and sections. It is a valuable source of information in signposting the issues to be raised.
- **The index:** Turn to the back of the book and glance through the index for key words of relevance can be a more detailed source of information about the book. This is particularly useful if you are looking for references on a specific topic.
- **The preface:** The 'preface', 'author's remarks', 'foreword' or 'introduction' will often give you an overview of the writer's intention and assumptions. This can be particularly useful where there are different views about a topic, as is often the case in the social sciences, for example.
- **The abstract:** In the case of articles, some contain an abstract or brief account of the contents which should tell you if it is worth proceeding further. Even if the article does not have an abstract at the beginning, it is useful to read the first paragraph in order to get some indication of whether it is worth reading. Some journals have a list of keywords at the beginning of articles, which allows you to assess whether or not the article is in your field of interest.
- **Surveying a chapter:** You may wish to look at one chapter in greater depth. Look to see if there are summaries at either the beginning or the end of the chapters. Where they exist, you will save yourself a great deal of time by reading a 'Conclusion', 'Summary' or 'Key questions to check your understanding of this chapter'. Headings and sub-headings are also valuable in setting the scene as well as helping the reader to navigate the text.
- **Bibliographies and footnotes:** Both footnotes and bibliographies can give an indication of the scope of the book or article and help you to judge whether it falls within your range of interest. In addition they can be a useful source of further avenues for research into your topic.

Reading:

Having established the purpose for your reading and gathered suitable sources, you are now ready to begin the task of reading. As stated previously, there are a number of basic techniques which can be employed depending upon the purpose for reading. When you read, you are already using these different techniques but you may not be aware that you are doing so. This is because after many years of reading different types of material you take these techniques for granted, not thinking about them when you use them.

It is important, however, to be aware of the different reading techniques in order that you are able to use them more effectively and appropriately. Employing the following techniques will also ensure that you are reading actively rather than just passively. A passive reader will look at and recognise words on a page but will not engage with the material. Active reading, on the other hand, involves employing different reading techniques in order to glean the most relevant information and digesting this in a way that you will be able to understand it and recall it at a later date.

**SQ3R:**

The following active reading strategy, devised by Derek Rowntree, combines the use of these techniques and is commonly referred to as the **SQ3R** method. This stands for Survey, Question, Read, Recall, and Review. This strategy is particularly useful when you need to study a topic in depth in order to master it and when revising and making revision notes.

**Survey:**

To gain an overall idea of the text before you start, skim and scan the book to ensure it is relevant.

**Question:**

Have the assignment question in front of you. Think about what you already know and what you now want to know. Ask yourself:

- What you expect to gain from the book or journal?
- What is new and interesting about this material?
- What points are particularly helpful?
- What does the author mean in this section?
- Does this support/supplement/contradict what I already know?

Asking yourself these sorts of questions ensures that you read with a purpose.

**Read:**

Choose a manageable chunk of text depending upon the complexity of the material (which may be a chapter, paragraph or just a few sentences). Read critically and attentively but don't expect to understand everything **at a first reading**:

- Look only for the main ideas.
- Get the general structure and subject-matter clear in your mind. Ask yourself what you have read and whether it helps to answer the question. If it does not, go back to the text and read further. If it does, continue reading the text.
- Don't attempt to make notes at this stage.
- The first (and last) lines of paragraphs will normally tell you what the rest of the paragraph is about. Read them as you go through this first reading and you'll help yourself locate useful material.

**At a second reading:**

- Read in depth those parts which are useful to you.
- Highlight or make notes of all the key points.

**Recall:**

Do you understand what you have read? The recall stage helps you to concentrate, and makes your reading active rather than passive. Ask yourself:

- How much do I remember?
- How much can I explain in my own words?
- Can I recall the key points without re-reading the text?

**Review:**

Look back at the text to check your recall. The review stage tells you how much you have really taken in.

### **Speed of reading:**

Using these reading techniques will, with practice, enable you to improve the speed of your reading. As you may be required to read a substantial amount of material for your course, increasing the speed of your reading will help you to tackle these demands. Reading more quickly has its limitations though – it serves little purpose in fields such as mathematics and some of the physical sciences where the subjects are unfolded step-by-step, but it is still useful for the more descriptive parts of subjects.

We all read at different rates and each type of reading will also determine the speed at which you proceed through the material. An exciting novel, for example, is a quicker read than a text in chemistry. Reading materials also vary in how well they're written, and as a consequence, some are more difficult to read than others. Understanding is the most important aspect of reading, but you will invariably find it helpful if you can also improve the speed of your reading.

### **Improving the speed of reading:**

Learning to read more quickly, however, is not a solution to the problem of large amounts of reading. Aiming to read effectively, rather than more quickly, is a better approach. Indeed, it is unrealistic to expect that reading can always be fast. The main thing is to move fast when you can and read intensively when you need to. Remember, your goal is quicker understanding, not just quicker reading. Nevertheless, you may be practising 'bad' habits that are preventing you from reading efficiently and at a reasonable speed.

- There is often a tendency to read different types of material at the same rate. When the material is 'easy' and is simply expressed, it is usually possible to read quite quickly. When it is less familiar, and using difficult 'jargon', then the reading rate slows down. It is important to realise that you can vary your reading speed to cope with the difference in material.
- Sub-vocalisation can often lead to reading at a slow rate. Sub-vocalisation refers to the tendency to read aloud, even if so quietly as to be inaudible to others. You will only ever be able to read as quickly as you talk if you mouth the words as you read. Our brains can actually handle words much faster than we can speak them. Try to read without vocalising the words.
- Similarly, do not use your fingers to follow the words or move your head as you read – these actions only serve to slow you down. However, this technique is very useful when proof-reading or reading intensively.
- Practice reading clusters of words rather than every single word. In most phrases or sentences, only one or two words are fundamental – the others need not be 'read' to gather the meaning of the phrase.
- When you already know a fair amount about a subject, consider spending a few minutes listing key points or words you already know before starting to read fast. This helps your speed reading to 'top up' your existing knowledge, allowing you to skim faster through things you already know. There's no point spending time reading things you already know.
- Eliminate outside distractions and ensure that you are comfortable. Environmental factors can affect your concentration and your reading speed.

### **Reading difficult material:**

At some point during your course, you may come across material which you must read but which you find difficult. If you are confronted with material which is difficult to read and understand, thus slowing down your studies, try the following approach:

- **Read the title and the first paragraph:** If there is a summary at the end of a chapter, read it. Get an idea of how the material is organised. If you need more background information, look for another source. Now decide if you have enough background material to begin reading.
- **Look for the main ideas:** Identify titles, headings, and subheadings and pick out topic sentences. Utilise graphs, charts, and diagrams. Take notes while you read.
- **Look up difficult words:** Investigate words whose meanings are important to your understanding of the material, but which you cannot discern from the context. Build up your vocabulary by looking up words which you are not clear about – if you do not understand a particular word or concept, you will probably not be able to understand the next section either. Building up your vocabulary is particularly important for courses that present a lot of technical texts, such as physics, chemistry and calculus, and will help you to cope with the type of jargon authors often use in academic texts.
- **Make use of reference books:** Ordinary dictionaries do not usually provide the specialised meanings of words used in academic disciplines. Therefore, specialised dictionaries and other reference books are sometimes needed. However, you need to be aware that even definitions provided in specialist dictionaries and glossaries are not always fixed and final. You may come across a text which uses the word in a slightly different way.
- **Familiarise yourself with abbreviations:** Abbreviations are often used in the text and/or index of many books and, as such, it is extremely useful to familiarise yourself with some of the following words and abbreviations to help speed up your reading and your understanding of material. The following list is not comprehensive - there are a great number of abbreviations.

## 2. How to do an exam

This section is adapted from a guide produced by the Plymouth University for their students starting a degree. There is a lot of useful information here and it again will help you loads to spend a while reading through this. We thank the Plymouth University team for making this available to all our students.

There are numerous types of assessment, many of which students are required to undertake in order to progress through their course. One common form of assessment in higher education is that of **examinations**. The main purpose of examinations is for lecturers to make sure that you have understood the material covered in the course. Student experiences of taking exams vary widely.

Exam myths – demystifying exams:

### **I should have read everything before taking the exam.**

It is neither possible nor advisable to attempt to read everything. In fact, you are very unlikely to have the time to read everything in the course. You only need to read enough so that you understand the material – at a minimum, read your class notes. You are not expected to read every source on the course reading list (unless, of course, you have been specifically instructed to do so).



**I haven't understood what I have read so it's not worth taking the exam.**

It's quite common to have doubts about how much you know and understand about a topic before taking the exam. If you have tried to make sense of what you have studied, you have developed more of an understanding than you realise. However, there will inevitably be areas where you feel confused and unprepared; remember that no-one understands everything.

**The exam paper is too difficult.**

At first glance, the exam paper may seem too challenging and too difficult to understand. Don't panic! Almost every exam question is linked with something you have covered on the course; you just have to work out the link.

**Exams are for people with a good memory.**

Everyone has a good memory; it is more a case of how you use it. Exams, however, are a test of what you know and understand, rather than how much you can recall. The purpose of your course of study is to develop your ideas, and the purpose of the exam is to provide you with an opportunity to demonstrate how well you have grasped the ideas in the course. Organise your notes during the period of revision and let your memory take care of itself.

**I'm worried the exam will show that I lack knowledge.**

The exam is not a test of general knowledge; it is to test what you have understood about the course. Don't concern yourself with what you didn't learn before you started university; build on what you have learnt during the course. If you have studied effectively, you should be able to perform well in the exam regardless of your educational background.

**Exams are mainly for people who can write quickly.**

Not true! Although you will need to be able to write fairly quickly in order that you get enough information down, it is more important that you make the most effective use of the time you spend during the exam. Before you answer the question(s), make a clear plan to give you direction; the best answers are the most organised answers. If you are working to a good plan, you can be very efficient in your use of the time in the exam.

**I need to revise 'til I drop before an exam.**

The bulk of your work should be done throughout the semester rather than just before the exam. Although you will inevitably do a lot of work just before your exam, you need to be reasonably organised and approach the exam in a planned way, using your time efficiently and conserving your energy. If you leave all the work to the last minute, you may find that you are too tired to do the exam and you may vastly under-achieve.

**I've failed an exam – my life is ruined!**

Failing an exam is not the end of the world.

Before the exam:

**What we want:**

Having an idea about what we want, and what we don't want, is an effective way to get you focused on your revision and the exam.

**We want...**

- You to pass.
- To give you marks. We lecturers are sympathetic to students.
- You to answer the question that has been set.
- You to present the best of what you know.
- To draw upon the material from your course.
- You to demonstrate what you understand and its relevance to the question.
- Your script to be legible. We often have a large number to read in a relatively short amount of time so we will not appreciate having to put in extra effort just to make sense of what you have written.
- You to attempt all the required number of questions.
- Short, simple sentences and a direct style of writing. Waffle and padding is not appreciated by markers and certainly will not earn you extra marks.
- Your opinion(s) to be backed by relevant arguments.
- You to answer all parts of a question.
- Appropriate examples and illustrations.
- Standard English.
- You to begin to answer the question immediately you start to write.

## What we don't want...

- To take marks away; contrary to popular belief, we are not poised with pens ready to penalise your mistakes!
- You to fail.
- To be told what you don't know.
- You to write all you know; stuffing facts and figures you have memorised into your answer(s).
- Illegibility, poor structure and answers written in note form rather than full sentences.
- Waffle and padding.
- You to attempt fewer than the required number of questions; we will be disappointed for you.
- You to attempt extra questions. Not only will you not gain more marks, but the reverse is usually true; answers actually required will tend to be shorter.
- Over-elaborateness; over-wordiness.
- Your unsubstantiated opinion(s), i.e. 'I think' or 'I believe' without adequate explanation or argument for the belief.
- You to neglect the second (and/or subsequent) part(s) of a question.
- A catalogue of examples before you have properly explained a point.
- The use of slang or colloquial expressions e.g. 'Yes, you can please some of the people...'; 'Well...'; 'As I was saying...'.
- You to copy out the question, unless you are specifically asked to do so.
- Long background introductions to the topic.
- To be bored by the candidate who has evidently put in little effort.

## Revision:

The majority of your preparation for an exam should be devoted to revision. Although revision literally means ‘seeing’ or ‘looking again’, you will find that some part of your revision is new learning. Revision, however, is not just about memorising information; it is a much more **active** task.

When revising, you should be repeatedly rehearsing your knowledge, examining, amending and 'seeing it again', from different angles and in different contexts. This process should lead you to a full understanding of the material and remembering the most important details on a long-term basis. This reviewing process is an essential component of learning.

Revision typically involves:

- Finding out what you know and understand, and what you don't;
- Building on what you know and understand;
- Finding out what has slipped your mind, and working on ways of keeping it in your long-term memory;
- Preparing to show, such as in an exam, that you understand what you have learned;
- Practising those things that you will need to be practiced in, such as experiments in a laboratory.

Revision, therefore, is a valuable part of the process of actively studying and learning; it involves much more than scanning notes in the hope that you will remember some of the information. Consider using some of the following revision strategies to help you make the most effective use of the time you spend revising.

#### Revision strategies:

- **Revise throughout the academic year:** Revision is best undertaken on an on-going basis, where your revision starts in the first week of classes and continues on a regular basis throughout the academic year. Revision is not something that should be left until the last minute; start revising as soon as you can. Consider setting aside 15 minutes a day to revise new material; write a summary of what you are supposed to have learned.
- **Make revision an active task:** Organise your material and summarise it in your own words. Create your own summary notes and/or mindmaps.
- **Make revision a meaningful task:** People tend to remember more if the information is meaningful or relevant to them. Consider making the material you need to learn more meaningful by associating with an image or a symbol. Alternatively, consider using mnemonics, for example, **Richard Of York Gave Battle In Vain** (to denote the colours of the rainbow: Red, Orange, Yellow, Green, Blue, Indigo, Violet). Anything that serves to trigger your memory is effective for you.
- **Learn general rules and principles rather than masses of facts:** Merely learning isolated bits of information is inefficient. Attempt to link your material, in as many different ways as you can, to what you know already - keep searching for more meaningful ways of structuring your material.
- **It's not just what you know that counts:** It is also important that you are able to answer exam questions well. In other words, if you know you will have to write an essay in the exam - practice writing essays! (Refer to the 'Planning and Writing Essays' Study Skills Guide for help with this).
- **Practice with past exam papers:** Run through old papers to familiarise yourself with the structure and format of exams set for previous students in your programme. This can take away some of the fear you may experience if you have not sat an exam before. Write outline solutions to questions from past exam papers, and then use your notes to check how comprehensive your answers are.

- **Use SQ3R:** Apply the SQ3R study technique. Read a section from your notes then put them to one side and try to recall what you have just read. Then re-read your notes to check the accuracy of your recall.
- **Use index cards:** Many students use this approach to revision. Using index cards, or paper of a similar size, write or draw a brief outline or summary immediately after completing work on a topic. Use a minimum amount of detail but ensure that you understand what you have written. The index cards should be written in such a way that they stimulate your recall of the topic without including all the detail.
- **Revise with others:** Some students find it helpful to revise with other people, such as other students, family or friends. This can enable mutual support and encouragement when the going gets tough. A study group can be a very effective way of learning by testing each other on the revision material.
- **Using a tape-recorder:** Consider recording your revision notes onto a tape-recorder so that you can revise whilst doing other activities, such as exercising, washing, riding on a bus, or even taking a bath! This is a very effective way of saving time, as you can still learn while you are involved in other tasks. Some people even claim that it is possible to learn if a tape is played whilst sleeping!
- **Study environment:** Ensure that the environment in which you revise is appropriate; is it well-lit and ventilated?; are there too many distractions, such as the television or children?; are there suitable facilities, such as toilets and access to refreshments? If you are not comfortable whilst revising, it is likely that you will learn less than you could if you had paid attention to those elements in your study environment that facilitate learning.
- **Stay healthy and positive:** Make sure that you get enough rest and eat properly in the period leading up to the exam – if you don't take care of yourself, you will not be able to perform as well as you should.
- **Reward yourself:** As revision is hard work, don't forget to reward yourself when you complete various tasks. Consider keeping a progress chart of your revision, and as you tick off each topic as you complete it, give yourself a treat – you deserve it!

### **Tips for improving memory:**

- If you find that no matter how hard you try, you cannot remember what you want to remember, you may in fact be trying too hard. It is how you set about memorising that matters. Be active - use all of your senses.
- If you are still having problems remembering something, find a clear link with something else you already know or have some knowledge or understanding of.
- Find out what you don't need to remember – don't waste time revising material that you do not need to recall for the exam.
- Always try to revise whilst in a relaxed frame of mind. If you are feeling stressed or anxious, you are far less likely to absorb information.
- Try not to take in more than two or three pieces of information at any one time. If you try to take in too much, you may find that you cannot remember any of it.
- If you need to remember formulae and maths, spend some time writing out worked examples and ensure that you understand how you arrive at the answer. Consider using colour coding for formulae, and visual images to help recall.
- If you need to remember numbers, construct sentences that can help you to reconstruct the numbers – choose words with the same number of letters in as the numbers, for example:

How I wish I could calculate pi quickly

3 1 4 1 5 9 2 7

- If you need to recall detail in diagrams and graphs, test yourself on small sections of the figure.
- If you have difficulty remembering dates and names, consider using colourful drawings, images, and/or symbols to link dates and people together.
- Exercise your memory regularly. The more you give your memory to do, the better it will function.
- Revise material with other people – quiz each other on the questions where you are likely to forget the answers.
- Be positive. Believe that you can learn and remember material.
- Use pictures to remember; for example, if you are trying to remember an address, make pictures of the street and imagine walking down it, pausing to look at the road sign and the colour of the door - with the number on it.
- Use all your senses to make a picture. Hear, smell, touch and taste as well as see the object - or at least use as many of these senses as you can.
- Build up your memory little by little; link each bit of learning with what you have already learnt and understood.
- Overall, the best way to remember is to have a real understanding of the topic; ask questions about the material and try to make connections between the issues.

Taking the exam:

**The day before:**

- Get everything that you will need for the exam ready, for example, pens, note paper, a calculator, a watch/clock. Check that everything works and put all the equipment together ready before leaving for the exam in a clear plastic bag. Organising yourself in this way will save valuable energy that you will need for the exam.
- When doing some final revision, don't depress yourself by finding out all the things you don't know. Instead, concentrate on what you do know – it is too late to cram in new information. If you have followed a revision plan, you should have covered all the necessary material.
- Don't work too hard the night before the exam – this will only leave you feeling tired on the day of the exam. Take it easy if you can and get as much sleep as possible to give yourself a clear head the next morning. Make sure that you eat a well balanced diet in the run up to the exam – just take care of yourself i.e. drinking to excess and too many late nights are not going to help you to perform to the best of your ability.

**The day of the exam:**

- Whatever people tell you about what you should or shouldn't do the day of the exam, ignore it; do whatever feels right for you. If you want to run through your notes, do so; if you don't, that's fine.
- Leave plenty of time for the journey in case of delays and aim to arrive at least 15 minutes before the official start of the exam. Important instructions are given before the start of the exam; you need to make sure that you are present to hear them.



- Try to avoid people who are overly anxious about the exam – this is likely to make you feel more nervous, which may leave you feeling drained before you even start.
- Try to avoid stressful situations, like an argument or getting stuck in traffic. Think about what causes you to feel stress and plan ahead in order that you can avoid these situations.

### **At the start of the exam:**

The first few minutes of an exam can be the most nerve-racking, but they are also the most valuable. While waiting to start the exam, check the following:

- Make yourself as comfortable as possible. Can you see properly? If it is too bright, ask for curtains to be drawn. We are there to help so ask if you need anything, like extra note paper.
- Complete basic details in the appropriate places, such as your name.
- Carefully read the instructions contained (usually) on the front page of the paper **twice**. Many students have lost marks, even failed an exam, because they have not read the instructions properly.
- Establish how many sections you need to answer; some may be compulsory, others a choice. Spend a few seconds clarifying what you have to do.

### **During the exam:**

- Before you begin writing, take a deep breath. Don't feel that you have to start scribbling right away. If you rush into answering questions, you may make mistakes.
- Read through the entire paper (check both sides of the pages) and consider the order in which you would like to answer the questions. You do not necessarily have to answer the questions in the order that they are presented. If it helps you, answer the easy questions first; you may then find that the more difficult questions become clearer.
- Spend the first ten minutes or so of the exam sketching an outline of each of the questions. This will help you to focus your mind and if you go blank later, you can refer to this outline answer to help you.
- Allocate a certain amount of time to each question. Don't forget that you need to spend time at the beginning of the exam to prepare outline answers to the questions. This timetable can be flexible but try to stick to it as closely as you can to give yourself the best chance of answering the questions.
- For essay-type questions, spend the first few minutes planning your answer. Ensure that the essay has a 'beginning' or introduction, a coherent 'middle' or main body, and a conclusion. Planning your answer may help you to avoid missing out important ideas.
- For numerical or problem-type questions, make sure that we can see exactly how you arrived at the answer. Clearly show each step; even if you reach the wrong answer, you may receive some credit for the steps that were right.
- It may seem obvious but answer the question set! Don't be tempted to provide an excessively long answer or go off on a tangent; the marker will not be impressed by this so there is no value in writing down all you know just to prove you've learnt it. They will only look for the answers; you will not get extra marks for information that is not relevant regardless of how well written the answer is.
- Highlight the key words in the title and pay attention to the number of parts to the question. Re-read the question to make sure you have correctly interpreted it. If you realise that the question is not what you thought, answer another one.

- Although it is important that you show that you know the facts, it is more important that you explain the meaning behind the facts. In other words, you need to **demonstrate that you understand** what it is you are talking about. Anybody can regurgitate information but you will get more marks for showing a deeper understanding of the material.
- Write using clear and simple language; make it as easy as you can for the marker to understand what you have written.
- It is possible to achieve more marks by making your paper stand out from the crowd. The task of marking can become tedious so include some original material to grab the interest of the marker. Give due credit to the work of others but aim to make it original by adding your own opinions after summing up the ideas of the experts in the field.
- You may 'go blank' during the exam and believe that you have forgotten everything. If this happens to you, try to relax – take a deep breath. Leave the question and go back to it later. Jot down a few words that have anything to do with the question; this may stimulate your memory. If this doesn't work, ask basic questions about the subject, such as what?; who?; when?; why?, until you become more focused.
- If time starts to run out, don't panic! In the time you have left, write a brief outline of the answer(s), in the form of a list or bullet points, and include key words. You are likely to pick up a few marks if you have included the most important points even if you haven't written them in sentence form. It will demonstrate that you have some knowledge of the subject and were capable of outlining a reasonable response.
- If you found that time was running out, this may be because you spent too much time on other questions or didn't organise your time constructively at the outset. Learn from this and use this experience to better prepare for subsequent exams.
- Use plenty of paper and leave spaces for the markers comments. Try to write as neatly and as legibly as possible; an excellent answer may get referred if it cannot be read. Make sure that you clearly label any diagrams.
- At the end, check through the paper to correct any mistakes and to make the paper as presentable as possible.

### Reasons students fail an exam:

These include:

- Failing to analyse each question effectively;
- Misinterpreting the question;
- Skipping questions;
- Poor time management skills, whether during the revision period and/or during the exam itself;
- Failing to attend relevant lectures/seminars/workshops;
- Not undertaking regular revision of lecture/seminar/other course notes;
- Insufficient background reading;
- Insufficient preparation for lectures/seminars/workshops;
- Not asking for help or guidance when necessary; and
- Not devoting enough time to leisure activities and relaxation, generally not taking care of yourself.

## 3. How to lay out a scientific report

The following guidelines should help you in laying out a smart report. These guidelines will set you in good stead for any employment you find yourself in.

It is an unfortunate fact of life that reports and essays are soberly written in science – even for a subject as exciting as marine science! The same goes for presentation. Below you will find some guidelines for writing assignments. Remember – you are not just learning about the subject, you are also learning about the appropriate methods of disseminating scientific information.

The main aspect to remember for assignment writing is that planning is the *key*.

1. Stick to one or two font styles and simply enlarge and embolden when you are producing headings. The neatest way is to use Times New Roman/Garamond/Perpetua/Calibri/Arial for the body text and Arial/Gill Sans/Calibri for headings. Whilst we are on the subject - fonts chosen should be Arial, Times New Roman, Gill Sans, Perpetua, Calibri or Garamond. The font for the body text should also be in 12 point although larger sizes for headings are encouraged. Stick to **black** ink.
2. Don't forget to subdivide your writing. Although essays have fewer subdivisions they are still divided into broad areas. Reports can be quite heavily subdivided.

e.g.,

## 1. Introduction

The coastal fringe is an important part of...

Note: One line gap between heading and text

### 1.1 Introduction to Zonation

Zonation was first described by...

Note: Two line gap between preceding body text and next heading

#### 1.1.1 Zonation on exposed shores

Zonation on exposed shores is more...

3. Don't be afraid of using diagrams and it is best that you draw your own, unless they are very complex. Only photographs should be copied from the Internet and these should be appropriately accredited to the copyright holder. Remember to give it a figure reference (figure 1: A picture of a salmon gill) below the diagram and refer to that figure in the text e.g., "... and teleost fish have a different gill structure (figure1)."
4. Diagrams and photos are denoted figures. Tables are called tables (Table 1: Distribution of littorinids on a south facing beach) and this is written *above* the table. Again refer to the table in the text.
5. Use Internet sites by all means but **DO NOT CUT AND PASTE**. This goes for diagrams as well. I would prefer you to take notes from books and if photocopying, highlight the text. Essays that seem extremely detailed, complicated and full of jargon will bring about questioning from

whoever your lecturer is. With reference to the report, we will ask you what it means. If you can't answer we will be forced to assume that you copied the passage word for word and that is plagiarism. This will lead to the plagiarism disciplinary procedure. Ask if you do not understand something in a book or website.

6. Generally, use 1.5 or double line spacing! It helps us to mark your work and provide constructive criticism or praise.
7. Any rough work should be included in a folder marked "evidence" or "appendix". In the past there have been a few cases where rough work and research has been bundled in with the main assignment. It's messy and distracting. Whilst on this point, although these new folders with the ability stick in one or two sheets per sleeve look good, they are a real pain when it comes to marking your work. Place your whole essay (stapled) into one sleeve or use one of those soft folders with the bendy copper clips which go into the holes of your work. Whatever, method you use, make sure us lecturers have easy access to your work!
8. *Look carefully at the question(s) you're being asked **AND** the grading criteria.* If you have set your heart on a high mark make sure you have covered those criteria *fully*. If it says *discuss* or *describe* or *explain* then do so.
9. ALL work should be fully justified (straight edges on both sides of text).
10. Finally... DO NOT USE "I", "WE", "MY" OR ANY OTHER FIRST PERSON TERMS IN YOUR WRITING!!! You must write impersonally. Rather than writing "We carried out this experiment in controlled conditions" write, "The experiment was carried out in controlled conditions."

## 4. How to produce professional posters

This section is adapted from a guide produced by the University of Cambridge for their students starting a degree. There is a lot of useful information here and it again will help you loads to spend a while reading through this.

On this course you may well be asked to produce posters for coursework. Poster communication is a very important tool in science and is often used at conferences. However, the posters you produce will not be like those you may have done at school. For a start, you will not be using pens and paint! (That said, you may be asked to produce a poster in class, in which case you may do!) Posters for coursework are better produced in a software package. Posters tend to be A1 or A0 in size. The following points should help you create effective scientific posters and stand you in good stead if or when you go on to top-up or enter employment.

- The poster should have all the necessary text and graphics to make it self-explanatory.
- Your poster should offer something to two contrasting types of user: the 'browser', who may only give your work a brief look from a distance, and the 'ingestor' who pours in detail over every word and picture. Browsers need at least to see a clear title and one graphic that encapsulate the work and may attract them to look in more detail.

- Regard your poster as an advertisement for you and your work. A successful poster relies as much on effective design as it does on good science. Your poster will comprise some or all of the following design components:
  - The *heading* comprises a title for the research, together with your name and affiliation. These items should be in a large enough font to be read at a distance of a couple of metres – at least 72 points (about 1") for the title and 36 points for your name.
  - *Graphics* are the essential ingredient of any effective poster. They may comprise maps, charts, graphs, line drawings, photos, or any other relevant two-dimensional format. If possible, most graphics should be understandable without recourse to a detailed text caption. If possible, at least one graphic should be particularly eye-catching. Appropriate use of colour is essential.
  - *Captions* are usually necessary adjacent to each graphic, to amplify its content for the detailed reader. However, captions should still be easily visible: use at least a 14 or 16 point font size.
  - The *text summary* or *abstract* of the research has the same purpose as the abstract of a scientific paper, summarising the main results succinctly enough to be read in a minute or two. This is the first and maybe the only component that browsers will read after they have been attracted by your title and graphics. The body text should be at least 16 or 18 point, with a larger or bolder title.
  - The *body text* of the poster will describe methodology, data, results and interpretation. It should never dominate a poster – no more than a **third** of the poster should be text. The text should guide the reader logically through the graphics. The text is more digestible if it is split into logical sections interspersed with the graphics, rather than presented in one chunk. Use at least a 16 or 18 point font.
- Decide the overall logic of the poster. Most posters have *sequential* sections, for instance aims > methodology > results > interpretation. However, other logical arrangements can be successful. A *radial* structure might have a hub comprising a text and graphic summary, surrounded by the discrete components of the project. Parenthetical *boxes* of text and graphics can amplify peripheral points in either a sequential or radial structure.
- List the graphics that you will need for the chosen structure. Do this *before* you write any text. You will then be forced to see the poster in the same way as the browsers who comprise the majority of your audience. You will almost certainly discover the need for a number of *interpretative graphics* to link and summarise the data and results that you already have available.
- Make preliminary pencil-and-paper sketches to explore how your graphics might fit your proposed poster layout. Allow some space for text at this stage.
- Continuous text or figure captions can be read more rapidly in a *serif* font such as Times New Roman or Garamond. Headings have more impact in a *sans serif* font such as Switzerland or Arial, suitably emboldened.



- Use clear numbering or arrows to guide the viewer logically through a sequential poster.
- Use some colour on graphs, maps and other line drawings.
- The fashion for putting an outline box around every graphic, caption or block of text can look excessively busy. Boxes are better used to group related elements of the poster, such as data, methodology or results. Avoid the confusion of nested boxes-within-boxes.
- Don't fill every square centimetre of the poster board. Use as a design element in its own right, to separate components and logical sections.
- In summary, aim for simplicity not complexity, use graphics in preference to words, and remember that good content and design will always be more effective than sophisticated production techniques alone.

## 5. How to produce professional presentations

This section is adapted from a guide produced by the Plymouth University for their students starting a degree. There is a lot of useful information here and it again will help you loads to spend a while reading through this. We thank the Plymouth University team for making this available to all our students.

There is an increasing emphasis on the assessment of oral communication skills in higher education. Many college and university courses now require students to make individual or group presentations about their work. This provides students with an opportunity to practice verbal skills, often desired by employers. Presentations also provide those students who prefer speaking to writing with an alternative way to demonstrate their abilities.

For many students, the prospect of giving a presentation is daunting. This may be because they have never experienced presenting material before; because they don't want to be the focus of attention; or because they may worry that they will 'go blank', forget what they have to say. However, effective speaking, like effective writing, is a skill that can be acquired and developed; a good presentation, and less anxiety, is possible with sufficient preparation and practice.

### Purpose of presentations:

There are a number of reasons why presentations may be part of your course. These may include:

- To develop verbal communication skills;
- To get a discussion going;
- To put forward a variety of perspectives;
- To provide an alternative to written assessment;
- To provide instructions and/or demonstrate something;
- To develop a key employment-related skill;
- To practice gathering and organising information; and/or
- To gain experience of presenting information to a group.

Of course, these purposes are not mutually exclusive; presentations may involve one or more of these objectives.

## Assessment of presentations:

At this college, the tutor will assign a mark for the content and delivery of your presentation, and you may receive feedback from the audience (most likely to consist of fellow students on the course). You will need to ensure, therefore, that the presentation is adequately prepared and planned so that it can stand up to even the toughest scrutiny.

## Planning and preparing a presentation:

As with writing an essay or getting ready for an exam, it is necessary to undertake a certain amount of planning and preparation in order to give a good presentation.

### 1. Establish the purpose:

The first important step in planning and preparing for your presentation is to find out **why** you have to give the talk. This information can usually be sought from module guidelines or from the lecturer. Find out if you are required to inform the audience of an issue, provoke discussion of a subject, and/or demonstrate a problem. The purpose of the presentation will determine the way in which you approach the next few stages.

### 2. Identify the audience:

Once you have established the reason for giving the presentation, you should then find out all you can about the audience. Are you presenting to fellow students, and/or to lecturers, or to individuals and groups not connected with the University? Ask yourself the following questions:

- Who will be attending the presentation?
- Will people be attending your presentation by choice or is it compulsory? Knowing why people attend will help you to understand the audience's attitude to you.
- Is their initial attitude likely to be pro, neutral, or anti?
- What is their level of understanding of the topic? Will they have any background knowledge and, if so, how much?
- What do they expect from you?
- Will they understand any jargon normally used in your particular discipline?
- How can you present your material so as to encourage a positive response (and avoid a negative reaction)?

Failing to consider the needs of your audience may lead them to feeling...

- Alienated – if you offend their value system.
- Insulted – if you fail to recognise and acknowledge their existing knowledge and experience and pitch the presentation at an inappropriate level.
- Confused – if you assume a level of knowledge or expertise that isn't there.
- Bored – if you fail to relate the topic to their needs.

- Patronised – if you use an inappropriate style.

Therefore, the more you can find out about your audience, the better you can tailor the presentation to their needs and, accordingly, your communication of the information will be that much more effective. Try to strike a balance between giving clear explanations but avoiding ‘talking down’ to people.

### 3. Gather information:

Once you have correctly established the purpose for the presentation and identified your audience, you will then need to collect information upon which the presentation will be based.

Consider collecting information from as many different types of sources as possible, including, for example:

- Newspapers - journals – periodicals.
- Directories - dictionaries – technical reference books.
- Books - theses – articles.
- Government - the Internet.
- Local government publications

The quality of your presentation may reflect the range and quality of information you have gathered. A poor presentation is often a result of a lack of preparation and inadequate information gathering. On the other hand, too much information can lead to confusion and feeling overwhelmed. It is important, therefore, to keep reminding yourself what you are reading for; **have the purpose of the presentation written down in front of you.**

### 4. Prepare the content and structure:

Once you have collected information from reading appropriate sources, you then need to start organising it into a logical structure. Consider doing this by summarising the notes that you have made to include all the relevant key points, then write the main points on cards and shuffle them until the best order emerges.

Once you have decided what material you are going to include, you then need to consider how you are going to structure the presentation. As a general rule, **all** presentations should contain the following:

- **The introduction:** In the introduction, you should include an outline of what you aim to cover in the presentation and the structure you will follow. At this stage, you also need to put the presentation into context, this is particularly important for audience members who are not familiar with the subject area. The introduction should also refer to the purpose of the presentation i.e. to inform, prompt debate, etc.
- **The main body:** The middle of the presentation is where the material is developed; the key issues are delivered in a logical order and each issue links with the next. You should aim to present the main points clearly and use ‘signposts’ such as ‘What I have just described illustrates...’, or ‘From this it is clear that...’. It is important to make it clear when you have finished talking about one subject and are moving onto the next.

- **The conclusion:** When closing the presentation, the main points you have made should be briefly summarised. In other words, repeat, in shorter form, what you have discussed in your presentation. It is important for the presentation to have a definite end rather than just drift indefinitely. This can be done by having a concluding statement or two, related to the objectives stated in the introduction, such as 'What I hope to have achieved this afternoon, through discussing these points..., is to have shown that...'.

## 5. Selecting presentation aids:

Visual aids can add something special to your presentation, provided they are used appropriately. They can help you to communicate ideas and information, and they have an immediate impact on the audience in providing detail and direction. Some research suggests that over 50 per cent of the impact in a presentation is down to what the audience sees; it is important, therefore, that you get the visual aspect of your presentation right.

Information presented visually is often more appealing and stimulating than the spoken word and is, thus, often remembered by the audience for longer. Consider using visual aids if you are nervous about presenting; the audience will look at them rather than at you, which may make you feel less self-conscious.

In choosing which type of visual aid to help support your presentation, you need to first think about what you want to do. If you are leading a brainstorming session or discussion, a flipchart, white/blackboard and/or an OHP will be more suitable than more technical visual aids, such as a slide projector or a video. The content of your presentation is more important than the visual aids; you should choose the ideas you want to present first and then the visual aids which best illustrate them.

Before the day of the presentation, make sure that you are familiar with the equipment you are going to use, particularly technical apparatus and computing equipment. Make sure you know what to do if the equipment fails – do you know who to contact if it breaks down? Can you repair it yourself? Have a contingency plan just in case the equipment either breaks down or simply isn't available; have copies of the slides/acetates in the form of handouts. Above all, keep the visual aids **simple** and don't use too many – the visual aids should accompany your presentation, not dominate it. Don't include too much detail or too many words on a single acetate/slide. Use headings and/or bullets/numbering and use plenty of space; if the page is packed with information, the audience may have difficulty reading all the information. Use diagrams where possible to illustrate figures and never read out figures without the support of diagrams – the audience may have difficulty remembering this information without visual support. Finally, make sure that the visual aids can be seen by all members of the audience; check this before the presentation starts.

## 6. Rehearsing:

It is important to rehearse your presentation for a number of reasons. Running through your presentation will give you an idea of how long it will take; you may find that you severely under- or over-run. If you finish too soon, it may be because you don't have enough information. If you over-run, you may have too much material and will need to, selectively, omit some of it. Time the talk until it takes about the right amount of time.

Rehearsing your presentation may make you feel less anxious about presenting; the more you are familiar with the material, the more confident you should be. Practice with your visual aids and

make sure you are clear about the order in which they will appear. Consider recording your presentation and listening to it to help you to prepare.

If possible, rehearse in the room in which you will be presenting. Familiarising yourself with the surroundings will enable you to establish where the power points are, the light switches, and assess the lighting and temperature. If it is too dark and too hot, you will need to know how you can alter them; dull light and a hot room may make the audience drowsy and unable to concentrate.

**Some students find it easier and more comfortable rehearsing alone; others prefer to run through the presentation with others. Find out what works for you.**

### Giving the presentation:

When the day of the presentation arrives, remind yourself that most of the hard work has already been done – all you have to do now is survive the presentation! Make sure you arrive in plenty of time to check that the equipment is available and working, and organise your notes and any handouts. Take time to compose yourself and **think positively – you can do this!**

### Overcoming nerves:

Many students are nervous at the prospect of giving a presentation. This may be because they don't like the idea of being at the centre of attention or because they fear making a fool of themselves. There are very few people who are not nervous before (and during) a presentation, unless they are a seasoned presenter. If you are nervous about giving your presentation, there are a number of things you can do.

Rehearsing the presentation may help you to feel less nervous and more in control. Make sure that you understand the material that you are going to be presenting – if you don't understand it, the audience may pick up on this. Ask yourself what is the worst that could happen and try to prepare for each potential 'disaster'. For example, handouts in case the computer or projector stops working; having your notes close to hand in case you suddenly forget what you are talking about; a list of potentially awkward questions from the audience.

Try relaxation techniques to help you to settle down. Take several deep breaths, visualise a pleasant scene. It is likely that you will go into the presentation feeling tense if you have left the planning and preparation to the last minute. Take a drink of water with you to help if your mouth feels dry – a frequent experience of many presenters.

### Delivering the presentation:

Even if you feel that you have sufficiently planned and prepared for giving your presentation, it is likely that the first few minutes will be the hardest. However, it should become easier once you get going. Spend the first couple of minutes or so stating who you are and what you are going to talk about. Check with the audience that they can hear and see both you and the visual aids. The process of checking these things should make you feel more relaxed and in control. Have a watch or clock in sight so that you can keep within the time limit. Running over the time limit will leave other speakers (if there are any) with less time for their own contributions. The audience will also appreciate punctuality.

Inform the audience whether they can ask questions during the presentation or just at the end. If you are presenting for the first time, you may find it easier for questions to be addressed at the end; interruptions during the presentation may make you lose track of what you are saying and, thus, may make you feel more nervous. ***Do whatever feels right for you.***

Some students find that memorising their introduction helps get them off to a good start. Knowing exactly what you are going to say may make you feel less anxious. The first few minutes of the presentation are crucial; the audience will form an impression of you which is unlikely to change throughout the remainder of the talk. Therefore, you need to give a good impression at the beginning by demonstrating that you know what you are talking about and showing that you are confident (even if you don't feel it).

Many presenters make mistakes – they are human after all! Although it may seem like a disaster, most mistakes will not even have been noticed by the audience. If you lose your place, say something like 'I seem to have lost my place, can you bear with me for a few seconds...'. Take a deep breath, look at your notes, then carry on. If you find that you forget what you are saying, ask the audience to help you. This will also show whether or not they are paying any attention to what you are saying!

You may find that while presenting, you are interrupted by a latecomer, mobile phone or talking amongst audience members. Try not to let this affect your talk – acknowledge, rather than ignore, the interruption, and continue with the presentation. Don't make an issue of it even though it may have disrupted the session.

### **Verbal language:**

How you deliver your presentation is an important issue; you should aim to talk **to** the audience, not **at** them. If you talk to the audience, you are more likely to engage them; talking at them may leave them feeling patronised or simply bored. You need to pay attention, therefore, to the pace of your speech, tone of your voice, the emphasis on words, and the volume. Speak as clearly as you can. Slow down your speech so that the audience can keep pace with you. Vary the pace and rhythm of your speech to avoid a monotonous tone. Check that members of the audience seated furthest away can hear you; if not, speak up.

Make sure that you use language that is appropriate for the audience – take care not to offend or patronise them. Don't use emotive or abusive language, such as slurs against religious, political, racial, or any other minority or vulnerable group. This may arouse distrust, resentment, or other negative reactions.

### **Non-verbal language:**

As well as communicating verbally, we also communicate to others through our body language. It is advisable, therefore, to pay attention to how you come across to the audience. Look at the audience as much as possible in order to keep them engaged with the presentation. Eye-contact will encourage the audience to give you their full attention, and you will find it easier to judge how well (or badly) you are being received. Try to look at all members of the audience, not just those at the front or on your side of the room. If you lose eye contact, you risk losing their interest. Be aware of your posture; try to avoid slouching or stooping. By standing, or sitting, upright, you will give your

voice a better chance of being carried through the room. Make sure that you are comfortable; being uncomfortable may affect your performance. Try to keep relatively still – continual shuffling or fidgeting may distract the audience.

Smile at the audience. Don't try to imitate a Cheshire cat, but attempt to come across as friendly and approachable. If people smile back, this may be a sign that they are listening to your talk and interested in it.

### Closing the presentation:

Towards the end of the presentation, you should aim to summarise the main points raised throughout. Make it clear that you are approaching the close of the presentation, and stick with this – don't go on for another twenty minutes. Thank the audience for their attendance, the chairperson (if there was one) and anyone else who helped.

If possible, ask the audience for feedback on the content of the presentation and, in particular, your performance. If appropriate, you could ask for comments, for example, on the style of your delivery, any mannerisms you have but are not aware of, and the quality of the visual aids used. Try not to feel hurt if the comments are generally negative – they are only the views of others but consider them and how you might improve for the next presentation. If there are no questions, gather your material and leave centre stage calmly.

### Handling questions:

If you are asked questions at the end but don't know the answer, **say so**. You are not expected to know everything. If the individual insists on an answer, inform them that you will attempt to find out and get back to them later. If you don't understand a question, do not ask for it to be repeated; the audience member will probably just repeat it in the same words and you will be none the wiser. Say something like 'I don't follow your question. Can you expand a little on what you are asking?'





