

MACQUARIE
UNIVERSITY



FACULTY OF
SCIENCE

UNIT GUIDE
GEOS112
THE PLANET EARTH
2012 SESSION 1



MACQUARIE UNIVERSITY
FACULTY OF SCIENCE
Department of Earth and Planetary Sciences
Department of Environment and Geography

UNIT GUIDE, GEOS112

Year and Session: 2012 Session 1

Unit convenor: A/Prof. Simon George

Prerequisites / Corequisites: None

Students in this unit should read this unit guide carefully at the start of session. It contains important information about the unit. If anything in it is unclear, please consult one of the teaching staff in the unit.

ABOUT THIS UNIT

The Planet Earth is a broad-ranging unit that is intended to give you an overview of the character of our planet. To do this we integrate elements of environmental science, geography, geology, and geophysics; yet the unit assumes no prior specific scientific background. For those pursuing environmental or earth science, this unit provides a firm foundation for future studies. Students interested in other sciences will find The Planet Earth both relevant and interesting. For those more interested in the humanities, the unit will provide a vivid picture of our physical environment. Whatever your interests, you should find this a stimulating unit.

Credit points: 3

A Pass grade or better in The Planet Earth can be used as a prerequisite for several 200-level units in the Department of Environment and Geography and the Department of Earth and Planetary Sciences. These are: The Atmospheric Environment (ENVE216); Introduction to Field Geology (GEOS226); Earth Surface Processes (ENVE266); Introduction to Geophysics (GEOS205); and others.

TEACHING STAFF

Name	Room	Telephone	Email	Consultation Hours	Module
Convenor					
A/Prof Simon George	E7A 519	02 9850 4424	simon.george@mq.edu.au	Anytime	Module 4: The Biosphere
Other Staff					
Dr Dick Flood	E7A 508	02 9850 8370	richard.flood@mq.edu.au	Anytime during module	Module 1: The Solid Earth
Dr Paul Beggs	E7A 604	02 9850 8399	paul.beggs@mq.edu.au	Anytime during module	Module 2: The Climate System
Dr Kira Westaway	E7A 632	02 9850 8429	kira.westaway@mq.edu.au	Anytime during module	Module 3: Surface Processes

CLASSES (DAY (D) STUDENTS)

- There are two 1 hour lectures each week. These are on Tuesdays from 12-13 in E7B MASON, and Thursdays from 10-11 in E7B MASON. You need to attend both.
- Both lectures each week will be recorded by iLecture (links from iLearn). We strongly suggest that you use this as a revision aid, and not a reason to stay away from lectures. Our experience is that internal students benefit greatly from attendance at the live lectures.
- There is a one 2 hour practical each week. Practicals are in E5A 230. There are 15 possible practical classes. The timetable for the classes can be found on the University web site at: <http://www.timetables.mq.edu.au/>
- Practicals and lectures start in Week 1 (27 Feb to 2 March), please come along, it is important to start straight away! Note that this first week of study is also termed O-week.
- You may not change practical classes once session 1 begins unless you have permission from the unit convenor.
- It is an assessment requirement of this unit that all students attend practical classes. You may only do the true/false tests in the practical classes.
- Due to Good Friday (6/4/12) being a public holiday in Week 6 of semester, students in the Friday practicals must attend one of the other practical classes that week.
- Due to Anzac Day (25/4/12) being a public holiday in Week 7 of semester, students in the Wednesday practicals must attend one of the other practical classes that week.

CLASSES (DISTANCE EDUCATION (EXTERNAL) (X) STUDENTS)

- There are 2 x 2 day on-campus sessions.
- These are 24 and 25 March 2012 and 12 and 13 May 2012.
- It is an assessment requirement of this unit that external students attend the on-campus sessions. Your practical performance assessment will be based in part on your participation at the on-campus sessions.

REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS

- The prescribed textbook for the unit is:

Merali, Z. and Skinner, B. J. 2009. *Visualizing Earth Science* (1st Edition). Wiley, National Geographic

This textbook may be purchased from the Co-op Bookshop, together with the GEOS112 Practical Manual. It is essential that you purchase these before or during the first week of session.

It is also essential that you spend some time becoming familiar with the textbook - the index, glossary and layout, at the beginning of the unit. It covers most of the aspects we shall be studying, some in greater detail than is required. Thus, you should read the sections which are related to the lecture and practical material covered each week. You need to use your own initiative to pick out the appropriate parts, and hopefully you will find it of interest to read "around" these parts as well (e.g. the ["closer look", "guest essay"] categories in the book).

- The prescribed unit material is the:

GEOS112 Practical Manual.

It may be purchased from the Co-op Bookshop. It is essential that you purchase this before or during the first week of session.

- You should find the following recommended textbooks helpful for reference. They should provide useful supportive material to the lectures and practicals, and supplement the prescribed textbook. Most or all of them should be available in the "Reserve" section of the Library.

Christopherson R. W. 2005. *Geosystems: An Introduction to Physical Geography* (5th edition). Pearson Prentice Hall, Upper Saddle River.

Cowen R. 2005. *History of Life* (4th edition). Blackwell Scientific Publications, Boston.

Cox C. B. & Moore P. D. 2005. *Biogeography: An Ecological and Evolutionary Approach* (7th

- edition). Blackwell Science, Malden, Ma.
- Grotzinger J. P. & Press F. 2007. *Understanding Earth* (5th edition). W. H. Freeman, New York.
- Hamblin W. K. & Christiansen E. H. 2004. *Earth's Dynamic Systems* (10th edition). Prentice Hall, Pearson Education, Upper Saddle River.
- Monroe J. S. & Wicander R. 2005. *Physical Geology: Exploring the Earth* (5th edition). Brooks/Cole-Thomson Learning, Pacific Grove.
- Montgomery C.W. 1993. *Physical Geology* (3rd edition). Wm. C. Brown, Dubuque.
- Open University. 1989. *Ocean Chemistry and Deep-Sea Sediments*. Pergamon Press, Oxford.
- Parry M., Canziani O., Palutikof J., van der Linden P. & Hanson C. eds. 2007. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge.
- Prothero D. R. 2004. *Bringing Fossils to Life. An Introduction to Paleobiology* (2nd edition). McGraw-Hill, Boston.
- Skinner B. J., Porter S. C. & Park J. 2004. *Dynamic Earth: An Introduction to Physical Geology* (5th edition). Wiley, Hoboken.
- Solomon S., Qin D., Manning M., Marquis M., Averyt K., Tignor M. M. B., Miller Jr H. L. & Chen Z. eds. 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge.
- Sturman A. P. & Tapper N. J. 2006. *The Weather and Climate of Australia and New Zealand* (2nd edition). Oxford University Press, Melbourne.
- Tarback E. J. & Lutgens F. K. 2005. *Earth: An Introduction to Physical Geology* (8th edition). Pearson/Prentice Hall, Upper Saddle River.
- Taylor P. D. ed. 2004. *Extinctions in the History of Life*. Cambridge University Press, Cambridge, U.K.; New York.

The Library

Because of the large number of students enrolled in this unit, the facilities and materials of the Library will be fully extended. For your own sake and for others please do not leave your use of these facilities until the last minute. The Library is open for very liberal hours (day, evening and weekends) so there should be plenty of opportunity to find materials. When borrowing books, please return them quickly so that others also have access to them. It is extremely important that you become an efficient library user. Find out quickly how it works and organise your time properly. Do not assume you know how to use the Library and do not be embarrassed about asking. Library tours and Library staff are freely available for your consultation.

GEOS112 UNIT WEB PRESENCE: ILEARN AND ILECTURE

Public page: <http://www.eps.mq.edu.au/GEOS112.htm/>

The iLearn web page for this unit can be accessed from here: <http://ilearn.mq.edu.au>

A link in here leads you to the iLecture content for geos112.

Accessing the Web Site: Usernames and passwords

Usernames

Your iLearn username will be your standard Macquarie **Student OneID Number** (an 8-digit number found on your Campus Card).

Open University Australia students will find your **Student OneID Number** in the Confirmation of Enrolment letter included with your Macquarie study package.

Passwords

You will use your OneID password for your iLearn online units.

When you have finished using the web site you must **log out**, or **exit** or **quit** your browser. To log out of iLearn, click the 'logout' link near the top right of the screen. If you don't log out, or exit or quit your browser, other people can continue to use your account which means they can use your mail, discussions and other course tools.

iLearn Communication Tools

The unit iLearn page includes three messaging tools, the Announcements tool, the Discussions forum and the Dialogue tool. In the Announcements Forum, the teaching staff will make unit-wide announcements. These will mostly concern administrative matters (Please note: Students cannot post in this forum). All participants are subscribed to this forum and will automatically receive email notification of these important announcements. The Discussions forum is used for messages that either everyone enrolled or selected groups in an online unit can read. Students and lecturers can post and reply to these messages. The Dialogue tool is used for private messages between you, your lecturer and students in a unit. It is suggested that you check for new discussion and mail messages at least once a week.

LEARNING OUTCOMES

When you have completed this unit, you will be expected to understand how our planet works and how its major components interact, and so be in a better position to evaluate environmental issues and come to more meaningful conclusions about them. You will also develop an understanding of the scientific method and be better equipped in the use and synthesis of available information. The unit also builds on the skills needed to present ideas and the supporting evidence clearly in written and verbal form.

In addition to the discipline-based learning objectives, all academic programs at Macquarie seek to develop students' generic skills in a range of areas. One of the aims of this unit is that students develop their skills in the following:

Foundation skills of literacy, numeracy and information technology;
Self-awareness and interpersonal skills;
Communication skills;
Critical analysis skills;
Problem-solving skills;
Creative thinking skills.

TEACHING AND LEARNING STRATEGY

- The unit is taught primarily through lectures and practicals.
- Students are expected to attend all lectures (or listen to recorded lectures and view lecture graphics if an external student); revise lecture material weekly and ahead of weekly practical; read practical notes prior to weekly practical; attend all practicals (or the two on-campus sessions if an external student); participate in practicals; read from the textbook and other sources. As it is a 3 credit point unit, you should spend about 9 hours each week on this unit (including lecture and practical contact hours).
- A week-by-week list of the topics to be covered appears at the end of this unit guide.

Effect of excessive paid work and other activities on student progress and success

- Several studies on student progress have demonstrated that excessive hours of paid work and/or other activities, especially regular commitments, can have a detrimental effect on successful completion of studies. As stated in the Handbook of Undergraduate Studies (Glossary of Terms, "credit point") the number of credit points for each unit reflects the amount of work required, and each credit point has an expectation of 3 hours of work (this includes both in class and out of class study).
- If you are undertaking an average full-time program of study, i.e. 12 credit points in a session, then you should expect to undertake 36 hours of work. Care should be taken with additional regular commitments to ensure that you are not overloading yourself. Options might include cutting back on outside commitments during the session or reducing the number of units you undertake.

RELATIONSHIP BETWEEN ASSESSMENT AND LEARNING OUTCOMES

A number of modes of assessment are used in this unit (true/false tests; essays; examination). These are designed to evaluate the discipline-specific and generic learning outcomes of the unit. The true/false tests are designed to encourage you to revise the lecture material on a weekly basis and therefore develop your understanding of how our planet works. The first assignment is a short piece of written work early on in session with a low weighting, which will enable you to get early feedback on answering a question and on referenced writing. The rationale for the two essays is several fold,

including: to encourage you to develop your understanding of how our planet works and how its major components interact; and to develop skills of literacy, information technology, etc. Finally, the examination is designed to evaluate your understanding of the planet Earth.

ASSESSMENT

Assessment Tasks	Weighting (%)
True/False Tests	20
Assignment 1: Evaluate the evidence	5
Assignment 2: Essay on Plate Tectonic Model	10
Assignment 3: Essay on dust storms	20
Examination	45

Note that it is not a requirement of GEOS112 that a pass mark be obtained in the exam in order to pass the unit.

True/False Tests

There are a total of 12 true/false tests. They are completed in the practical sessions in Weeks 2-13 for day students. It is compulsory that the quizzes are undertaken during your practical class, usually in the last 10 mins. The quizzes are done by you alone, closed-book. The distance education students will be instructed when to do the quizzes for each practical at the on-campus sessions.

Each true/false test comprises 20 questions, based on **prior lecture material** and **practical material** for that week. Your overall true/false test assessment will be based on your best 10 individual true/false test results. If you do not complete a true/false test in its scheduled week you will receive 0/20 for that individual true/false test.

Assignments

The titles of the three assignments can be found at the end of this section. **It is important that you meet the deadlines for submission.** There will be a penalty of 5% of the total mark per day (or per weekend) late, unless there is a case of misadventure. This needs to be documented, and in the case of illness, supported by medical certificates. All requests for extensions must be made to the unit convenor, A/Prof Simon George (if A/Prof Simon George is not available, then Dr Flood (assignments 1 and 2) or Dr Beggs or Dr Westaway (assignment 3) may also be consulted regarding extensions). Requests for extensions must be made prior to due dates if at all possible.

Assessment Criteria for Essays

The main criteria against which essays will be assessed include:

- The structure of the essay, including an easily identifiable introduction, discussion, and conclusion.
- Demonstration of a clear understanding of the question.
- A logical, clear, and concise description and discussion of the topic.
- The use of, and quality of, figures and tables.
- The quality of references used, and the accuracy of within text references and the Reference list.
- The accuracy of spelling and grammar.
- Adherence to the presentation guidelines in the Unit Guide (particularly point 4(ii)).

Assignment 1: Evaluate the evidence

Heat can be transferred from regions that are hot to those that are cool by conduction, convection and radiation. What evidence would indicate the importance of each of these processes in the transfer of heat from the inner core to the surface of the planet?

Word limit: 500 (one A4 page at font 12)

Do not include Figures, but do have a list of references (between 2 and 4; at least one to be a printed book or peer-reviewed journal article). Advice on referencing is given below.

Due date: Tuesday 13 March 2012 12noon

Proposed date for return of marked assignment: Tuesday 20 March 2012

Assignment 2: Essay on composition and internal structure of the Earth

In the scientific method it is important to distinguish between observations (“facts”) and the inferences (models, theories) drawn from these observations. Document the observations and the related inferences that have been used to build the presently accepted model for the composition and internal structure of the Earth. In doing this, clearly distinguish the observations from the inferences, while clearly linking the relevant observation with the inference stemming from it.

Word limit: 1200 (does not include Figures and list of references)

Due date: Tuesday 3 April 2012 12noon

Proposed date for return of marked essay: Tuesday 24 April 2012

Assignment 3: Essay on dust storms

Remote sensing of the Earth's atmosphere and surface by satellites has enabled scientists to make new discoveries about these systems in recent years. One such discovery is the nature and extent of major wind erosion events, with dust blown far from its source region. Such events are an excellent, interesting and important example of the interaction between the atmosphere and the land surface. This assignment requires you to write an essay describing the dust storms that have been observed over Africa and the Atlantic Ocean. Your essay should outline the causes of such dust events and the natural and anthropogenic factors which affect them. It should also outline the influence of such dust

events on regional climate, including the influence on the atmosphere's albedo and sea surface temperatures.

You should draw on a range of information sources for this essay, including of course the textbook and GEOS112 lectures and practicals where appropriate. Other useful sources may include the following:

Mulitza S, Heslop D, Pittauerova D, Fischer HW, Meyer I, Stuat J-B, Zabel M, Mollenhauer G, Collins JA, Kuhnert H, Schulz M. Increase in African dust flux at the onset of commercial agriculture in the Sahel region. *Nature* 2010;466:226-228.

The US National Aeronautical and Space Administration's (NASA) web site:

<http://www.nasa.gov/home/index.html>

Word limit: 1500

Due date: Tuesday 22 May 2012, 12noon

Proposed date for return of marked essay: Thursday 7 June 2012

Submission of assignments

All students must submit their three assignments in two ways: (1) Hard copy, and (2) by Turnitin.

(1) Hard copy

Internal Students:

All 3 assignments must be submitted to the appropriate assignment box for GEOS112. Assignment boxes are located in the reception area of the Science Centre (Room 101), which is on the ground floor at the western end of building E7A. The Centre opens from 8.30am to 5.30pm on Monday to Friday. Campus maps are available at:

http://www.mq.edu.au/on_campus/maps/

All 3 assignments are to be submitted in hard copy by 12.00 noon on the date specified and must include a completed and signed coversheet stapled to the front cover. The Assignment Cover Sheet can be downloaded from the Faculty of Science web site:

<http://web.science.mq.edu.au/intranet/lt/barcode/coversheet.php>

Distance Education (External) Students: All essays must be submitted by the due date through the Centre for Open Education. and must include a completed and signed coversheet attached to the front cover. Submission by email to the Centre for Open Education is supported. The Assignment Cover Sheet can be downloaded from the Faculty of Science web site:

<http://web.science.mq.edu.au/intranet/lt/barcode/coversheet.php>

(2) Turnitin (all students):

In addition to hard copy, all three assignments are to be submitted using Turnitin. Macquarie University promotes student awareness of information management and information ethics. As well as training and the provision of general information, the University tackles the issue of plagiarism through use of an online plagiarism detection tool (Turnitin). This software is used in conjunction with a set of procedures to ensure its

use is equitable. The text of all three assignments for GEOS112 will be submitted to Turnitin via the Internet as part of the submission process for your assignment. **HOWEVER, YOU MUST ALSO SUBMIT A COMPLETE HARD COPY OF YOUR ASSIGNMENTS AND COVER SHEET AS DESCRIBED ABOVE in (1).**

Turnitin automatically compares your work to the work of your classmates, previous students from Macquarie and other universities, with material available on the Internet, both freely available and subscription-based electronic journals. The results will be sent only to your lecturer, who will analyse these in reference to the University's standard Policy on Plagiarism.

Turnitin Procedure

1. Visit Turnitin: <http://www.turnitin.com> and create a user profile (if you don't have one already). "Create account" is top right under box labelled "email". You may do this from any computer. Select the user type 'student' and enter your university email address.
2. Once you are set up with a profile, login (top right at <http://www.turnitin.com>) The class ID is 4652769. The password for GEOS112 is "geos112mac" (all lowercase, one word).
3. Upload your assignment. You can copy the text from your assessment task and paste it into the text box, or you can link to a local file for upload. A digital receipt will be generated. Please save a copy of it.

For help or more detailed instructions on turnitin:

http://turnitin.com/resources/documentation/turnitin/training/en_us/qs_student_en_us.pdf

Help on presentation of Essays (Assignments 2 and 3)

You are required to research, prepare and write essays at the standard expected at tertiary level. Since most of what you learn is tested in written assignments, essays and examinations, it is essential that you learn to write effectively. Organisation is the key to achieving this, and the following steps should assist you.

1. Preparation

- (i) Determine what is required in the essay. Make sure you understand each word used to ensure that you are writing to the topic set, not to one of your own invention.
- (ii) Read the relevant chapters in Merali and Skinner (2009) and generate a list of key words which will help you to locate other references in the Library. Do this early. Remember - The Planet Earth is a large unit and reference books may be hard to find if you leave your Library research too late. (See recommended texts on p. 4-5)
- (iii) Do not use dictionaries or encyclopaedias as your primary information source for your essay. The quality of information available on the internet varies

considerably. As such, you should be particularly selective in your use of internet sources, and avoid using them as your primary information source. Your essay reference lists may be made up of no more than 25% internet references.

- (iv) When taking notes from a reference, always note the bibliographical information (see 3 (vi) below) and Call Number. If you write down a quotation, take a note of the page it was on. There is nothing more frustrating than having to look back through a book for one sentence.
- (v) You are allowed to discuss the essay topics with other students BUT you must write the essays yourself.

2. **The Outline**

- (i) The Introduction. In this section you will define terms and outline your approach to the topic.
- (ii) The Discussion. This section is for explanation and discussion of the topic. It may help to write down a list of major points which will become your paragraphs, so that you can arrange your notes under each point.
- (iii) The Conclusion. This is not a reiteration of the discussion but a summary statement which rounds off the essay.

3. **The Draft/s** (at least one - more probably two or three)

- (i) Keep referring back to the question - have you strayed from the topic?
- (ii) Single sentences or paragraphs should not express too many ideas. A logical development of your theme should be the aim throughout the essay.
- (iii) In your initial draft, do not worry too much about the word limit. It is a simple matter to cut down extraneous or repetitive material in subsequent rewrites - in fact, this should be your aim.
- (iv) Support your statements with facts and references.
- (v) References: quotations should be used only if the point being made is vital to your argument and if you could not express it better yourself. If you paraphrase, you must acknowledge your authority as you would when quoting directly - after the paraphrased section or quotation, i.e., (Merali and Skinner, 2009, p. 293). Make sure you document this reference in your list of References. Remember, **PLAGIARISM IS CHEATING!**

Scientific papers can reference the information gained from various sources in a few different styles but in earth and environmental sciences one method is used by most journals and it is that method that MUST be used in the two essays. This is the author-date system (also known as the Harvard system). The description below should be adequate for your essays, but if further examples are required, they can be found in the Australian Journal of Earth Sciences.

Within the text there are a number of different ways in which a reference can be given, as illustrated in the following examples.

*An example of a direct quote: **Brown et al. (1990 p. 12) conclude that ‘the depth to the Moho under the oceans is less than under the continents’.***
Note that for a direct quote the page must be cited.

*An example of a general acknowledgement of the source of information: **As explained by Laing (1991) the mid ocean ridges are etc.***

*An example of a more specific reference but not a direct quote: **The distribution of Tertiary volcanism in eastern Australia (Johnson 1990) can be used to infer etc.*** From this the reader would conclude that Johnson (1990) provided information on the distribution of...

*An example of a more general reference to sources: **Most older textbooks in geology (e.g. Rastal 1941; Stamp 1938) either ignored the deep ocean basin deposition or etc.***

Only those sources referred to in the text of the essay should be listed in the reference list at the end of the essay. In the reference list the items are presented in the way shown in the examples given below (in Section (vi)).

- (vi) All references must be clearly documented at the end of your essay.

For a book, the information expected is -

Author(s)
Year of publication
Title
Edition (if not 1st)
Publisher
Place of publication

See the books listed on pages 4 and 5 for the recommended format for the presentation of book references.

For a chapter in an edited book, give:
Chapter author(s)

Year of publication
Chapter title
Book editor(s)
Book title
Edition (if not 1st)
Chapter page numbers
Publisher
Place of publication

e.g. Thomas D. S. G. 2005. Late Quaternary environmental history of the southern deserts. *In: Smith M. & Hesse P. eds. 23°S: Archaeology and Environmental History of the Southern Deserts*, pp. 14-28. National Museum of Australia Press, Canberra.

For a journal article, give:

Author(s)
Year of publication
Article title
Name of journal
Volume number
Page numbers.

e.g. Kump L. R., Brantley S. L. & Arthur M. A. 2000. Chemical weathering, atmospheric CO₂, and climate. *Annual Review of Earth and Planetary Sciences* **28**, 611-667.

For the world wide web, give:

Author(s)
Year of publication
Title of page
Date retrieved/accessed (e.g. 19 April 2009)
URL (web address)

e.g. Bath M. & Deguara J. (no date provided). *Australian Severe Weather*. Retrieved: 28 November 2008, from <http://www.australiansevereweather.com/>.

For a book, the title is in italics; for a journal, the name of the journal.

(vii) Figures and Tables. Not only are figures (such as maps and diagrams) permitted in these essays, THEY ARE EXPECTED. Label each of your figures Figure 1, Figure 2, etc., and each of your tables Table 1, Table 2, etc., but make sure they are referred to in the text before they appear, e.g., **As shown in Figure 1, the midocean gyres in the Southern Hemisphere etc.** Figures that you include but do not mention in the text of your essay are of no value. A caption should appear below every figure and above every table. If you use a figure or table from

a reference, the source should be acknowledged at the end of the caption e.g. **(taken from Merali and Skinner (2009), Figure 4.14, p. 119)**. (There is no point in laboriously copying such figures, just put in a photocopy or a scan).

4. The Final Product

- (i) If possible, allow a few days between writing your final draft and the finished essay, to allow you to critically read and edit it. There is a danger that if it is too fresh in your mind, you will read what you think is there rather than what you have actually written. Read your final draft through several times - once for fluency and clarity of ideas, once to check the within text references and the References list, and once to check the Figures and Tables and references to them. You should use your word processor's spelling and grammar tool, but also check your punctuation and spelling as you read through the draft to pick up anything your word processor has missed (e.g., scientific terms that may not be in the spell checker dictionary, or words such as 'there' and 'their'). Refer to an authority such as the following for clarification of problems: Australian Government Publishing Service 2002. *Style Manual for Authors, Editors and Printers* (6th edition). John Wiley & Sons, Milton.
- (ii) It is expected that your essays will:
 - be word processed;
 - be on A4 paper written on one side only;
 - have double line spacing;
 - have 3 cm margins top, bottom, left, and right;
 - use 12 point font size;
 - have page numbers inserted;
 - have a title at the beginning; and
 - have your name on each page.
- (iii) Submit your essay on or before the due date.

Now perhaps, you can see how important it is to start the whole process early if you are to do a good job. If you are having problems along the way, consult your tutor, and consult a how-to-do-it text, such as:

Hay I. 2006. *Communicating in Geography and the Environmental Sciences* (3rd edition). Oxford University Press, Melbourne.

for information on essay writing, examinations, studying, etc.

Examination

The University Examination period in First Half Year 2012 is from Tuesday 12 June 2012 to Friday 29 June 2012.

You are expected to present yourself for examination at the time and place designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations.

<http://www.timetables.mq.edu.au/exam>

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. All students are expected to ensure that they are available until the end of the teaching session, that is, the final day of the official examination period.

The examination consists of two sections. Section A comprises 10 short-answer questions. Section B consists of 4 problems, one from each module of the unit.

SPECIAL CONSIDERATION

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. The following is a link to the University's Special Consideration Policy. You are required to read this policy at the start of this session:

http://www.mq.edu.au/policy/docs/special_consideration/policy.html

If a Supplementary Examination is granted as a result of the Special Consideration process the examination will be scheduled after the conclusion of the official examination period.

There is a procedure for appealing against final unit grades and a mechanism for solving problems like illness during the unit. We refer you to the University *Handbook of Undergraduate Studies* for details and suggest that you discuss these sorts of problems with the Unit Convenor in the first instance.

ACADEMIC HONESTY AND PLAGIARISM

The following is a link to the University's Academic Honesty Policy. You are required to read this policy at the start of this session.

http://www.mq.edu.au/policy/docs/academic_honesty/policy.html

The University defines plagiarism in its rules: "Using the work or ideas of another person and presenting this as your own without clear acknowledgement of the source of the work

or ideas." Plagiarism is a serious breach of the University's rules and carries significant penalties. The policy explains what plagiarism is, how to avoid it, the procedures that will be taken in cases of suspected plagiarism, and the penalties if you are found guilty. Penalties may include a deduction of marks, failure in the unit, and/or referral to the University Discipline Committee. GEOS112 uses turnitin to help monitor plagiarism (see section on assignments).

UNIVERSITY POLICY ON GRADING

Academic Senate has a set of guidelines on the distribution of grades across the range from fail to high distinction. Your final result will include one of these grades plus a standardised numerical grade (SNG).

On occasion your raw mark for a unit (i.e., the total of your marks for each assessment item) may not be the same as the SNG which you receive. Under the Senate guidelines, results may be scaled to ensure that there is a degree of comparability across the university, so that units with the same past performances of their students should achieve similar results.

It is important that you realise that the policy does not require that a minimum number of students are to be failed in any unit. In fact it does something like the opposite, in requiring examiners to explain their actions if more than 20% of students fail in a unit.

The process of scaling does not change the order of marks among students. A student who receives a higher raw mark than another will also receive a higher final scaled mark. Grades will not be awarded by reference to the achievement of other students nor allocated to fit a predetermined distribution.

For an explanation of the policy see:

<http://www.mq.edu.au/policy/docs/grading/policy.html>

STUDENT SUPPORT SERVICES

Macquarie University provides a range of Academic Student Support Services. Details of these services can be accessed at: <http://students.mq.edu.au/support/>.

Advice for students with disabilities/health conditions

The Disability Support Unit (DSU) provides support and assistance to students with a disability/health condition in aiming to ensure that they do not experience disadvantage in reaching their academic potential. Service provision is determined on a case-by-case basis following an assessment of a student's needs and the provision of supporting documentation. Service provision is also dependent on the availability of resources.

To register with ESU, download a Disability Service Registration form from:

http://students.mq.edu.au/campus_life/wellbeing/disability_support_unit/how_to_register/

This form must be completed annually, irrespective of whether a disability/health condition is temporary, long-term or permanent. Students wishing to request support services from the DSU should make an appointment to see a Disability Advisor immediately after enrolling at Macquarie University.

Telephone: 02 9850 6494

TTY: 02 9850 6493

Email: disability@mq.edu.au

In person: Level 2, Lincoln Building (C8A), Macquarie University

Website: http://students.mq.edu.au/campus_life/wellbeing/disability_support_unit/

Information on **student requests** is available on the Faculty of Science web site.

http://web.science.mq.edu.au/intranet/lt/admin/acad_advice.htm

CHANGES MADE TO PREVIOUS OFFERINGS OF THE UNIT

Compared to 2011, assignment 3 has been increased from 15% to 20%, and the unit exam decreased from 50% to 45%.

ON-CAMPUS SESSIONS FOR DISTANCE EDUCATION STUDENTS

These are the only times we meet face-to-face, so you have to be fully prepared to obtain the maximum benefit. To do this you will:

1. In the weeks prior to the first session (24-25 March 2012), listen to all the iLectures (and lecture graphics) for Module 1 and lectures of Module 2 that have been given (2.1-2.3), and do all the necessary background reading for Modules 1 and 2.
2. At the same time attempt the practicals for Module 1 in so far as you can. Tackling certain problems will only be possible with the materials and equipment available at the on-campus session - just omit these at this time.
3. In the weeks between the first session and the second on-campus session (12-13 May 2012), listen to the iLectures (and lecture graphics) for the lectures of Module 3, and do all the necessary background reading for Modules 3 and 4.
4. Attempt practicals for Modules 3 and 4 (similar to point 2 above).
5. Revise any difficulties you had in practicals carried out at the first on-campus session to ensure you have overcome these.

In order to complete the requirements for this unit it is compulsory to attend all the on-campus sessions. Absence means exclusion from the unit.

At the on-campus sessions, a day will be devoted to each of the modules and you will work through each of the practicals and discuss the problems with your tutor. Simple true/false test will be given on each of the 3-4 practicals covered each day in the last 10 mins of each time block. True/false tests for the practicals that cover material not covered so far in the lectures will be completed in the weeks following the on-campus sessions. Further details of these tests will be given at the on-campus sessions. These quizzes will not only provide the tutors with some idea of how you are progressing, but will be a guide to you as to your understanding of the readings and the lectures. It should be obvious from this that if you try to start the unit (without reading and listening to the relevant iLectures beforehand) on 24 March 2012, you will be at a distinct disadvantage! The unit starts on 27 February 2012 (or earlier if you have the material) and as it is a 3 credit point unit, you should spend about 9 hours each week on this unit (including on-campus session contact hours).

It also needs to be emphasised that the unit does not finish with the second on-campus session. There are another 4 weeks of term time which will give you enough time to revise everything. The first week could be used for going over everything from the second on-campus session, using the results of the true/false tests to locate your weaknesses. In the last three weeks you can then go through each of the modules again.

For the on-Campus sessions, food can be obtained at the Macquarie Centre, but to save a walk and time during the 40 min allocated break, we suggest that you bring your own lunch. Tea, coffee and biscuits will be provided.

First On-Campus Session, 24-25 March 2012

Saturday 24 March 2012

8.30-8:50 Sign Attendance Register (COE Front Office X5B Level 1).
Then proceed to E5A 230.

Module 1

9:00-10:30 Practical 1: Introduction; unit guide; unit web page; Garden Rocks

20 min break

10:50-12:40 Practical 2: Where things are and how fast they move.

12:40-1:20 LUNCH

1:20-3:10 Practical 3: Palaeomagnetism and wandering continents.

20 min break

3:30-5:20 Practical 4: Plate tectonics.

Sunday 25 March 2012: Proceed directly to E5A 230.

Module 2

9:00-10:30 Practical 5: Energy balance models of climate.

20 min break

10:50-12:30 Practical 6: Water in the Earth system.

12:30-1:10 LUNCH

1.10-2:50 Practical 7: Global climates.

2:50-3:30 Assignments and other matters.

Second On-Campus Session, 12-13 May 2012

Saturday 12 May 2012

8.30-8:50 Sign Attendance Register (COE Front Office X5B Level 1).
Then proceed to E5A 230.

Module 3

9:00-10.50 Practical 8: Geomorphic provinces.

20 min break

11:10-1:00 Practical 9: Surface processes - continental.

1:00-1:40 LUNCH

1.40-3:30 Practical 10: Sub-oceanic processes.

Sunday 13 May 2012: Proceed directly to E5A 230.

Module 4

9:00-10:50 Practical 11: (a) How to date rocks.
(b) The origin and development of life on Earth.

20 min break

11:10-1:00 Practical 12: Evolution, extinction and palaeogeography

1:00-1:40 LUNCH

1.40-3:30 Practical 13: Biogeography.

3:30-4:00 Exam and other matters.

GEOS112 LECTURE AND PRACTICAL TIMETABLE

Week	Lecture Dates	Lecturer*	Lecture Topics	Practical Topic
1	28 February 1 March	DF DF	Module 1: The Solid Earth 1.1 Welcome; Earth and its neighbours 1.2 The Deep Earth (earthquakes and structure)	Module 1 1. Introduction; unit guide; unit web page; Garden Rocks
2	6 March 8 March	DF DF	1.3 The Earth's crust (magnetism and gravity) 1.4 Moving continents (oceans the key)	2. Where things are and how fast they move
3	13 March 15 March	DF DF	<i>Assignment 1 due by 12noon 13th March</i> 1.5 Plate tectonic model Module 2: The Climate System 2.1 Origin of the atmosphere and oceans	3. Palaeomagnetism and wandering continents
4	20 March 22 March	PB PB	2.2 Planetary climates 2.3 Solar/terrestrial heat: vertical energy balance	4. Plate tectonics
First On-Campus Session for external students, 24-25 March 2012				
5	27 March 29 March	PB PB	2.4 Wind and water (horizontal energy flux) 2.5 Global climates	Module 2 5. Energy balance models of climate
6	3 April 5 April	PB PB	<i>Assignment 2 due by 12noon 3rd April</i> 2.6 Long term climate change 2.7 Climate change & the greenhouse effect	6. Water in the Earth system
2 Week Recess				
7	24 April 26 April	KW KW	Module 3: Surface Processes 3.1 Global geomorphic provinces 3.2 Epimorphism (weathering-leaching-clays)	7. Global climates
8	1 May 3 May	KW KW	3.3 Sediment transport & sediment highways 3.4 Mountains to the sea (drainage basins)	Module 3 8. Geomorphic provinces
9	8 May 10 May	KW KW	3.5 Landscape evolution: the timeless land? 3.6 The dark recesses of the oceans	9. Surface processes - continental
Second On-Campus Session for external students, 12-13 May 2012				
10	15 May 17 May	DF SG	Module 4: The Biosphere 4.1 Radioactivity and the age of the Earth 4.2 Life: the beginnings	10. Sub-oceanic processes
11	22 May 24 May	SG SG	<i>Assignment 3 due by 12noon 22nd May</i> 4.3 Evolution: the fossil record 4.4 Mass extinctions	Module 4 11. (a) How to date rocks (b) The origin and development of life on Earth.
12	29 May 31 May	SG SG	4.5 Biogeography 4.6 Natural Hazards and their Impacts	12. Evolution, extinction and palaeogeography
13	5 June 7 June	DF	4.7 Global cycles No lecture!	13. Biogeography and exam preparation

* DF – Dick Flood; PB – Paul Beggs; KW – Kira Westaway; SG – Simon George