



The University of Southern Queensland

Course specification

This version produced 20 Dec 2007.

The current and official versions of the course specifications are available on the web at
<<http://www.usq.edu.au/coursespecification/current>>.

Please consult the web for updates that may occur during the year.

Description: Global Environmental Systems

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
CLI	8204	63217	1, 2007	EXT	1.00	Toowoomba

Academic group:	FOSCI
Academic org:	FOS002
Student contribution band:	2
ASCED code:	010701

STAFFING

Examiner: Joachim Ribbe

Moderator: Andrew Le Brocque

RATIONALE

The notions of sustainable development and environmental management recognise the fact that humanity alters its living environment often in an irreversible manner. Global environmental systems such as ocean, atmosphere, and land mass interact with human socio-economic structures via a range of physical processes and over a wide range of temporal and spatial scales. The recent development of sustainability science provides an integrated and interdisciplinary approach that recognises that past efforts at sustainable development often took place without a robust scientific framework. Understanding how global environmental systems influence and respond to human impacts is a critical component of developing methodology and policy frameworks based on credible scientific knowledge. This course provides students with an understanding of the physical processes that link the global environmental systems and the modelling tools to support sustainable management of these systems.

SYNOPSIS

The course provides an overview of the dynamics of global environmental systems and how they influence and impact on human activities. It focuses in particular on the structure of the atmosphere and ocean, and the drivers of global climate that determine the composition of the natural environment. The important global data sets of the physical environment are introduced and key physical processes within the ocean and atmosphere, and the physical processes that link these to human systems are discussed. Models based upon sound scientific understanding of the physical mechanisms are introduced and their development into tools that provide credible scientific guidance in sustainable development and management are reviewed. The course concludes with a brief review of successful policy development and application guided by scientific knowledge. The course requires the student to have access to the internet.

OBJECTIVES

On completion of this course students will be able to:

1. demonstrate an understanding of the structure of global environmental systems in particular that of the atmosphere and ocean (Assignment 1; Exam);
2. integrate knowledge of the spatial and temporal scale over which physical processes operate into natural resource management (Assignment 1; Exam);
3. demonstrate an understanding of the linkages between environmental and socio-economic (Assignment 1; Exam);
4. discuss policy making decisions founded on a credible understanding of the key physical processes that shape our environment (Assignment 1; Exam).

TOPICS

	Description	Weighting (%)
1.	The Anthropocene Era	10.00
2.	The Earth System: Ocean, Atmosphere and Climate	30.00
3.	Climate & Natural Environment	30.00
4.	Global to Regional Scales	10.00
5.	Models and Other Decision Making Tools	10.00
6.	Credible Science and Good Policy	10.00

TEXT and MATERIALS required to be PURCHASED or ACCESSED

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at <http://bookshop.usq.edu.au> click 'Semester', then enter your 'Course Code' (no spaces).

REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

Barry, RG & Chorley, RJ 2003, *Atmosphere, weather and climate*, 8th edn, Routledge, London.

Siedler, CG, Church, J & Gould, J 2001, *Ocean circulation and climate*, Academic Press, San Diego.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Directed Study	52.00
Examinations	2.00
Private Study	116.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
ASSIGNMENT 1	40.00	40.00	15 Jun 2007
2 HOUR CLOSED EXAMINATION	60.00	60.00	END S1

IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:**

There are no attendance requirements for this course. However, it is the students' responsibility to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.
- 2 Requirements for students to complete each assessment item satisfactorily:**

To complete each of the assignments satisfactorily, students must obtain at least 50% of the marks available for each assignment.
- 3 Penalties for late submission of required work:**

If students submit assignments after the due date without prior approval then a penalty of up to 20% of the total marks gained by the student for the assignment will apply for each working day late.
- 4 Requirements for student to be awarded a passing grade in the course:**

To be assured of receiving a passing grade a student must submit all of the summative assessment items, and achieve at least 50% of the available weighted marks for the summative assessment items.
- 5 Method used to combine assessment results to attain final grade:**

The final grades for students will be assigned on the basis of the weighted aggregate of the marks obtained for each of the summative assessment items in the course.
- 6 Examination information:**

In a Closed Examination, candidates are allowed to bring only writing and drawing instruments into the examination.
- 7 Examination period when Deferred/Supplementary examinations will be held:**

Any Deferred or Supplementary examinations for this course will be held during the next examination period.
- 8 University Regulations:**

Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL <http://www.usq.edu.au/corporateservices/calendar/part5.htm> or in the current USQ Handbook.

ASSESSMENT NOTES

- 9 The due date for an assignment is the date by which a student must despatch the assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the Examiner. Students must retain a copy of each item submitted for assessment. This must be produced within five days if required by the Examiner. In the event that a due date for an assignment falls on a local public holiday in their area, such as a Show holiday, the due date for the assignment will be the next day. Students are to note on the assignment cover the date of the public holiday for the Examiner's convenience. Students who, for**

medical, family/personal, or employment-related reasons, are unable to complete an assignment or to sit for an examination at the scheduled time may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. One of the following temporary grades may be awarded IDS (Incomplete-Deferred Examination; IDM (Incomplete Deferred Make-up); IDB (Incomplete-Both Deferred Examination and Deferred Make-up).

- 10 A Course Assignment Cover Sheet must be signed by the student and attached to all assignments submitted for assessment. Failure to do so may result in the assignment not being marked.