



COURSE IMPLEMENTATION DATE: January 2008
 COURSE REVISED IMPLEMENTATION DATE: September 2012
 COURSE TO BE REVIEWED: May 2018
(six years after UEC approval) *(month, year)*

OFFICIAL UNDERGRADUATE COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.
 Shaded headings are subject to change at the discretion of the department – see course syllabus available from instructor

<u>GEOG 308</u>	<u>Geography</u>	<u>4</u>
COURSE NAME/NUMBER	FACULTY/DEPARTMENT	UFV CREDITS
Climate Change and Variability		
COURSE DESCRIPTIVE TITLE		

CALENDAR DESCRIPTION:

This course investigates the causes and characteristics of regional and global climate change and variability. The significance of understanding past climates and their reconstruction are addressed. Environmental and socio-economic impacts of climate change, policy responses to climate change, and mitigation and adaptation strategies are examined. Field trips outside of class time will be required. Please refer to department website for field trip scheduling information.

Note: Students cannot receive credit for both GEOG 308 and GEOG 401.

PREREQUISITES: GEOG 201
 COREQUISITES:
 PRE or COREQUISITES:

SYNONYMOUS COURSE(S):

- (a) Replaces: _____
- (b) Cross-listed with: _____
- (c) Cannot take: GEOG 401 for further credit.

SERVICE COURSE TO: *(department/program)*

TOTAL HOURS PER TERM: 75

STRUCTURE OF HOURS:

Lectures: 45 Hrs
 Seminar: _____ Hrs
 Laboratory: 30 Hrs
 Field experience: _____ Hrs
 Student directed learning: _____ Hrs
 Other (specify): _____ Hrs

TRAINING DAY-BASED INSTRUCTION:

Length of course: _____
 Hours per day: _____

OTHER:

Maximum enrolment: 25
 Expected frequency of course offerings: Once every other year
(every semester, annually, every other year, etc.)

WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only) Yes No
WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department) Yes No
TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE: Yes No

Course designer(s): <u>Steven Marsh</u>	Date approved: <u>March 26, 2012</u>
Department Head: <u>Michelle Rhodes</u>	Date of meeting: <u>April 13, 2012</u>
Supporting area consultation (Pre-UEC)	Date approved: <u>April 20, 2012</u>
Curriculum Committee chair: <u>Norm Taylor</u>	Date approved: <u>May 4, 2012</u>
Dean/Associate VP: <u>Ora Steyn</u>	Date of meeting: <u>May 23, 2012</u>
Undergraduate Education Committee (UEC) approval	

LEARNING OUTCOMES:

Upon successful completion of this course, students will be able to:

1. Demonstrate in written and oral form an advanced understanding of the global climate system.
2. Critically analyze both the scientific evidence and the scientific uncertainties associated with global climate change.
3. Describe and assess the potential impacts of global climate change and possible responses to them.
4. Navigate the contentious politics surrounding the debate over global climate change.
5. Explain the science behind reconstructing past climates.
6. Source and interpret climate observations and related collected from third party sources.

METHODS: *(Guest lecturers, presentations, online instruction, field trips, etc.)*

The format of the course typically includes lectures, assigned readings, class assignments, discussion groups, oral presentations, field trips, and guest speakers.

METHODS OF OBTAINING PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

Examination(s) Portfolio assessment Interview(s) Other (specify):

PLAR cannot be awarded for this course for the following reason(s):

TEXTBOOKS, REFERENCES, MATERIALS: *[Textbook selection varies by instructor. Examples for this course might be:]*

Houghton, John, 2004. Global Warming: The Complete Briefing. Cambridge University Press.
Hartmann, Dennis, 1994. Global Physical Climatology. Academic Press: San Diego.
Harvey, L.D.D., 2000. Climate and Global Environmental Change. Prentice-Hall: Toronto.
Archer, David, 2011. Global Warming Understanding the Forecast 2nd Edition. Wiley
Flannery, Tim, 2005. The Weather Makers. Harper Collins.
Weaver, Andrew, 2008. Keeping Our Cool. Canada in a Warming World. Viking Canada.
MacKay, A., R. Battarbee, J. Birks, and F. Oldfield (eds.), 2005. Global Change in the Holocene. Hodder Arnold.
Dyer, Gwynne, 2008. Climate Wars. Random House Canada.
Dessler, Andrew E., 2012. Introduction to Modern Climate Change. Cambridge University Press.
Griffiths, J., M. Rao, F. Adshear, and A. Thorpe, 2009. The Health Practitioner's Guide to Climate Change. Earthscan
Walker, G., 2003. Snowball Earth. London: Bloomsbury Press.
Oreskes, N. and E.M. Conway, 2010. Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming. London: Bloomsbury Press.

SUPPLIES / MATERIALS: None.

STUDENT EVALUATION: *[An example of student evaluation for this course might be:]*

Written and data handling assignments (4-5)	30-40%
Research Reports and presentation	15-25%
Exams	35-50%

COURSE CONTENT: *[Course content varies by instructor. An example of course content might be:]*

Week 1	Introduction to Climate Change and Variability
Week 2	Perception of Climate Change
Week 3	Natural Climate Change
Week 4	Change versus Variability
Week 5	Climates of the Past
Week 6	Palaeoclimatology and the Reconstruction of Past Climates
Week 7	Palaeoclimatology Continued
Week 8	The Carbon Theory of Climate Change
Week 9	Global Warming
Week 10	Future Impacts of a Warmer Climate
Week 11	Mitigation of Future Climate Change
Week 12/13	Adaptation to a Changing Climate