

UNIVERSITY OF CALGARY  
DEPARTMENT OF GEOSCIENCE  
**COURSE OUTLINE**

**1. Course: GEOLOGY 555 – GLOBAL TECTONICS**

Lecture Section:        L01                      MW                      14:00-15:15                      A 142                      WINTER 2014

**Instructor(s):**        Dr. R.K. Sasidharan Nair                      ES 152                      220-4823                      rnair@ucalgary.ca

Geoscience Department ES 118; (403) 220-5841; geoscience.ucalgary.ca

**2. PREREQUISITE(S):** Geology 443 or Geophysics 457

See section 3.5.C in the Faculty of Science section of the online Calendar (<http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html>)

**3. GRADING:** The University policy on grading and related matters is described in “Academic Regulations, sections F.1 and F.2” of the online University Calendar (<http://www.ucalgary.ca/pubs/calendar/current/f-1.html> and <http://www.ucalgary.ca/pubs/calendar/current/f-2.html>) In determining the overall grade in the course the following weights will be used:

Assignments, Review summary (lab)	15%
Quizzes (lab)	15%
Seminar Participation (lab)	10%
Lecture Midterm test	15% (Feb 24 2014)
Review Project (oral presentation)	10%
Review Project (Term Paper)	20%
Lecture Final Examination	15% (To be scheduled by the Registrar)

**Need to obtain a minimum of 50% in the lecture tests (mid-term and lecture combined) for a passing grade.**

Each piece of work (assignment, laboratory report, midterm test or final examination) submitted by the student will be assigned a percentage score. The student’s average percentage score for the various components listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade, bearing in mind that an F grade will result if the student does not pass the lecture exam component.

**4. Missed Components of Term Work.** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in section 3.6: <http://www.ucalgary.ca/pubs/calendar/current/sc-3-6.html>. It is the student's responsibility to familiarize himself/herself with these regulations. See also <http://www.ucalgary.ca/pubs/calendar/current/e-3.html>.

**5. Dates and times of class exercises held outside of class hours:** None

**REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.** If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.

6. **EXAMINATION POLICY:** No electronic or written aids (eg. cell phones, tablets, computers, PDAs, notes, textbooks) will be allowed during writing of any exams. Non-programmable calculators will be permitted to answer quantitative questions on exams, if applicable, and permission to do this will be clearly indicated on the examination paper.

Students should also read the Calendar, Section G, on Examinations: <http://www.ucalgary.ca/pubs/calendar/current/g.html>.

7. In this course, the quality of the student's writing in the literature review summary reports and the final project report will be a factor in the evaluation of those reports.

See also <http://www.ucalgary.ca/pubs/calendar/current/e-2.html>."

## 8. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- (a) **ACADEMIC MISCONDUCT** (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under K. Student Misconduct (<http://www.ucalgary.ca/pubs/calendar/current/k.html>) to inform yourself of definitions, processes and penalties
- (b) **ASSEMBLY POINTS in case of emergency during class time.** Be sure to **FAMILIARIZE YOURSELF with the information at** <http://www.ucalgary.ca/emergencyplan/assemblypoints>.
- (c) **ACADEMIC ACCOMMODATION POLICY.** Students with documentable disabilities are referred to the following links:  
Calendar entry on students with disabilities: <http://www.ucalgary.ca/pubs/calendar/current/b-1.html>  
Student Accessibility Services: [www.ucalgary.ca/access](http://www.ucalgary.ca/access)
- (d) **SAFEWALK:** Campus Security will escort individuals day or night <http://www.ucalgary.ca/security/safewalk/>). Call **220-5333** for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- (e) **FREEDOM OF INFORMATION AND PRIVACY:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, **students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page.** For more information see also <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **STUDENT UNION INFORMATION:** VP Academic **Phone:** 220-3911 **Email:** [suypaca@ucalgary.ca](mailto:suypaca@ucalgary.ca).  
SU Faculty Rep. **Phone:** 220-3913 **Email:** [sciencerep@su.ucalgary.ca](mailto:sciencerep@su.ucalgary.ca) Website <http://www.su.ucalgary.ca/home/contact.html>.  
Student Ombudsman: [www.ucalgary.ca/provost/students/ombuds](http://www.ucalgary.ca/provost/students/ombuds); [ombuds@ucalgary.ca](mailto:ombuds@ucalgary.ca) 220-6420
- (g) **INTERNET and ELECTRONIC COMMUNICATION DEVICE Information.** You can assume that in all classes that you attend, **your cell phone should be turned off.** Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.

UNIVERSITY OF CALGARY  
DEPARTMENT OF GEOSCIENCE  
COURSE OUTLINE

GEOLOGY 555  
GLOBAL TECTONICS

TERM: Winter 2014

PREREQUISITE(S): Geology 443 or Geophysics 457

LECTURER(S): Dr. R.K.. Sasidharan Nair      ES 152      220-4823      rnair@ucalgary.ca

LECTURE : L01      MW      14:00-15:15      A 142

LAB(S): B01, 02, 03, 04      R      08:00, 11:00, 14:00, 17:00      ES 242

TEXT:      Recommended: Global Tectonics, 3<sup>rd</sup> Edition by Philip Kearey, Keith Klepis, Frederick J. Vine, Wiley-Blackwell

RESERVE READING ROOM: N/A

MARK DISTRIBUTION: A.      Composition of Final Grade

Assignments, Review summary (lab)	15%
Quizzes (lab)	15%
Seminar Participation (lab)	10%
Lecture Midterm test	15% (Feb 24 2014)
Review Project (oral presentation)	10%
Review Project (Term Paper)	20%
Lecture Final Examination	15% (To be scheduled by the Registrar)

Students who are absent from the midterm exam because of illness or other unforeseen circumstances may be granted an excused upon presentation of adequate documentation (a completed Physician/Counsellor Report form <http://www.ucalgary.ca/registrar/PDFs/physcoun.pdf> for illness; equivalent documentation for other circumstances). There will be no “make-up” examinations for excused absences. The weight assigned to the midterm examination will be transferred to the final examination, which will be a cumulative exam.

Similarly, students who are unable to submit laboratory reports or assignments on time because of similar circumstances will be required to submit the same type of documentation to the Teaching Assistant.

B.      Final Exam

There will be a final examination scheduled by the Registrar's Office.

C. Components of Course for Which a Passing Grade is Essential

Students must achieve a passing grade (minimum of 50%) for the lecture exams (combined mid-term and final lecture exam) to pass the course.

D. Grading Scheme

Grade	Percentage
A+	>90
A	82-89
A-	76-81
B+	72-75
B	68-71
B-	64-67
C+	60-63
C	57-59
C-	54-56
D	50-54
F	<50

### GLGY555 Winter 2014 Tentative Lec-Lab-Exam Schedule

Week	Date M/W/F	Lec. No.	TOPIC	LABS
1	6-Jan		<b>No class</b>	<b>Meet , Greet and learn the rules</b>
	8-Jan	1	Course introduction and logistics	
2	13-Jan	3	Introduction to Tectonics; Heat Flow	Lab 1
	15-Jan	4	Plates: Geometry, motion and configuration	
3	20-Jan	6	Strength of Lithosphere (current models)	Lab 2
	22-Jan	7	Extensional Tectonics-grabens	
4	27-Jan	9	Extensional Tectonics-mid-ocean ridges	Lab 3
	29-Jan	10	Library research guidance session TFDL 440 a and d	
5	3-Feb	12	Passive margins	Lab 4
	5-Feb	13	Compressional Tectonics-subduction systems	
6	10-Feb	15	Compressional Tectonics-subduction systems	Lab 5
	12-Feb	16	Compressional Tectonics-accretionary Orogens	
7	17-Feb		<b>No lecture - Reading Week</b>	<b>No lab</b>
	19-Feb		<b>No lecture - Reading Week</b>	
8	24-Feb	18	<b>Mid-term exam</b>	<b>Lab 6</b>
	26-Feb	19	Compressional Tectonics-collisional orogens	
9	3-Mar	21	Compressional Tectonics-old orogens	Lab 7
	5-Mar	22	Transform margins	
10	10-Mar	24	Plumes and Hot Spots - oceanic	Lab 8
	12-Mar	25	Plumes and Hot Spots- continental	
11	17-Mar	27	Precambrian Tectonics-viability of plate tectonics	Lab 9
	19-Mar	28	Precambrian Tectonics-alternative models	
12	24-Mar	30	Precambrian Tectonics-status of understanding	<b>Presentations</b>
	26-Mar	31	Crustal Growth models- growth vs recycling	
13	31-Mar	33	Crustal Growth models- growth vs recycling	<b>Presentations</b>
	2-Apr	34	Supercontinents and supercontinent cycles	
14	7-Apr	36	Evolution of Canadian Shield	<b>Presentations</b>
	9-Apr	37	Evolution of Canadian Shield	
15	14-Apr	39	TBA	
			<b>EXAM SCHEDULE</b>	<b>Location</b>
	24-Feb		<b>Mid-term exam (during regular class time)</b>	<b>A142</b>
	TBA		<b>Lecture Final Exam (scheduled by Registrar)</b>	TBA