

Syllabus (Version 1 - Subject to Change) for:

Arid Lands

GEOG 4307 (CRN 27946), ESCI 5307 (CRN 27974)

Lecture: Tuesday Thursday 3:00-4:20 PM Room GEOL 302

Instructors: Dr. Tom Gill, Geology 401A, Phone: 747-5168: E-mail: tegill@utep.edu
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Office Hours: Langford, Tuesday and Thursday 2:30-3:00 and immediately after class: Gill, Tuesday and Friday 3:00 to 4:00, and by appointment.

Required Text: *Deserts and desert environments*, by Julie Laity, 2008 (Laity) John Wiley & Sons. ISBN 978-1-57718-033-3

Additional text: *Global Deserts Outlook*, by U.N. Environment Programme, 2006 (GDO) Available online at <http://www.unep.org/geo/gdoutlook/> and on Blackboard. PDF downloadable at http://www.unep.org/pdf/Global_Deserts_Outlook.pdf

Additional readings will be assigned on a week-to-week basis.

Course Description

A study of the physical complexes of the world's dry regions. Salient factors emphasized include climate, landforms, water, soils, natural vegetation and human occupation. Prerequisites: GEOG 1306 or GEOG 1310 or GEOL 1303 or GEOL 1311 or GEOL 1313. GEOG 3306 is recommended.

Specifically students will learn

1. The definition, extent, and geographic features of drylands (arid, semiarid, and subhumid).
 2. The geological processes that shape and characterize drylands.
 3. The atmospheric and climatic conditions that create and characterize drylands.
 4. The role of water and the hydrologic cycle in drylands.
 5. The soils, ecosystems and biota of dry landscapes.
 6. The human histories, occupation, and land use of some of the world's most important deserts.
- There will be several one-day field trips during the course of the semester.

Grading (for undergraduate credit): Extra credit assignments- TBA. Final exam (not completely comprehensive) 20% Homework assignments: 30% – For each chapter covered in the test, Drs. Langford and Gill will develop approximately

ten critical thinking questions based on the lecture and/or assigned readings. Several of these questions will be assigned to be answered as a take-home homework assignment every week.

Quizzes/tests 50% – Approximately every three weeks (five times during the semester), there will be an in-class test (taking up about 45 minutes of the class period) covering the understanding of these key questions for a set of two or three chapters (for example, one test might cover Desert Hydrology and Desert Lakes).

There will be required readings from one or both texts every week, as well as additional readings assigned during many weeks.

For graduate credit, students must additionally write a professional research paper on one aspect of Arid Lands: the topic must be agreed to in advance (a deadline will be given) with either Dr. Gill or Dr. Langford. The paper will be in the format of the *Journal of Arid Environments* (<http://www.journals.elsevier.com/journal-of-arid-environments> and <http://www.elsevier.com/journals/journal-of-arid-environments/0140-1963/guide-for-authors>) and should summarize the recent advances in a particular topic. This assignment will comprise 15% of your overall grade: other assessments will comprise a proportionally reduced percentage of the grade assessments (tests 40%, homework 27%, final 18%). The topic of the paper will be required to be approved in advance by March 9.

Students with Disabilities: If you have (or think you may have) a disability, and need accommodation, contact the Disabled Student Services Office (DSSO) at (915) 747-5148 (voice or TTY), visit their office in Union East Room 106, or by E-Mail at dss@utep.edu. DSSO is the office at UTEP that is designated to determine eligibility for accommodations and services to students with disabilities, and will arrange for any necessary accommodations.

Academic (dis)honesty and other issues: Academic dishonesty is prohibited and considered a violation of the UTEP Handbook of Operating Procedures. It includes but is not limited to cheating, plagiarism, and collusion. In this class, since it is a course for advanced scientific students, you are expected to complete your own work, but working together with your classmates and others (collaboration) is encouraged though not required.

Date	Chapter	Instructor	Topic_____
Jan 17 - 19	Laity GDO GDO	1 Gill/Langford	Introduction: Defining Deserts Executive Summary 1
Jan 24 - 26	Laity	2 Langford	Deserts of the World
Jan 31 – Feb 2	Laity	3 Gill	Desert Climate / Weather
Feb 7 - 9	Laity	4 Langford	Desert Hydrology
Feb 14 – 16	Laity	5 Gill	Desert Lakes
Feb 21 - 23	Laity	6 Langford	Desert Weathering and Hillslope Systems
Feb 28 – Mar 2	Laity	7 Langford/Gill	Desert Soils
Mar 7 – 9	Laity	8 Langford	Fluvial Geomorphology of Deserts
Mar 14- 16			SPRING BREAK
Mar 21- 23	Laity	9 Langford	Aeolian Geomorphology of Deserts
Mar 28 - 30	Laity	10 Gill	Desert Dust
Apr 4 – 6	Laity	11 Gill	Desert Ecosystems and Vegetation
Apr 11- 13	Laity	12 Kevin Floyd (Biol)	Desert Animals
Apr 18- 20	Laity	13 Gill/Langford	Desertification
			GDO 4 and 5
Apr 25- 27		Mirchi (Civil Engr) Gill	Case Study: Lake Urmia Case Study: The Dust Bowl
May 2- 4	GDO	2 Gill/Langford	Humans and Deserts: Desert People & Cultures
Final Exam			Tuesday May 9 4:00 PM to 6:45 PM.