



MARINE SCIENCES 210_401 – MARINE GEOGRAPHY

Fall 2017

Tuesday 5:30-8:20, Kirk 207

Course Description

Introduction to the physical (geographic and geomorphic) and cultural patterns of the coastal zones of the world. Interrelationships between the physical forms and the processes, and the cultural patterns used to analyze human use and sometime abuse of the sea and coastal zones. Physical forms and processes will include such things as various shapes of our coastlines and coastal environments and the processes which form them; continental drift (what caused the coasts to be in their current locations); climate affecting our coastal environments, and management techniques for the changing coastal environments as a result of population pressures as well as rising sea level. There is an examination of the cultural diversity/makeup and societal use of our coastal environments, especially as provided with the historical scrutiny of the book *“Alongshore”* where such things as: early use of salt marshes, development of harbors, coast-artillery emplacements, alongshore behavior of the “locals” (e.g., New England versus Texas Gulf Coast) and the changing of “coastal” perceptions and cultural use of coastal environments over time are discussed.

No prerequisites

Learning Outcomes

1. Describe how “perception” of the “Coastal Realm” has changed through time ... intertidal wilderness, hazards, small boating versus open ocean sailing
2. Analyze coastal settlement (population settlement patterns) through time
3. Discuss the utilization of the coastal and ocean resources (from fishing to mineral exploitation) ... utilization often varying with cultures
4. Develop an appreciation of the various “colloquialisms” concerning the “Coastal Realm” such as New England versus the Texas Gulf.
5. Generalize the mechanisms for continental drift and examine various earth cycles
6. Understand macro-scale ocean circulation systems and processes for formation of waves and tides
7. Describe ocean fisheries; sustainability versus exploitation and major players (nations) in the commercial fishing arena
8. Review development of “Ocean Laws”, UN Laws of the Sea, International laws/treaties and “common understandings concerning the High Seas” as well as identify state versus national laws regarding coasts and coastal waters

9. Explain susceptibility and vulnerability of the coastal waters to water pollution and the various methods pollution is distributed to these waters, such as by drainage systems
10. Identify various natural processes which shape our coasts and the seven common types of coastlines
11. Review weather and climate affecting our coasts
12. Examine changing climate and rising sea levels and resulting effects on the world's coastal environments
13. Summarize methodologies to protect coastlines from erosion and rising sea levels (hard versus soft-coastal forms of protection)
14. Describe how "perception" of the "Coastal Realm" has changed through time ... intertidal wilderness, hazards, small boating versus open ocean sailing

Students are expected to attend every class session.

Notes of lecture material will be posted as study guides on eCampus.

Instructor Information

Robert Mohler, PhD

Email: mohler_r@tamu.edu

Office hours: by appointment before class or after and via Chat Room (WebCT)

Wednesday @5:30 p.m.

Textbooks

Optional: *Alongshore*: Stilgoe, John R. 1994, Yale University Press.

Required: *The World's Beaches: A global Guide to the Science of the Shoreline*, Pilkey, Orrin H., Neal, William J., Kelley, Joseph T., & Cooper, Andrew G. 2011, University of California Press.

Students will be responsible for all lecture materials as well as outside reading assignments and can expected to be tested on any segment thereof.

There are 10 journal assignment, each are due at class time and are in sequential order following the lectures. Article 1 is due prior to the next class and is to be submitted electronically through eCampus. Assignments will generally require less than one page of writing (but at a minimum 250 words); some may also require gathering photos or diagrams from online sources. You must include a link to any online sources used (and a title and author for any print sources) each assignment is worth 10 points, late submissions are a maximum of 5 points, as you have a schedule for when items are due, you should be able to plan around submission.

Again, summary notes of the lectures will be posted on eCampus, as well as the syllabus.

Note: I will have a copy of the Stilgoe text on reserve in the library.

Grading Policies

EXAMINATIONS – 3 one-hour examinations 3 @ 100 points each

Weekly Journals 100 points
400 possible points

Grading -- 360-400 A
 320-359 B
 280-319 C
 240-379 D
 < 239 F

For each test the grading scale consists of: A = 90-100, B = 80-89, C = 70-79, D = 60-69, F = <60

The top score on each exam will be increased to 100 and the same increase will be added to every other exam. For instance, if the top score is 95, five points will be added to every exam in the class. The last exam is not cumulative.

Students will present a case study (e.g. Stilgoe chapter from *Alongshore*). These will be PowerPoint presentation, due on the day listed on the syllabus and worth 15 points. They will be used to supplement your total score. Late work will not be accepted, the syllabus provides dates for scheduling purposes on your part.

Course Topics, Calendar of Activities/Required Readings

COURSE OUTLINE

READINGS

			Stilgoe	Pilkey et al
Week 1	9/05	Introduction and Overview	Intro	C1
Week 2	9/05	Types of Coastlines		C2
Week 3	9/12	Ocean Circulation, Waves & Tides	C1&2	C4
Week 4	9/19	Currents & The Beach Profile	C3	C4 -p88-92 & C5
Week 5	9/26	Examination: Fisheries & Ocean Law	C4	
Week 6	10/03	Water Pollution & Drainage Systems	C5	C6
Week 7	10/10	Landforms: Running Water & Glaciers	C6	
Week 8	10/17	Landforms of Wind (Coastal and Arid)	C7	C8
Week 9	10/24	Examination: Beach Creatures -- Tracks, Trails and Traces	C8	C9
Week 10	10/31	Climate, Weather Phenomena	C9	
Week 11	11/07	Changing Climates & Future Coasts	C10 & 11	
Week 12	11/14	Global Warming	C12	
Week 13	11/21	Coastal Protection and Modification	C13	C12 & 13

Week 14 11/28 Examination

Note: I reserve the right to slightly modify the order/content of the lecture outline

Please do not use electronic devices in class, and silence all cell phones. Do not text/message during class (remember the Aggie Honor Code), and no Internet surfing during class.

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal non-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this law requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Counseling Office, Seibel Student Center, or call (409)740-4587. For additional information visit <http://www.tamug.edu/counsel/services/dssprocedures.htm>.

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal non-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this law requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Counseling Office, Seibel Student Center, or call (409)740-4587. For additional information visit <http://www.tamug.edu/counsel/services/dssprocedures.htm>.

Family Educational and Rights to Privacy Act (FERPA)

FERPA is a federal law designed to protect the privacy of educational records by limiting access to these records, to establish the right of students to inspect and review their educational records and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. To obtain a listing of directory information or to place a hold on any or all of this information, please consult the Admissions & Records Office.

Items that can never be identified as public information are a student's social security number or institutional identification number, citizenship, gender, grades, GPR or class schedule. All efforts will be made in this class to protect your privacy and to ensure confidential treatment of information associated with or generated by your participation in the class.

Course Evaluations

The PICA (Personalized Instructor/Course Appraisal) is an online course evaluation for Texas A&M. We highly encourage you to complete an evaluation for each course on your schedule. Student input is a critical component used to improve curriculum and teaching. Each faculty member values your input to improve his/her methodology. Your comments can also significantly impact the mix and membership of faculty. The PICA website is available at <http://pica.tamu.edu>, your howdy portal, or by scanning

