Name:  R. LaRell Nielson  
Department:  Earth Sciences and Geologic Resources  
Email:  rnielson@sfasu.edu  
Phone:  (936) 645-5399  
Office:  304 Miller Science  
Office Hours:  
M and W 9:00 - 11:00 AM  
M 5:30- 6:30 PM  
T and R 8:30-9:30 AM  
T and R 10:30-11:30 AM  
Other times by appointment

Class meeting time and place:  1 – 2:40 pm M Lab.  3 – 5:30 PM Monday  
Room 326 Miller Science  
Required Class Field Trip – Llano to Galveston, Texas  
March 22 – 25, 2024  
Lab meeting time and place:  Room 313 and 326 Miller Science

Course Description:  
Study of sediments and sedimentary rocks using the binocular and polarizing microscope and their relationship to depositional environments.

Program Learning Outcomes:  

1. Demonstrate a knowledge of the fundamental core geologic concepts of Mineralogy, Petrology, Structural Geology, Stratigraphy, and Geochemistry.  
   (Concepts)  
2. Execute geologic procedures and methods accurately, appropriately and efficiently.  
   (Skills)  
3. Apply principles of logic and reasoning to develop and analyze geologic problems and data.  
   (Logical - Reasoning)  
4. Demonstrate competence in using various geologic tools, including technology, to formulate, represent, and solve problems.  
   (Critical Thinking - Problem Solving)  
Demonstrate proficiency in communicating geologic information in an appropriate form to the expected audience.  
   (Communication)
Student Learning Outcomes:

1. Identify the major minerals in sediments.
2. Identify the major components in sediments.
3. Describe sediments based on size, shape and roundness.
4. Recognized the depositional environment of different types of sediment based on their physical properties.
5. Discuss the relationship between the type of sediments and plate tectonic models.

Text:

Sedimentology – Process and Product by M. R. Leeder

Course Requirements:

Midterm Examination
Final examination
Field Trip (March 22-25, 2024, Llano - Galveston, Texas)
Presentation – Paper
Paper reviews in class (1- 3 reviews)
Outlines of chapters covered
Lab Exercises – Number assigned

Course Calendar – Order of discussion topics
(As many of the topics as possible will be covered)

Topic
1. Introduction
2. Origin if terriginous clastic grains
3. Origin of calcium carbonate grains
4. Evaporites, biogenic-silica, and phosphates
5. Grain properties
6. Fluid properties and fluid motion
7. Transport of sediment grains
8. Sediment gravity flow
9. Bedforms and structures in granular sediments
10. Bedforms caused by erosion of cohesive sediment
11. Biogenic and organo-sedimentary structures
12. Soft sediment deformation structures
13. Volcanoclastic sediments
14. Environmental and facies analysis
15. Deserts
16. Alluvial fans
17. River plains
18. Lakes
19. Glacial environments
20. Physical processes of coast and shelf
21. Deltas
22. Estuaries
23. Linear clastic shorelines
24. Clastic shelves
25. Carbonate – evaporate shorelines, shelves and basins
26. Ocean processes
27. Clastic oceanic environments
28. Pelagic oceanic sediments
(As many topics as we have time to cover)

Final Exam Take Home Exam Due: Monday, May 6, 2024 @ 1 PM

Lab Schedule by weeks:
1. Description of grains
2. Grains size analysis
3. Grain composition analysis
4. Stream table study
5. Volcanic sediment analysis
6. Alluvial fan sediment analysis
7. Fluvial sediment analysis
8. Lacustrine sediment analysis
9. Aeolian sediment analysis
10. Deltaic sediment analysis
11. Coastal sediment analysis
12. Oceanic sediments
13. Pelagic sediments

Grading Policy:

Calculation of final grade:
Exam I: ______________ 100 points
Final Exam: ______________ 100 points
Field Trip ______________ 100 points
Outlines: ______________ 130 points
(Chapters covered)
Term Project and Presentation _______ 100 points
Papers Presentation _____________ 200 points
(Number assigned)
Lab Exercises ______________ 300 points
(Number of labs given) 12 Labs @ 25 points each

Lab Exam 100 points
(If given
Total Points: ___________________ 1130 points

Your points divided by possible: ___________ %

The course letter graded is based on:

100-90% = A, 89-80% = B, 79-70% = C, 69-60% = D and 59-00% = F

Attendance Policy:

Students are required to attend every lecture. Attendance will be monitored by class outline turn in, that will affect the course grade. Outlines are due at the beginning of each class. If you are ill or have an excused absence, contact me immediately after the class you miss. If possible, contact me before you miss the class.

Academic Integrity (4.1)

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty

Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism.

Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one’s own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one’s paper without giving the author due credit. Please read the complete policy at http://www.sfasu.edu/policies/4.1-student-academic-dishonesty.pdf.

Withheld Grades Semester Grades Policy 5.5)

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically
become an F and will be counted as a repeated course for the purpose of computing the grade point average. For additional information, go to http://www.sfasu.edu/policies/course-grades-5.5.pdf.

Students with Disabilities

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

Mental Health and Wellness

SFASU values students' mental health and the role it plays in academic and overall student success. SF A provides a variety of resources to support student's mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
SF ASU Counseling Services
www.sfasu.edu/counselingservices
3rd Floor Rusk Building
936-468-2401

SFASU Human Services Counseling Clinic
www.sfasu.edu/humanservices/139.asp
Human Services Room 202
936-468-1041

Crisis Resources:
Burke 24-hour crisis line 1(800) 392-8343
Suicide Prevention Lifeline 1(800) 273-TALK (8255)
Crisis Text Line: Text HELLO to 741-741