

Sediments and Strata Geology 109, S 2017
Canvas Course Site plus [Wiki with lecture notes](#)

Dawn Y. Sumner
3111 Earth and Physical Sciences, 530-752-5353
dysumner@ucdavis.edu

Lectures: MW 12:10-1:00 pm, Physics 130
Office Hours: TBD

Text: Sedimentology and Stratigraphy, II Edition by Nichols

My goal for Sediments and Strata is to help you develop the tools that will allow you to observe the important characteristics of sedimentary rocks, understand the processes that produced them, interpret their depositional environments, and recognize the constraints that they can place on diverse fields in geology such as tectonics, environmental geology, economic resources, evolution, climate change, etc.

Course Structure: Lectures are scheduled to cover several important concepts in sedimentology and stratigraphy in the first weeks followed by approximately one lecture per depositional environment for most of the rest of the course. Thus, lectures will emphasize more general concepts and examples, whereas the readings and field trips will provide the working details (as will the labs for those taking GEL 109L). Reading the text is critical to developing a solid understanding of sedimentology and stratigraphy. Two field trips are required for those in 109L and encouraged for those not also taking the lab. You will learn more during the field trips than in the lectures!

Lectures Schedule and Reading Assignments:

Date	Topic	Reading	Date	Topic	Reading
April 3	Introduction	1	May 15	Marine Processes	11
5	Sediment Transport I	2-4	17	Deltas	12
10*	Sediment Transport II	2-4	22	Interpreting Strat Columns	
12	Sedimentary Structures	2-4	24*	Coastlines, Estuaries, and Siliciclastic Seas	13-14
17*	Environments and Facies	5	29	HOLIDAY	
19	Stratigraphy and Time	19	31	Carbonate Platforms	15
24*	TBD		June 5*	Bio, Chemo and Magnetostratigraphy	20-21
26	In Class Exercise on Mars Dunes	8	7	Sea level and Stratigraphy	23
May 1*	Weathering and Erosion	6	15*	Final 10:30-12:30 am (alt final June 9)	
3	TBD				
8	Rivers	9			
10*	Midterm				

*Homework due

My Responsibilities: I am taking responsibility for preparing for lectures, revising and writing the homework and tests, integrating the lecture, lab, and reading content to provide a coherent presentation of the most important information, and responding to suggestions from you.

Student Responsibilities: You are responsible for attending lectures, preparing for lecture by doing the required reading and reviewing your lecture notes, participating fully in labs if also taking 109L, and asking questions when something is unclear or you would like more information. I also appreciate feedback on both good and bad aspects of lectures, homework and labs.

Grading: I am providing two grading options, one that includes homework and one that is based solely on tests. I strongly recommend doing the homework. The assignments are designed to help you

understand the material and do well on the tests. I will calculate your grades using both options and will give you the higher grade. Also, I do not grade on a curve; any number of students can earn an A or C in this class. My goal is to give each of you the opportunity to earn a good grade, but you need to take advantage of that opportunity by keeping up with the reading and homework and studying for the tests.

Option 1:

Assignment	%
Homework	30%
Midterm	35%
Final	35%

>93% = A

>90% = A- or higher

Option 2:

Assignment	%
Midterm	50%
Final	50%

>80% = B- or higher

>70% = C- or higher

Homework: The homework assignments involve interpreting sedimentary structures and stratigraphic data. They will be due on the starred dates in the lecture schedule by 5 pm. They can be turned in during class or in the proper box on the first floor of the Earth and Physical Sciences building. The homework assignments will be posted to Canvas as pdfs for you to print.

Tests: There will be a midterm given during class on May 10 and a final on June 15, 10:30 am. I will also offer an alternative early final on June 9. The tests will be short answer and will focus on interpreting sedimentary processes and depositional environments. Questions will be similar to those on the homework, and I provide detailed study guides that include all the questions that will be on the test, plus some. Old tests are posted on the web and are VERY helpful. Students who do not study these often fail the midterm. Two of the homework assignments consist of your choice of 20 points worth of questions on the midterm and final study guides. The tests are closed book.

e-mail List: I use the UC Davis e-mail class lists for official class communication as well as help with homework, clarifications on lecture material, and answers to student questions that I think will be of general interest. Please read these messages.

Collaboration: I encourage you to talk about the class lectures and homework with your fellow students because that increases understanding. However, each student must do and turn in their own work. Also, sketches, etc. should be your own work. Doing this work will prepare you for the tests; there is no collaboration on the tests. If you have any doubts about whether a particular collaboration is allowed, ask yourself, "Does what we're doing improve the understanding of all of us?" If the answer is yes, it's probably allowed. Or if the answer to "Would someone benefit more if they did the work by themselves?" is yes, then it probably isn't a good collaboration. Please ask me if you are in doubt!