# EAS 423: Sedimentology and Stratigraphy (Sed/Strat)
# Course Syllabus, Fall 2014

| | Course Protocol |
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| Instructor: | Dr. Kyle Fredrick |
| Office: | Eberly Hall 267 |
| Office Hours: | MWF 1:30-2:30pm, TR 10-11am |
| Phone: | (724) 938-4463 |
| Email: | fredrick@calu.edu |
| Meeting Times: | MWF 11-11:50am |
| Location: | Eberly Hall 250 |
| Prerequisites: | EAS 150, EAS 200 |
| Credits: | 3 |

## Objectives

Sedimentology is the study of the origin, transport, and distribution of sediments on the Earth's surface. Stratigraphy is the recognition of sedimentary sequences representing depositional environments and Earth's history as it relates to the principles of sedimentary geology. Topics include the occurrence and movement of sediments, physical and chemical constituents which make up sedimentary sequences, climatologic and geologic implications of stratigraphic sequences, and nomenclature and identification of important rock formations locally and nationally. Lab and field work are an integral part of this course.

At the conclusion of this course the student will be able to:

1. Identify sedimentary rocks based on their distinguishing properties examined in hand specimen and thin sections;
2. Measure textural properties of sediments using standard laboratory methods, interpret sedimentary properties and classify sedimentary rocks in terms of environments of origin;
3. Measure and describe units of sedimentary rocks in outcrop, and critically analyze spatial and age relationships between units;
4. Understand the concepts of stratigraphy and apply stratigraphic principles to interpret geologic history of the region;
5. Evaluate the economic significance of certain units of sedimentary rocks.

## Course Description

An advanced course that focuses on sedimentary processes, sedimentary rock formation, and stratigraphic interpretation of sedimentary sequences.

## Reading Materials

Nichols, Gary, *Sedimentology and Stratigraphy* (Second Edition), Wiley-Blackwell, 2009.

## Other Requirements

Desire2Learn (or D2L) will be a secondary tool of the course. Students should familiarize themselves with D2L and its utilities. Your CALU IT account information will allow you to access the software used for this class. Desire2Learn can be accessed online at http://www.calu.edu/, found under QuickLinks or through the VIP link. If you cannot access Desire2Learn by the end of the first week, please let me know by the second Tuesday of the course (2/5).

Please recognize that this is a "face-to-face" class. D2L is only meant to supplement what is delivered in class or to fill in when the instructor cannot be present, as a method to deliver assignments or course content. Merely keeping up to date on D2L, rather than regular attendance will almost assuredly result in a low or failing grade.

You should also have access to a computer with Microsoft Excel. We will be using this program at times during the semester. Most (if not all) university computers have this program loaded, so this should not be a problem for anyone.

## Accessibility

Students with special needs have a **right** to, and should **expect**, full access to this course. I will make any arrangements necessary to meet documented special needs. I must have sufficient advance notice to make these arrangements, however, so, when appropriate, please make me aware of circumstances as soon as possible.

- **Accommodations for Students with Disabilities**
  - Students with disabilities:
    - Reserve the right to decide when to self-identify and when to request accommodations.
    - Will register with the Office for Students with Disabilities (OSD) each semester to receive accommodations.
    - Will present OSD Accommodations Approval Notice to faculty when requesting accommodations.
    - Might be required to communicate with faculty for accommodations, which specifically involve the faculty.
  - Office for Students with Disabilities
    - Requests for approval for reasonable accommodations should be directed to OSD. Approved accommodations will be recorded on the OSD Accommodation Approval notice and provided to the student. Students are expected to adhere to OSD procedures for self-identifying, providing documentation, and requesting accommodations in a timely manner. The OSD is located in the Azorsky Building- Room 105 and the phone number is (724) 938-5781.
- **The Counseling Center** (Carter Hall, 724-938-4056) is also available to provide students with counseling or assistance during difficult times.

California University of Pennsylvania encourages you to seek the academic collaboration available to you to demonstrate your best work. Students who would like to enhance their study skills, writing skills, or have any academic inquiries should find resources to assist them through one of the many offices

on campus. To find a specific office or student service, refer to the office directory or go to http://www.calu.edu/ on the web and search under Academic Success Resources.

## Elements of the Course

The course content can be divided into two main components from which your grade will be compiled.

***Lectures and reading*** will be used to present basic concepts, develop a foundation for homework, and provide you with an understanding of geological science. Your comprehension of this material will be reinforced with assignments and labs, and assessed during exams.

***Homework, In-class assignments, and Labs*** will encompass additional work that is assigned for completion during and outside of class-time. I have expectations for the *presentation* of your work (clarity, legibility) as well as your demonstration of effort. Your grade on homework will include your ability to communicate clearly and neatly through written (or typed) work. ***In-class assignments*** will include calculations and hands-on applications of the principles we cover in lecture. You will have the opportunity to work with some of the tools and materials that hydrologists use every day. In-class assignments **cannot** be made up, so failure to attend will mean forfeiture of the points available from that experience. ***Labs*** will include hands-on applications and experiences with sedimentary rocks and stratigraphic sequences, as well as geologic maps.. Field work and lab analysis will be included to introduce geologic tools and data analysis practices. Everything you do will be graded, so it is to your advantage to attend every class. Missing class is not an excuse for missing assignments. **Non-attendance means forfeiture of in-class assignment or lab participation points.**

## Disruptive Behavior

Cell phones, personal entertainment devices, and out of turn conversations are unacceptable in the classroom. I reserve the right to confiscate these devices and/or ask the offending student to leave. Additionally, disruptive behavior of any kind will not be tolerated. A breach of course policies may impact your grade.

If a student behaves in a disruptive or threatening manner, I will exercise my right to ask that individual to leave the classroom. If refused, I will notify the University Police. The following are some important rules and responsibilities of the course:

1. Students using lap-top computers MUST sit in the front row center of the room during lecture periods.
2. You are strongly encouraged to attend class regularly and arrive on time. In addition to any in-class assignments, you will be missing out on important content and logistical information that often cannot be made up. In the event that you arrive late to class, please be courteous to the instructor and your classmates.

3. **Cell phones and personal entertainment devices will not be tolerated if visible OR audible.** No headphones in ears or cell phones on desks, and cell phones must be turned to Manner Mode (vibrate). A violation of this policy will result in ONE warning. Subsequent violations will incur a 3% deduction for your semester total. An offending student may or may not be identified during the class period, however, penalties will be updated to the Desire2Learn gradebook.
4. Students may be asked to remove caps, hats, hoods, or sunglasses during class times.

## Academic Misconduct

All students are expected to display honesty and integrity in completing course assignments, exams, and any other requirements. Academic misconduct refers to plagiarism or cheating on examinations or assignments, and is inconsistent with the goals and objectives of California University of Pennsylvania. Specifically, students may neither use the work of another individual without proper acknowledgment nor perform work for another individual. Other examples of inappropriate academic conduct include prior acquisition or possession of an examination or submission of false data. A low or failing grade for part or all of the coursework may be given to the student at the discretion of the instructor. No penalty for an alleged instance of academic misconduct may be imposed unless the student has been apprised of the allegation.

## Expectations

I expect that you will give a reasonable effort throughout the course. This relates to your pace of work and participation in class. I also expect that the presentation of your work and your preparation for exams reflects the **standards for university-level, upper-division course work**. Your grade on homework will include your ability to communicate clearly and neatly through written (or typed) work. This course is meant to be challenging and meaningful and your full engagement will help to make it more enjoyable. Please ask questions if a topic or assignment is unclear at the time of presentation.

This course may present new challenges related to physical and mathematical concepts. It is imperative that you leave behind your fears or aversions to those subjects in order to succeed.

It is my assumption that you will check your campus email at least every other day. Failure to do so may cause you to miss important updates. Please allow 48 hours for email response. If you are sending me assignments, I may or may not confirm that I got them. Please do not send multiple emails checking on receipt of assignments. Email correspondence MUST include a subject line, a salutation, reasonable grammar, punctuation, and spelling, and a signature. I will not respond to emails that do not satisfy this requirement.

We WILL be going outside for lab on multiple occasions. On those days (you will be notified ahead of time), you are expected to wear appropriate clothing. You must wear close-toed, low-heeled, sturdy shoes. You must be prepared for inclement weather (rain, cold, wind, etc.). You should expect the possibility you may get dirty. We may be WALKING to a field site off-campus. Safety is my main concern. Be extremely cautious walking and working along roads and streams.

## Grading

Only work assigned and graded by the instructor of record or his/her designee will be used to determine your final grade. **Late work will NOT be accepted.** Failure of all three exams (exam scores below 60%) will result in the grade of F for the course, regardless of final score calculation. For purposes of grading, assignments will be weighted as follows:

| Component | Percentage of Final Grade |
|---|---|
| In-class assignments | 10% |
| Homework/Labs | 45% |
| Exams | 45% |

It is important that you understand the weighting process. Weights are assigned to each individual assignment, lab, or exam. If you miss or perform poorly on any one of those, you forfeit a percentage of your total semester grade. For example, if you miss an exam (with an individual weight of 15%) the maximum percentage you could attain for the course is 85%. Grades will be figured numerically and converted to a letter grade at the end of the semester using the scale below. You have until the end of the following semester to appeal a final grade.

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| A | >94.0 | B+ | 87.0-89.9 | C+ | 77.0-79.9 | D | 63.0-69.9 |
| A- | 90.0-93.9 | B | 83.0-86.9 | C | 73.0-76.9 | F | <62.9 |
| | | B- | 80.0-82.9 | C- | 70.0-72.9 | | |