

**GEOSCIENCE 100: INTRODUCTORY PHYSICAL GEOLOGY    Fall term 2016**

**Course Times:**                    **September-December 2016:**                    **Class times: MWF 10:30-11:20**  
**Lab: W 14:30-17:20**

**Textbooks**                    **Tarbuck, et al. [preferred] or Grotzinger et al [any newer edition];**  
**Notes + Lab Manual 2016; waterproof field notebook**

**Instructor**                    **Dr. Sandra Taylor: office and office hrs. TBA**

<u>Course Assessment</u>	<u>Value</u>
<b>5 Quizzes [every other Monday] @2% each</b>	<b>10 %</b>
<b>Mineral test                    September 28 @ 14:30</b>	<b>10 %</b>
<b>Rock Test                      October 19 @ 14:30</b>	<b>10 %</b>
<b>Field Collection              due end of November</b>	<b>5 %</b>
<b>Labs [10 labs x 1 % each]</b>	<b>10 %</b>
<b>Assessment [attendance, projects]</b>	<b>5 %</b>
<b>Field Trips [October; November]</b>	
<b>Final Exam                      Dec 5-9</b>	<b>50 %</b>

**COURSE OUTCOMES: [approximate times required for each topic]**

- **Identification of approx. 30 common minerals [~3 weeks]; 30 common rocks [~3 weeks]**
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- **Understanding mechanism of plate tectonics; Earth's interior composition [~2 weeks]**
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- **Knowledge of volcanism, plutonism, sedimentary rock formation, metamorphism [~5 weeks; integrated with mineral and rock lab study]**
- **Origin of the Earth and its place in the solar system; geologic time scale; age-dating rocks [~1 week]**
- **Rock structures: stress, strain, faulting, folding, earthquakes, tsunamis, seismic upgrading rock strength[~2 weeks]**
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- **Erosion and weathering processes; effects on rocks [~2 weeks]**
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- **Mass wasting, streams, groundwater, glaciation, wind, wave action, ocean profile, structure of the atmosphere, windstorms: hurricanes, tornadoes [~3 weeks]**
- **Ability to read geological maps and interpret a geological article [~3 weeks: with lab study]**
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- **Stereonet and compass use, field work, geotechnical & environmental issues [~2-3 weeks; integrated with class and lab work]**

## **COURSE PHILOSOPHY:**

This course presents some key fundamental principles and analytical techniques applicable to practical problems in geology, geotechnology and geological and mining engineering. The course concentrates on identification and interpretation of geological materials, structures and processes.

Texts: Tarbuck, et al [2015 e] ; or Grotzinger et al [2015 e] or any newer editions. You may find used copies on campus and or elsewhere; choose the most recent edition you can find.

Lab notes and waterproof field notebooks available in the bookstore.

The coursework includes five biweekly quizzes, plus two short papers on recent geological problems. Ten labs will be assigned to be completed in class. Some adjustments or fine tuning may be done in course contents, dates and assignments as the term proceeds.

Grading Scheme: A+ = 90-100 %; A = 85-89; A- = 80-84; B+ = 77-79; B = 73-76; B- = 70-72; C+ = 65-69; C = 60-64; F < 60%

Note that: By departmental rules, you must obtain at least 60% overall to pass the course.

### **Course Success:**

The best way to complete the course with good results is to:

- 1- Attend the lectures regularly. (Attendance checked occasionally.)
- 2- Take notes, and ask questions to clarify whatever seems unclear as soon as you face them.
- 3- Attend the classes and laboratory sessions and field trips regularly and use the time to learn the subjects there and then. Be on time so you wont miss needed information.
- 4- Solve and hand in all labs and assignments in a timely manner.
- 5- See me in my office [TBA] or email me.
- 6- Prepare for lab tests, quizzes, and the final in a timely fashion.
- 7- Make suggestions to help improve the course for next year.

Good luck! ..... After all, you have paid for the whole thing.

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