

TOPOGRAPHIC MAP READING. [50 %]**(LABORATORY 9)**

Scales (Verbal, graphic or bar, R.F. or fractional), and scale conversion...

Map Coordinates and orientation (Latitude and longitude, directions: N, S, E, W)

Rules for Contour Lines (i.e. Stream flow direction (rules of "vs."), steepest side of a landform, depressions, labeling [numbering] contour lines, depressions, determination of C.I., location of B.M.s. Determination of elevations. Determination of relief, etc.

Calculation of stream gradients.

Construction of simple topographic maps by interpolation

Construction of topographic profiles.

Calculation of vertical exaggeration (V.E.) of profiles

DETERMINATION OF RELATIVE AGE OF ROCK UNITS ON CROSS-SECTIONS.**(LABORATORY 8)**

Use of the principle of superposition of strata, original horizontality, lateral continuity, cross-cutting relationships, inclusions, faunal succession. Identification of unconformities (Angular, Disconformity and Unconformity)

IDENTIFICATION OF LANDFORMS (on topographic maps, profiles, blocks diagrams, etc.) and GEOLOGIC (GEOMORPHIC) SIGNIFICANCE of landforms.Identification of **FLUVIAL** landforms. Determination of stream gradients. Determination of stream flow direction.

Identification of features associated to floodplains (Menders, Ox-box lakes, Yazoo streams, stream terraces, etc). Characteristics of the Stages of Fluvial Erosional Cycle (initial or early [near the head or headwaters], intermediate or middle, and terminal or late [near the mouth]).

(LABORATORY 11)Identification of **GROUNDWATER** landforms. Identification of different type of aquifers (materials) Identification of Karst Topography (sinkholes, caves, solution valleys, etc.), and stages of Karst evolution.

Construction of water table contours and flow lines. Calculation of hydraulic gradient, velocity and distance traveled by groundwater.

(LABORATORY 12)~~Identification of **GLACIAL** landforms (Alpine and Continental). Drumlins, eskers, cirques, horns, moraines, tarns, glacial valleys etc. Determination of the direction of ice movement in glaciers~~~~**(LABORATORY 13)**~~Identification of **COASTAL** landforms. Beaches, deltas, terraces, estuaries, barrier islands, etc. Identification of emergent and submergent coastlines (fjords and estuaries) and features associated with them.**(LABORATORY 15)**~~Identification of **ARID CLIMATE LANDSCAPE** landforms. Erosional features (Plateaus, mesas, buttes, monuments), and other features alluvial fans, pediment, inselberg, bajada, playa) dunes (transverse, longitudinal, parabolic and barchan).~~~~**(LABORATORY 14)**~~Identification of **VOLCANIC** landforms. Type of volcanoes (shield, stratovolcanoes, cinder cones etc.

Identification of volcanic structures (craters and calderas)) Identification of Hot Spots or plumes

(HANDOUT AND LAB NOTES)**TOPICS RELATED TO EARTHQUAKES PLATE TECTONICS and VOLCANISM.****(LABORATORIES 16 and 2)**Determination of the **epicenter** of an earthquake. Identification of **tectonic plate boundaries**. Construction of generalized tectonic cross-sections or profiles. Tectonic context of volcanoes and earthquakes (i.e. hot spots, island or continental arcs (subduction zones, mid-ocean ridges, transform faults, etc.)

STRUCTURAL GEOLOGY.**(LABORATORY 10)**

Identification of Simple Geologic Structures on Geologic Maps, Profiles and Block Diagrams.

Identification and representation of **ATTITUDE OF ROCK UNITS**. Strike, Dip, angle of dip of horizontal, vertical and inclined rock units (rule of the "Vs"), and symbols used.

Nomenclature and identification of **FOLDS** and their variations (Anticlines, Synclines, Symmetrical, Overturned Plunging, etc.) and symbols used. Completing missing parts of block diagrams.

Nomenclature and identification of **FAULTS** and their variations (dip-slip [normal and reverse]; strike-slip [left- and right- lateral]; oblique-slip; thrust; and symbols used.

Also review the "Make sure you know how to" section of weekly messages and practical (not the T or F, multiple choice, fill in the blank, or short answer) questions from weekly quizzes.

EXAM DURATION: 2¼ HOURS (APPROX.; DURING LAB HOURS).

DATES: SECTIONS 01 & 02; MONDAY APRIL 30th, 2007.

SECTION 07; WEDNESDAY APRIL 25th, 2007.

•MATERIALS NEEDED

DON'T FORGET TO BRING THE FOLLOWING: Pencil/s (more than one!), three colored pencil (red, green, and blue) eraser, calibrated ruler, a hand calculator (NO CELLULAR PHONES, PAGERS, PDAs or OTHER COMMUNICATIONS DEVICES ALLOWED).

If compasses are needed they will be provided by the instructor)

FINAL EXAM POLICIES

The final exam is obligatory. If you don't take it you will receive an F for the class. Students who are absent from the final examination will be **given permission** to take a make up examination **only if** an acceptable excuse is presented to the appropriated dean's office before the exam or 24 hours after the exam. A student whose absence is excused will be assigned and incomplete grade "I" and given a make-up examination. A student whose absence from the final examination is not excused will be given an "F" in the course. **You can only take the final exam in your own section.**



NOTE:

- DURING THE EXAM YOU **WON'T** BE ALLOWED TO BORROW / LEND ANYTHING FROM / TO YOUR CLASSMATES, and I won't have any extra material available.

- FOOD AND BEVERAGES (including water) ARE NOT GOING TO BE ALLOWED.

- "TRIPS" to the RESTROOM are NOT going to be PERMITTED.

- CONVERSION TABLES WILL BE PROVIDED

VERY IMPORTANT: READ ABOVE!!!!

Please fill in the statement on next page and hand into me

THERE IS MORE ON THE BACK

Please fill in and return this page to me.

By signing bellow, _____ I understand that is my responsibility to bring pencil/s (more than one!), three colored pencil (red, green, and blue) eraser, calibrated ruler, a hand calculator (NO CELLULAR PHONES , PAGERS or any other COMMUNICATION DEVICES are ALLOWED), to the exam. I also understand that there will NO EXTRAS provided by the instructor and that I am not allowed to share with a neighbor. I have also read and understand the FINAL EXAM POLICIES as stated on previous page.

Signed _____ Date _____