ERTH - Earth Systems

ERTH 499. Senior Thesis/Capstone. 3 Credits. (3 Rcl) F,S
PREREQUISITE: Senior standing; minimum 3.0 cum gpa; faculty recommendation. Senior thesis provides an opportunity to conduct research under the supervision of a faculty member leading to the production of a research paper ("mini-thesis") and an oral presentation to the department or at a professional meeting. Excellent preparation for graduate school and professional work.

ERTH 502. Fluvial Geomorphology. 3 Credits. (Lec On Demand
PREREQUISITE: ERTH 307 or other introduction to fluvial systems or instructor permission. This course provides a foundation for understanding fluvial processes, interpreting fluvial forms, and teaches basic tools for use in watershed and river assessment. Course will cover drainage networks, channel form, and apply these concepts to a river assessment problem.

ERTH 505. Geomicrobiology. 3 Credits. (Sem) 5 alternate years, to be offered every years.
The course examines geochemical and microbial interactions that control earth surface processes and ultimately major biogeochemical cycles. The course focuses on integrated approaches using geochemistry, stable isotope geochemistry, and microbial techniques applied to research problems.

ERTH 512. Mt & Plns Riparian Proc. 2 Credits. (Lec 2, Sem 2) Su, On Demand
PREREQUISITE: ERTH 101IN, secondary teaching certification plus two years teaching experience; recommended ERTH 516 and access to the world wide web. Riparian hydrologic and geomorphic processes with examples drawn from the mountains and plains. Ground-water recharge and discharge; Horton overland flow; partial variable runoff areas; riparian best management practices; sapping, types of springs; sediments from slopes. K-12 riparian science education.

ERTH 516. North Rocky Mtn Geology. 2 Credits. (Lec 1, Lab 1) Su
PREREQUISITE: ERTH 101IN, early history and evolution (GEO 211); graduate standing; secondary teaching certification plus two years teaching experience; a computer with modem. Geologic history of Northern Rocky Mountains, and landscapes from geochron to present. Structural, tectonic, and surficial elements. Field examination of geologic evidence for history of the Gallatin Range, Bridger Range, and Yellowstone National Park. Exploration and development of teaching methods and resources for the K-12 classroom.

ERTH 551. Snow Science Seminar. 3 Credits. (Lec 1, Lab 1) F
alternate even years. PREREQUISITE: Graduate Standing; PHYS 211, STAT 332 or STAT 401; Interest in snow science. A mixed lecture and laboratory style course providing an in-depth examination of recent developments in snow science based upon current literature, newly published or about to be published literature, field methods and modeling regarding snow science. Topics will depend partially upon the interests of the instructor and student in the course.

ERTH 582. Quaternary Paleoecology. 3 Credits. (Sem) F alternate years, to be offered every years.
PREREQUISITE: ERTH 101IN or BIOB 170IN or equivalent. Course examines the history and development of modern biomes and the causes and consequences of long-term ecological change.

ERTH 583. Topics in Paleoecology. 3 Credits. (Sem) F alternate years, to be offered odd years.
PREREQUISITE: ERTH 101IN or BIOB 170IN or equivalent. Course examines important themes in paleoecology. Topics change on a yearly basis addressing needs and interests of current students. It is intended for students with an interest in ecology, paleontology and environmental history.

ERTH 584. Quaternary Env of Western US. 3 Credits. (Sem) F, alternate years, to be offered every years.
PREREQUISITE: ERTH 101 or BIOB 170 or equivalent. This graduate course examines current research and recent developments in Quaternary paleoclimatology in the western U.S. The seminar will be centered around weekly discussions of the primary literature, hands-on experience with international data bases, and class paper and presentation.

ERTH 585. Advances in Geobiology. 1 Credit. (Sem) F, to be offered every years. Discussion of recent developments in paleontology, paleoecology, biogeochemistry, and biogeography based on current literature and presentation of faculty and student works in progress.

ERTH 588. Professional Development. 1-3 Credits. (1-3 Lec; 3 cr max) On Demand
Max 3 cr. PREREQUISITE: Graduate standing, teaching experience and/or current employment in a school organization, consent of instructor and Dean of Graduate Studies. Courses offered on a one-time basis to fulfill professional development needs of in service educators. A specific focus is given to each course which is appropriately subtitled. May be repeated.
ERTH 589. Graduate Consultation. 3 Credits. (3 Ind) F,S,Su
PREREQUISITE: Master’s standing and approval of the Dean of Graduate Studies. This course may be used only by students who have completed all of their course work (and thesis if on a thesis plan) but who need additional faculty or staff time or help.

ERTH 590. Master’s Thesis. 1-10 Credits. (1 Ind; max unlimited) F,S,Su
PREREQUISITE: Master’s standing.

ERTH 591. Special Topics. 1-4 Credits. (1-4 Sem; 12 cr max)
PREREQUISITE: Upper division courses and others as determined for each offering. Courses not required in any curriculum for which there is a particular one time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ERTH 592. Independent Study. 1-3 Credits. (1 Ind; 6 cr max) On Demand
PREREQUISITE: Graduate standing, consent of instructor, approval of Department Head and Dean of Graduate Studies. Directed research and study on an individual basis.

ERTH 594. Seminar. 1-4 Credits. (1 Sem; 4 cr max) F,S
PREREQUISITE: Graduate standing or seniors by petition. Course prerequisites as determined for each offering. Topics offered at the graduate level which are not covered in regular courses. Students participate in preparing and presenting discussion material.

ERTH 598. Internship. 2-12 Credits. (2 Ind; 12 cr max) On Demand
PREREQUISITE: Graduate standing, consent of instructor and approval of department head. An individualized assignment arranged with an agency, business or other organization to provide guided experience in the field.

ERTH 605. History of Geological Concepts. 3 Credits. (3 Lec) F
to be offered alternate even years. PREREQUISITE: Course limited to graduate students or senior undergraduates with permission. Weekly seminars examine the evolution of geological thinking through an exploration of its history and contributions to science. The course enables students to research the origin and importance of concepts in their area of scientific specialization.

ERTH 690. Dissertation Research. 1-10 Credits. (1-10 Ind; max unlimited) F,S,Su
PREREQUISITE: Doctoral candidate standing.

ERTH 694. Doctoral Seminar. 1-3 Credits. (1-3 Sem; 6 cr max) F,S,Su
PREREQUISITE: Doctoral candidate standing.