

GEOLOGICAL ENGINEERING (GEOE)

GEOE 200 (s) Seminar (1-16 credits)

GEOE 398 (s) Internship (1-16 credits)

GEOE 403 (s) Workshop (1-16 credits)

Credit arranged

GEOE 404 (s) Special Topics (1-16 credits)

Credit arranged

GEOE 407 Rock Mechanics (3 credits)

Mechanical properties of rocks and rock masses; lab and insitu techniques to estimate strength, stress distribution, and deformation behavior in rock masses; application of analytical tools such as the finite element method to design stable excavations and support systems in rock. Typically Offered: Varies.

Prereqs: ENGR 350

GEOE 428 Geostatistics (3 credits)

Cross-listed with GEOL 428

Joint-listed with GEOL 534

Applications of random variables and probability in geologic and engineering studies; regression, regionalized variables, spatial correlation, variograms, kriging, and simulation. Recommended Preparation: STAT 301. Cooperative: open to WSU degree-seeking students.

GEOE 465 Excavation and Materials Handling (3 credits)

Principles of excavation design and handling of earth materials related to construction projects, quarries, and mines; blasting, excavation planning and scheduling, equipment selection and replacement, cost estimating, geographic information and management information systems. Computerized design using Gemcom and/or other appropriate software.

Prereqs: CE 211 or Permission

GEOE 499 (s) Directed Study (1-16 credits)

Credit arranged

GEOE 500 Master's Research and Thesis (1-16 credits)

Credit arranged

GEOE 501 (s) Seminar (1-16 credits)

Credit arranged

GEOE 502 (s) Directed Study (1-16 credits)

Credit arranged

GEOE 503 (s) Workshop (1-16 credits)

Credit arranged

GEOE 504 (s) Special Topics (1-16 credits)

GEOE 517 Tunnel Design and Construction (3 credits)

Geotechnical considerations for tunneling, drilling and blasting, TBM, ground support, haulage, ventilation, water handling, and trenchless technology. Application of analytical techniques such as the finite element method to design stable underground structures and support systems.

Prereqs: GEOE 407 or Permission

GEOE 535 Seepage and Slope Stability (3 credits)

Cross-listed with CE 563

Principles governing the flow of water through soils; mechanics of stability analysis of slopes, landslides, and embankments for soil and rock masses; probabilistic analyses; stabilization methods. Typically Offered: Spring (Even Years).

Prereqs: CE 360 or Permission. A minimum grade of C or better is required for prerequisite Cooperative: open to WSU degree-seeking students.

GEOE 598 (s) Internship (1-16 credits)

Credit arranged

GEOE 599 (s) Research (1-16 credits)

Credit arranged. Research not directly related to a thesis or dissertation.