

# GE 343: Subsurface Exploration Syllabus

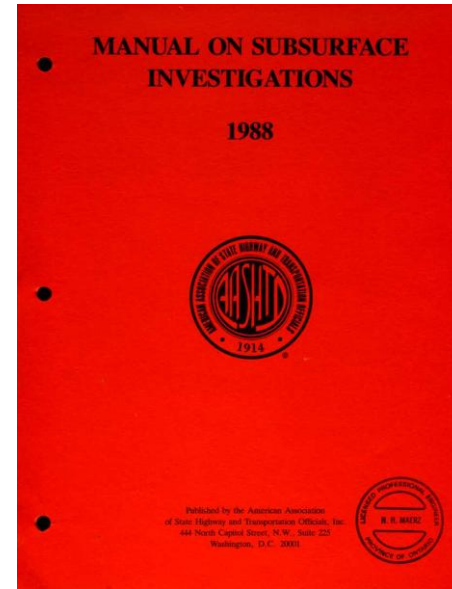
- **PREREQUISITES:** CE 215 (Fundamentals of Geotechnical Engineering), or PE 131 (Drilling Practices and Well Completions) or equivalent is a prerequisite. The course is intended for geology, mining, geological, and civil engineering students already equipped with an understanding of basic geology, to prepare them for geotechnically-oriented careers.
- **COURSE CONTENT:** How to characterize the subsurface, using maps and reports, surface mapping, drilling, and geophysics. Emphasis on essential techniques and concepts.
- **SKILLS:** Students graduating from this course should be able to produce adequate engineering descriptions of soil and rock and logs of test pits and boreholes; plan an effective and economical subsurface site investigation; understand the techniques and principles of geotechnical design as it relates to the subsurface investigation process. Be able to select exploration methods appropriate for specific ground conditions and types of project, and to plan the investigation with a view to the required end use, and to recognize and plan for the potential environmental effects of geotechnical works and how these can be minimized.
- **TEXTBOOK Required:** Manual on Subsurface Investigations, AASHTO, 1988. (This book is dated, but still probably the best on this subject).
- **TEXTBOOK Optional:** Subsurface Investigations, FHWA, 2002. (This book is recommended for those pursuing careers in geological engineering.)

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- **ADDITIONAL NOTES:** All notes will be made available on BlackBoard, hard copies of the handout note can be downloaded from Blackboard and printed.
- **INSTRUCTIONS, DATES, SCHEDULES, ETC:** Please check BlackBoard.
- **HOMEWORK ASSIGNMENTS/LABS/ FIELD TRIPS:** There will be more or less one weekly activity requiring some type of marked hand in. Hand ins will be graded on presentation, clarity and conciseness as well as on technical merit.
- **EXAMINATIONS:** One midterm examination and one final examination, open book, in class times. Distance ed exams will be email out on an agreed on time and date, and must be returned by the stated deadline. BlackBoard notes will not be available during exams.
- **METHOD OF ASSESSMENT** 25% midterm, 40% assignments/labs/field trips, 25% final exam, 10% class participation. Distance Ed. 30% midterm, 40% assignments/labs/field trips, 30% final exam
- **Grades** 90-100% A, 80-90% B, 70-80% C, 60-79% D, less than 60% F.

# Textbooks

- AASHTO Manual on Subsurface Investigations



U.S. Department  
of Transportation  
Federal Highway  
Administration

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## Subsurface Investigations — Geotechnical Site Characterization

Reference Manual



- NHI Course No. 132031 Subsurface - Investigations – Geotechnical Site Characterization