

The flagship University computer facility is the Ohio Supercomputer Center located on campus. This facility principally supports research computing. The University also provides a Homenet environment that gives students access to a variety of computer resources on campus, in Ohio, and on the Internet. In addition, the department maintains specialized facilities to address the needs of our programs. The facilities are under the auspices of the College of Engineering Region 1, which is supported, in part, by a University computer fee. The physical facility consists of 150 PCs and 25 SGI workstations. Students have 24-hour, 7 days a week access. Some are available on a walk-in basis; others provide studio settings for advanced users. At least 35 software packages are available including the Microsoft Office suite, AutoCAD, 3D Studio, various GIS and image processing packages, and ProEngineer. Many faculty also maintain dedicated computer facilities to support research.

## FACULTY

**Patrick J. Fox, PhD, University of Wisconsin**, (clay liners), E-mail: [fox.407@osu.edu](mailto:fox.407@osu.edu)

**Charles Moore, PhD, University of California, Berkeley, CA, Professor**, (soil mechanics/geotech engrg); E-mail: [moore.2@osu.edu](mailto:moore.2@osu.edu), web: <http://hcgl.eng.ohio-state.edu/~moorec>.

**William E. Wolfe, PhD, University of California, Los Angeles, CA, Professor**, (soil modeling), E-mail: [wolfe.10@osu.edu](mailto:wolfe.10@osu.edu)

**Tien H. Wu, PhD, University of Illinois, IL, Professor Emeritus**, (soil mechanics/geotech engrg.) E-mail: [wu.26@osu.edu](mailto:wu.26@osu.edu)



## COURSE OFFERINGS

CE653	Principles of Rock Mechanics	4	Sp
CE662	Intro to Mechanics of Composite Structure	4	Au
CE750	Seepage in Permeable Materials	4	Au
CE751	Princ of Foundation Analysis/Design	4	Wi
CE753	Pavement Design/Materials	4	Sp
CE754	Mechanical Properties of Engrg Materials	4	Au
CE762	Structural Composites	3	Wi
CE768	Intro to Finite Element Method	4	Au.Wi
CE839	Finite Element Method in Engrg Science	5	Sp
CE850	Advanced Seepage in Permeable Media	4	Au
CE851	Advanced Soil Properties	4	Au
CE852	Advanced CE Materials	4	Wi
CE853	Advanced Soil Mechanics	4	Wi
CE858	Soil Dynamics	4	Sp
CE859	Advanced Soil Properties Laboratory	2	Wi

For a description of the contents of the above course, reference should be made to the University Bulletin: Course Offerings, available from the Graduate School.

In addition to the above, courses are also available in other departments, such as Engineering Mechanics, Industrial/Systems Engineering, Materials Science, Geology, Statistics, and Mathematics. Graduate level course offerings suitable for a minor field of study are also available within the department.

## MINIMUM REQUIREMENTS

Programs of graduate study in the field of Geotechnical Engineering include the following areas of specialization:

- Soil and rock mechanics
- Geotechnical & foundation engineering
- Theoretical soil mechanics

The graduate study plan can be tailored to suit the professional objectives and interests of individual students; however, a knowledge of certain basic concepts delineated in suggestions concerning first-year course work will be expected.

The minimum requirements for a graduate degree with a major in the field geotechnical engineering is the same as those of the department (see general descriptive brochure).

## TABLE A

List of approved 800-level courses in major fields of Geotechnical Engineering.

CE839	Finite Element Method in Eng Science	5	4
CE850	Seepage in Permeable Materials		4
CE851	Advanced Soil Properties		4
CE853	Advanced Soil Mechanics		4
CE855	Soil Structure Interactive		4
CE858	Soil Dynamics		4
CE859	Advanced Soil Properties Laboratory		2
ME800	Methods of Engineering Analysis		3
ME833	Elastic Wave Propagation		3
ME840	Theory of Continuous Media		3
ME844	Advanced Fracture Mechanics		3
ME847	Theory of Plasticity		3
ME864	Theory of Viscoelasticity		3

## TABLE B

List of approved courses within Civil Engineering or in related fields of Geotechnical Engineering

CE603	Remote Sensing of Environment		4
CE604	Terrain Analysis		4
CE606	Quantitative Remote Sensing		4
CE613	Applied Hydrology		4
CE653	Principles of Rock Mechanics		4
CE662	Intro to Mechanics of Composite Structures		4
CE674	Airport Design and Operations		4
CE682	Faults, Failure, Forensics in Construction		4
CE721	Hydraulic Structures		4
CE722	Open Channel Hydraulics		4
CE734	Structural Dynamic Analysis and Design		5
CE738	Plastic Analysis of Design		5
CE750	Seepage in Permeable Materials		4
CE751	Principles of Foundation Analysis/Design		4
CE753	Pavement Design and Materials		4
CE754	Mechanical Properties of Engrg Materials		4
CE762	Structural Composites		4
CE768	Intro to Finite Element Method		4
CE781	Construction Risk and Decision Analysis		5
CE831	Advanced Reinforced Concrete		5
CE836	Advanced Matrix Analysis of Structures		3
CE837	Advanced Structural Dynamics		4
CE872	Area Traffic Control		5
CE873	Urban Transportation Demand Forecasting		5

## TABLE B cont'd

List of approved courses within Civil Engineering or in related fields of Geotechnical Engineering

CE888	Event Tree, Fault Tree, Fuzzy Systems in Construction	5
ME627	Experimental Methods in Mechanics	3
ME644	Engineering Fracture Mechanics	3
ME740	Elasticity	4
ME743	Introduction to Continuum Mechanics	3
ME754	Theory of Plates and Shells	4
G&MIN530	Structural Geology	5
G&MIN645	Advanced Structural Geology	5
G&MIN650	Glacial and Pleistocene Geology	5
AG550	Pedology and Edaphology	5
AG650	Advanced Soil Classification Morphology	5



For Additional Information, please contact

Ms. Lakshmi Dutta,  
Graduate Admissions Coordinator  
Civil & Environmental Engineering  
475 Hitchcock Hall, 2070 Neil Avenue  
Columbus, OH 43210  
Phone: 614-292-2005 or fax 614-292-3780 or  
E-Mail: [ceeg@osu.edu](mailto:ceeg@osu.edu) or visit our Website:

<http://www.ceg.eng.ohio-state.edu>

For application information visit:

<http://www.afa.adm.ohio-state.edu>

## GRADUATE STUDY in GEOTECHNICAL ENGINEERING



**THE OHIO STATE UNIVERSITY**  
**Department of Civil & Environmental**  
**Engineering & Geodetic Science**



## RESEARCH

Research interests and activities include theoretical, laboratory, and field investigation of the following: time dependent behavior of materials including response of earth structures to earthquake loads; characterization of highway materials; erosion and stability of natural and manmade slopes; physical and chemical properties of innovative as well as conventional construction materials; transport processes in solid and hazardous waste disposal facilities with emphasis on methane and leachate migration; risk analysis and reliability for geotechnical designs; numerical analysis of transient seepage and consolidation; wave propagation in saturated and unsaturated soils; and dynamic soil structure interaction.

## FACILITIES

Facilities include: soil mechanics and rock mechanics laboratories, with a 100,000 lbs. static loading system, a four foot by six foot shaking table; a construction materials laboratory, with environmentally controlled cabinets, MTS load systems, a creep testing machine and compression machine with a capacity of 400,000 lb., plus conventional asphalt aggregate and concrete testing equipment. Facilities also include three computer controlled load frames (50,000 lb. capacity, dynamic response, real-time data analysis and presentation).