

The physical facilities 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 facilities also maintain dedicated computer facilities to support research.

FACULTY

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MINIMUM REQUIREMENTS

Graduate transportation engineering programs include courses in the general areas of transportation planning, design, and operation. An individual program can be planned to satisfy the professional objectives of a graduate student. However, in addition to the general requirements of the Graduate School, there are minimum departmental requirements to be fulfilled by all students majoring in transportation engineering. See general descriptive Graduate Civil Engineering brochure for these requirements (which make reference to Tables A and B).

COURSE OFFERINGS

Graduate studies leading to an MS or Ph.D. in transportation engineering may involve a wide variety of programs. In addition to the CE courses, related courses are provided by other departments, including Statistics, Industrial and Systems Engineering, City & Regional Planning, and Geography. Related graduate-level courses are also available in other areas within the department, such as remote sensing and GIS, to form a minor field of study. A dual MS degree program in Urban Transportation Planning is also offered in conjunction with the Department of City & Regional Planning.

TABLE A

Approved 800-level courses in major field of Transportation*

CE872	Traffic Management Systems	5
CE873	Urban Transport Demand Forecasting	5
CE874	Urban Transport Network Analysis	5
CE878	Traffic Mgmt Systems: Models & Methods	5
CRP853	The Urban General Plan	5
GEOG845.01	Theory of Transport Geography	3-5
GEOG845.02	Problems in Transportation Geography	3-5
ISE802	Operations Research Models & Methods	3
ISE814	Stochastic Processes Used in Sys Eng T1	3
ISE815	Est of System Parameters from Time Series Data	3
ISE816	Advanced Queuing Theory	3
ISE854	Adv Simulation Design/Experimental Procedure	3

*CE transportation courses shall form the majority of the credit hours selected to satisfy minimum requirements of 800-level course. Other 800-level courses can serve to fulfill Table A requirements upon approval of the student's MS or PhD committee.

TABLE B

Approved courses in Transportation and related fields.

CE670	Urban Public Transportation	4
CE672	Traffic Engineering Studies	3
CE673	Highway Location & Designs	4
CE675	Instrumentation, Signals & Control in Transportation Applications	4
CE683	Construction Methods & Equipment	3
CE714	Environmental Pollution Abatement	5
CE753	Pavement Design & Materials	4
CE760	Planning CE Public Investments	5
CE774	Design & Operation of Road Facilities	5



CE775	Urban Transportation Planning	5
CE776	Network Algorithms in Trans Systems	5
CE777	Infrastructure System Analysis	4
CE796	Interdepartment Seminar on Urban Trans	1-5
CE990	Civil Engineering Practicum	1-5
CIS630	Survey/Artificial Intelligence I: Basic Tech	3
CRP731	Outlines of Urban Design	3
CRP745	Physical Elements of Urban Development	5
CRP753	Outlines of Regional Planning	5
GEOG645	Geography of Transportation	5
GEOG647	Location Analysis	5
GEOG650	Urban Geography	5
ISE610	Planning Engineering Experiments	3
ISE653	Engineering Data Analysis	3
ISE673H	Cognitive Engineering	3
ISE702	Empirical Model Building	3
ISE703	Stochastic Processes Used in Systems Engineering I	3
ISE704	Introduction to Discrete System Simulation	3

Plus all CRP courses (600-799) from dual degree program. Other 600- and 700-level classes can fulfill Table B requirements upon approval of the student's MS or PhD committee.

Dual Master's Degree in Urban Transportation Planning

MINIMUM REQUIREMENTS

This program provides an integrated, interdisciplinary curriculum in urban transportation planning, leading to the MCRP degree and the MS degree (CE), and is administered jointly by the Civil Engineering and City & Regional Planning programs. A minimum of 90 graduate credit hours is required; this figure includes the 52-hour C&RP core curriculum plus 31 hours of required CE courses (including 5 hours of statistics), plus 7 hours of approved elective courses.*

The 31 hours of required CE courses count as electives in fulfilling the MCRP degree requirement of 90 graduate credit hours. These 31 hours, plus the 7 hours of approved elective courses, simultaneously count as 38 of the 50 hours that are required for the MS degree. The remaining 12 credit hours can be fulfilled by C&RP core courses.

Each degree requires either a comprehensive examination or a thesis. Students must be registered in the department awarding the degree during the quarter in which they are graduated. Consequently, at least one transfer is necessary. Students should apply for admission to either CE or C&RP, but not both, and later apply for a transfer to the other program. Some knowledge of calculus, physics, and digital computer programming is prerequisite, but these requirements can be satisfied concurrently within a student's program of study.

Each student's program of study must be approved by the student's advisors and by the cognizant graduate committee(s). Dr. Mark McCord (Civil Engineering) and Dr. Philip A. Viton (City & Regional Planning) are the program advisors and should be contacted for further information.

*see the current Transportation Engineering Tables A and B and the Student Guide for Graduate Study in Civil Engineering for a listing of courses.

Minimum Requirements for CE Component of the program:

- 10 credit hours of approved 800-level course work:

CE 873	Urban Transport Demand Forecasting	5
CE 874	Urban Transport Network Analysis	5
- Credit hours in Statistics 5

- Required Civil Engineering Courses:

CE670	Urban Public Transportation	4
CE672	Traffic Engineering Studies	3
CE775	Urban Transportation Planning	4
CE990	Civil Engineering Practicum	5

- The balance of the required 50 graduate credit hours can be elective courses and/or CRP core courses.

Electives:	19
TOTAL:	50

Minimum Requirements for the C&RP Component

- Required courses:

C&RP643	American City Planning since 1900AD	4
C&RP712	Urban Planning Theory Seminar	4
C&RP745	Physical Elements of Urban Development	5
C&RP761	Land Use Controls	4
C&RP762	Urban Planning Data & Forecasting	5
C&RP763	Consequence Analysis in Urban Planning	4
C&RP771	Appl of Quantitative Methods In Urban Planning (STAT525 may be taken instead)	4
C&RP781	Spatial Models in Urban Planning	4
C&RP853	The Urban General Plan	5
C&RP	One Studio Course from Current Dept List	5

- The balance of the required graduate credit hours can be CE courses or approved elective courses

Electives:	38
TOTAL:	90

For additional information, please contact

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For application information visit:

www.gradadmissions.osu.edu

GRADUATE STUDY in TRANSPORTATION ENGINEERING



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



RESEARCH

Research activities by the faculty and graduate students cover a wide range of subjects. Real-time operations studies include traffic control and traveler information systems. Research in remote sensing applications focuses on combining data derived from air- and space-based imagery with data from ground-based sensors to improve transportation flow. Infrastructure related research investigates provision analysis, condition assessment, deterioration modeling, and maintenance planning. Methodological research is conducted in decision making and optimization, and statistical data analysis and modeling. Additional projects include the use of vehicle location systems in predicting bus arrival times at stops, improvement in pavement maintenance management practices, and dynamic transportation systems.

FACILITIES

Computer facilities of the university with conveniently located remote processing terminals are available for the analysis of data and automatic plotting of results. Computer programs are available for traffic network simulation, optimization of traffic signal timing, geometric design, and transportation demand and network modeling.

The flagship university computer facility is the Ohio Supercomputer Center located on campus. It principally supports research computing. OSU also provides a Homenet environment that gives students access to computer resources on campus, in Ohio, and on the Internet. The department maintains specialized facilities to address the needs of our programs. Facilities are under the auspices of the College of Engineering, Region 1, which is supported in part by a university computer fee.