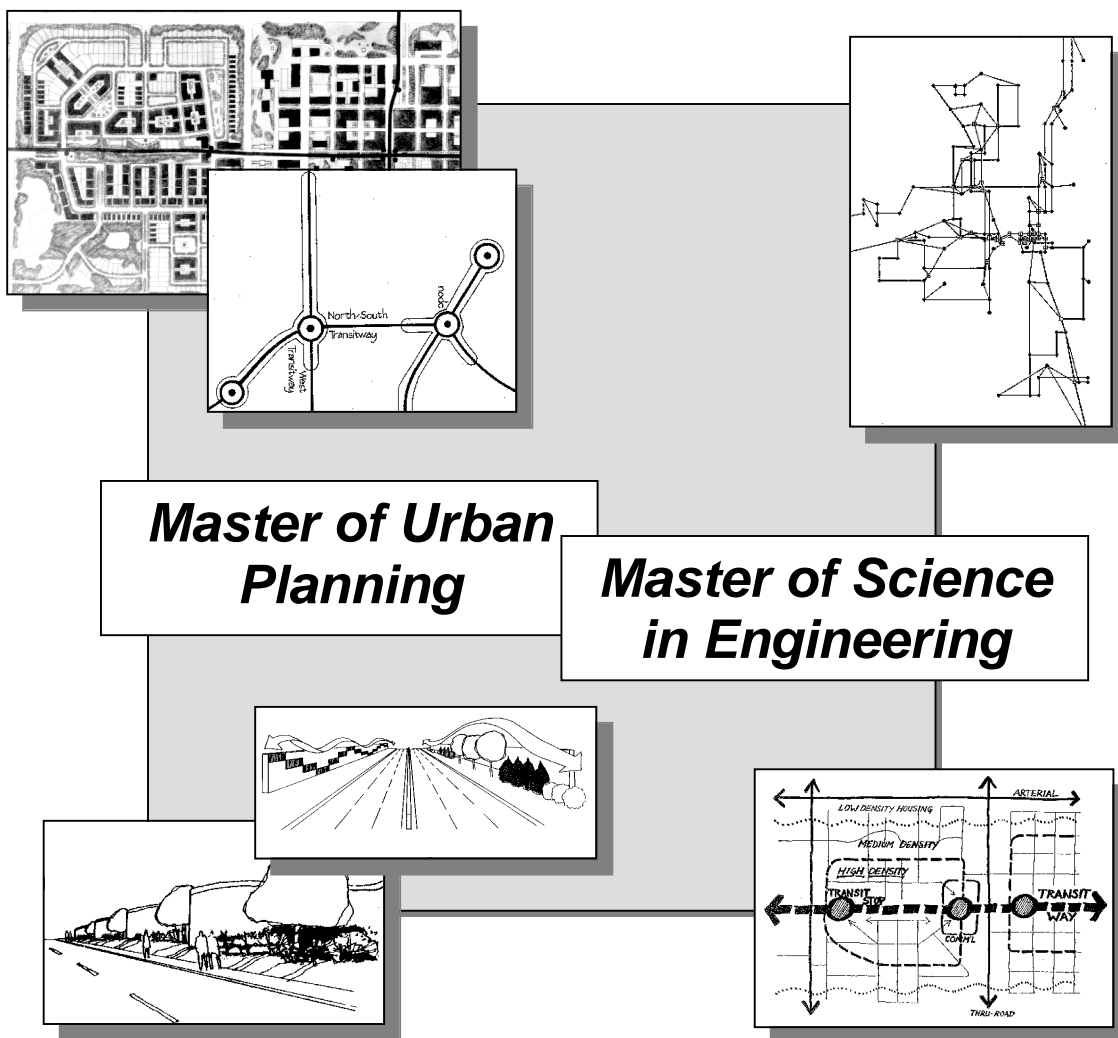


Civil Engineering / Urban Planning Coordinated Degree Program

Graduate Studies in Transportation Planning
through dual Master of Urban Planning and Master
of Science in Engineering Degrees



University of Wisconsin – Milwaukee



The Academic Program and Sample Curriculum

The following is a summary of the academic program and the eight step process to achieve a degree in the dual program.

The dual degree program in transportation studies and urban planning allows a student to earn two masters degrees after completing a minimum of 54 credit hours in the Engineering and Urban Planning departments. If a student were to earn those master degrees separately, 72 credit hours would be required. Students in the program will meet the minimum requirements for each degree and then complete the respective degree requirements with courses taken in both departments.

Under the MS/MUP program, students normally take 21 credits in engineering, 30 credits in planning and do a thesis. The College of Engineering and Applied Science require its master's students to take a minimum of 24 credits including a thesis in a program approved by an advisor. These programs are designed by the student to directly meet their goals and needs. The Urban Planning Department requires its students to take 27 credits of core courses in urban planning and 21 credits of electives which can be either in urban planning or in other departments. The requirement of the coordinated program is outlined in the following eight steps.

1. Admission to each of the constituent programs.
2. Completion of 27 credits of required core courses in Urban Planning.
3. Completion of 15 in an "approved technical program of studies" in engineering as related to urban planning. In transportation planning this could include some of the following courses:
 - CE 490 Transportation Engineering
 - CE 590 Urban Transportation Planning
 - CE 592 Traffic Control
 - CE 790 Transportation Systems Design
 - CE 792 Methods of Transportation Analysis
 - CE 794 Traffic Planning and Operations
 - CE 940 Topics in Transportation
4. Completion of the Urban planning comprehensive examination.
5. Completion of the College of Engineering and Applied Science comprehensive examination.
6. Completion of 6 credits in non-transportation related Urban Planning approved electives.
7. Completion of 6 credits in non-transportation related Engineering approved electives.
8. Completion of a 3 credit thesis

Instructors and Faculty in the Coordinated Degree Program

The following is a list of the faculty that are involved in Transportation studies and programs at the University of Wisconsin – Milwaukee...

Civil Engineering Department

Edward Beimborn
Alan Horowitz

Urban Planning Department

Virginia Carlson
Nancy Frank
William Huxhold
Zhong-Ren Peng
Sammis White
Welford Sanders

Architecture Department

Harvey Robinowitz
Lawrence Witzling

Industrial and Systems Engineering

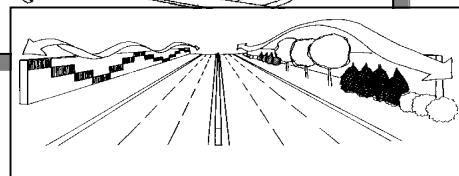
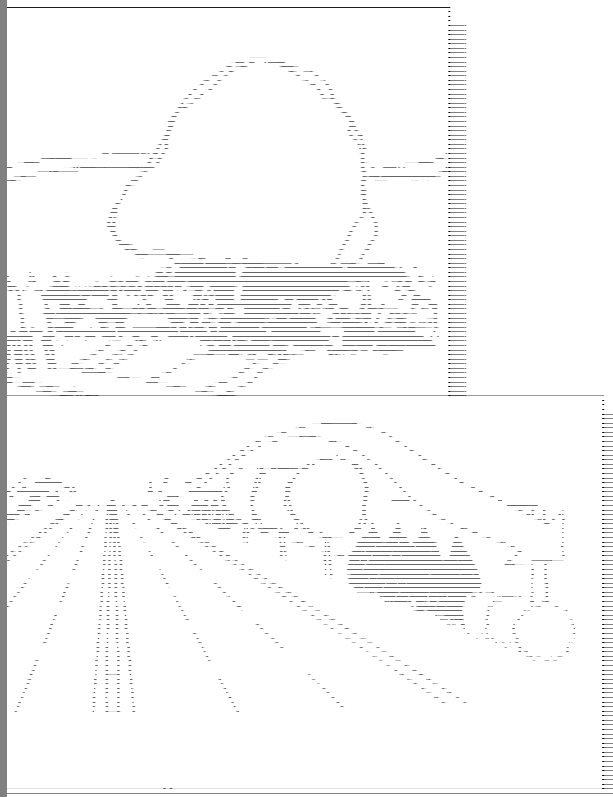
Arun Garg
Minnie Patel
U. Saxena

School of Business Administration

Dennis Gensch

Division of Urban Outreach

Wyatt Osata
Pamela Paring
David Soeldner
Dixon Nuber



“Noise Barrier Design Guidelines”

By Julie Farnham and Edward Beimborn - July 1990

Courses Available in the Coordinated Degree Program – Urban Planning

The following are descriptions of the Urban Planning core courses...

UP 710 Planning Contexts and Applications

Planning institutions in government and non-governmental organization: planning administration; planning and implementation: Cases of planned intervention and their outcomes.

UP 711 Planning Theories and Practice

The theory and decision context of planning: rationality and rational analysis, decision making normative and descriptive, planning models and roles.

UP 720 Cities and Region: Planning Concepts

Spatial context of urban and regional planning and the city in national and regional systems; examination of land use, transportation, economic development and housing; location theory; regional development.

UP 721 Cities and Regions: Planning Analysis

Methods of regional and local economic analysis; urban and regional economic indicators; internal structure of city and regional economies.

UP 740 Methods, Applications, and Research in Planning and Architecture

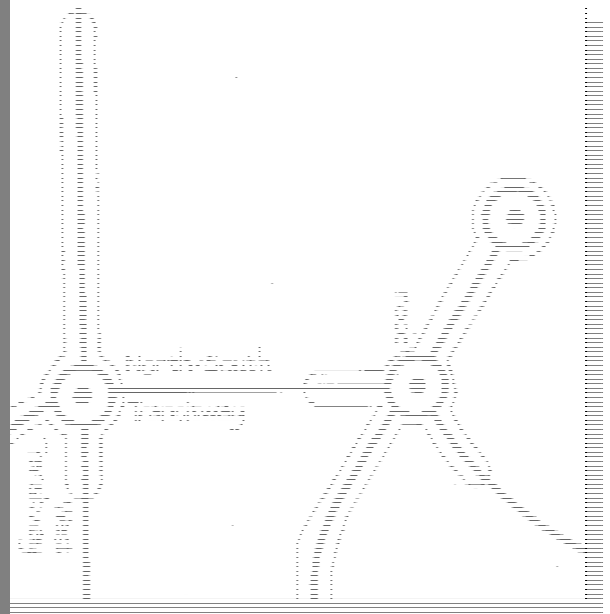
The first of a two-semester sequence in the application of quantitative methods most commonly used in urban planning and analysis of the built environment.

UP 741 Applied Planning Methods

The second semester of quantitative methods most commonly used in urban planning.

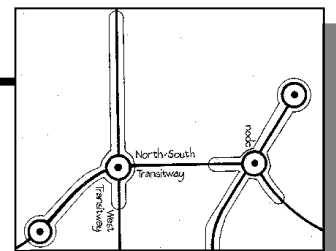
UP 791 Introduction to Urban Geographic Information Systems for Planning

Use of spatial related information including GIS and land records systems for improved productivity and decision-making in service delivery, management, policy-planning, and land development.



“Guidelines for Transit-Sensitive Suburban Land Use Design”

By Edward Beimborn and Harvey Rabinowitz
with Peter Gugliotta, Charles Mrotek, and Shuming Yan - July 1991



Program Courses – Urban Planning

Urban Planning courses continued...

UP 810 Planning Policy Analysis

Application of planning analysis tools in the context of policy issues involving planners; a case studies approach stressing both policy analysis and the role of the planner.

UP 811 Applied Planning Workshop

Application of planning concepts, principals, processes, and techniques to a selected realistic problem, issue, or project context at an appropriate scale ranging from the neighborhood to the State.

Urban Planning Electives

UP 791 Introduction to Urban Geographic Information Systems (GIS) for Planning

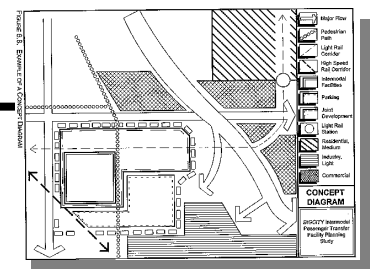
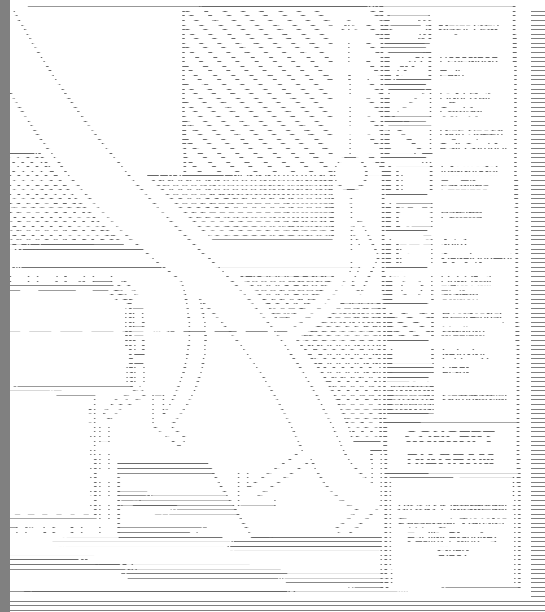
Use of spatially related information including GIS and land records systems for improved productivity and decision-making in service delivery, management, policy planning, and land development.

UP 792 Using Urban Geographic Information Systems (GIS) for Planning

A “hands-on” course in GIS using commercial GIS software in a computer laboratory setting to provide experience solving problems related to planning and government.

UP 793 Applied Projects in Urban Geographic Information Systems

Use of a geographic information system (GIS) and actual data from local government top analyze a real world problem or issue requiring spatial data analysis.



“Evaluation of Intermodal Passenger Transfer Facilities”
By Alan J. Horowitz and Nick A. Thompson - September 1994

Courses Available in the Coordinated Degree Program - Engineering

The following are descriptions of the suggested Engineering courses...

CE 492 Environmental Impact Assessment

Study and evaluation of the impacts of large scale project on the quality of the environment with emphasis on the assessment of physical and community impacts. Impact statement preparation

CE 590 Urban Transportation Planning

Techniques used to plan urban transportation systems; data collection, trip generation, trip distribution, factors underlying the choice of mode, traffic assignment, and evaluation techniques.

CE 592 Traffic Control

Control of transportation systems with emphasis on traffic engineering principals. Data collection, capacity analysis, traffic improvements, signalization, signs, markings, channelization, intersection, speeds, and safety considerations

CE 594 Physical Planning and Municipal Engineering

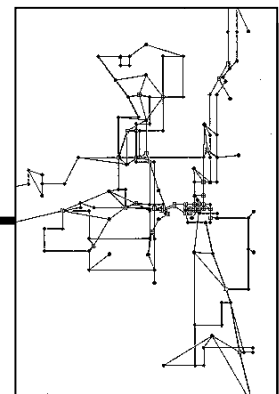
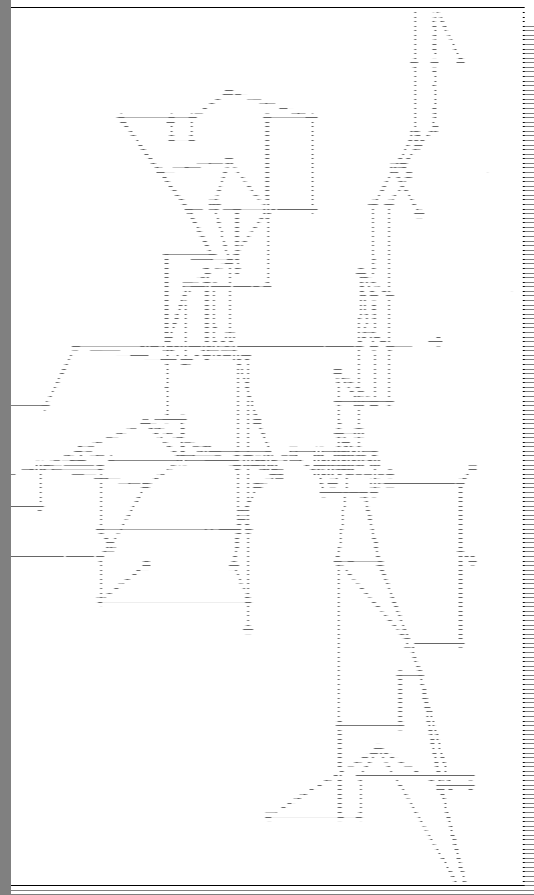
Organization and structure of local government, zoning and planning, subdivision layout, street design, transit service, urban drainage, storm and sanitary sewer, water supply, and other public works activities

CE 790 Transportation Systems Design

Principals of systems analysis as they relate to the planning, design, and operation of transportation systems. Model building, evaluation, and systems management

CE 792 Methods of Transportation Analysis

Mathematical tools useful in analysis of transportation systems. Process of modeling and simulation, matrix techniques, network analysis, statistical analysis, etc. as related to transportation. Use of standard packaged computer programs. Class project may be utilized to develop these skills.



Transit forecasting network for Wausau, WI, as drawn with the General Network Editor, a computer program originally written for a Master's Thesis at UWM and now used throughout the world.

Program Courses – Engineering

Engineering courses continued...

CE 794 Traffic Planning and Operations

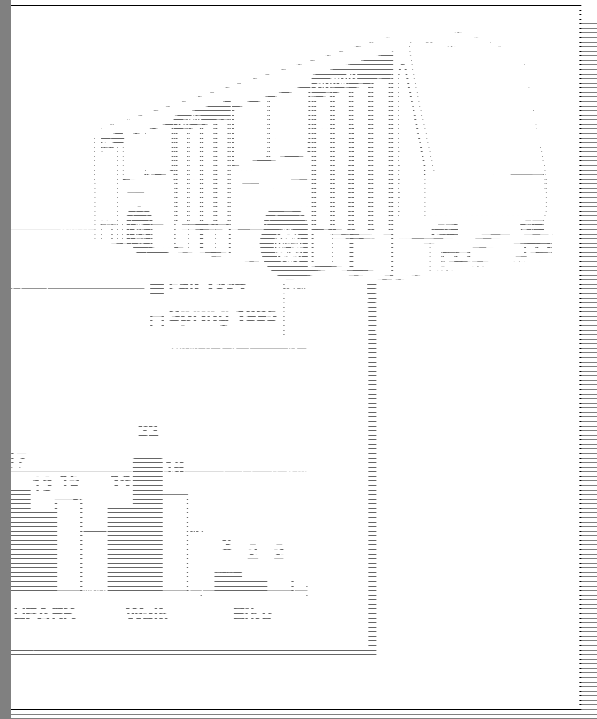
Planning and design of traffic systems, delay and capacity of signalized intersections, freeway controls, traffic systems management and optimization, queues, traffic assignment and simulation.

CE 940 Topics in Transportation

Topics vary. Topics and problems of current interest in transportation; readings and review of recent literature and development of a critical analysis of paper. Subject matter may be student initiated. Specific topics and any additional prerequisites will be announced in the Schedule of Classes each time the courses are offered.

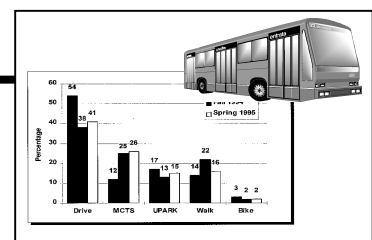
CE 990 Master' Thesis

Topics vary...



“An Analysis of the Usage, Impacts, and Benefits of an Innovative Transit Pass Program”

By James A. Meyer and Edward Beimborn – January 1997



Past Project Titles and Research Work Completed in the Dual Degree Program

The following are a few of the research projects that have been conducted by the individuals involved with the Dual Degree Program

Internet GIS and its Applications in Transportation

Implications of Automated Highways on Land Use Patterns

Measurement of Transit Benefits

Transit Based Land Use Design

Design of Freeway Noise Barriers

Evaluation of Inter-modal Transfer Facilities

Design of Transit Facilities

Evaluation of an Innovative Transit Pass (UPASS) Program

Usage, Impacts, and Transferability of an Innovative Pass Program

A Transportation Modeling Primer

Survey of Motorist Attitudes Towards a Proposed Highway Project

Transportation Models for Livable Communities

An Evaluation of Efforts to Promote Transportation Reform

How to Conduct Focus Groups

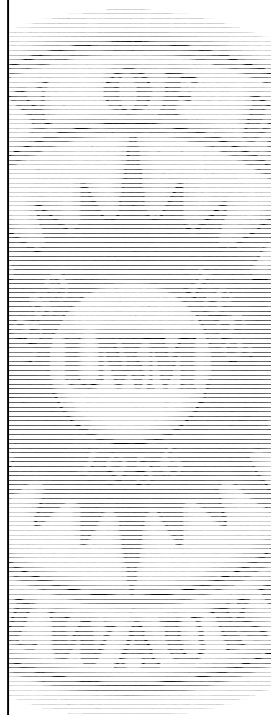
Quick Response Freight Manual

Advanced Travel Demand Forecasting Course

Highway Capacity Concepts in Travel Forecasting Models

GIS, Jobs-Housing Balance and Urban Commuting

GIS-Based Automatic Transit Traveler Information Systems



University of Wisconsin - Milwaukee

