



Fall 2010 Courses

Course Name	University	Instructor	Course Description	Core/ Elective
Conflict Management and Negotiation	New York University	Allen J. Zerkin: allen.zerkin@nyu.edu	The public/non profit administrator, whether primarily concerned with management, policy or finance, is called upon to manage or becomes involved in a wide variety of conflicts. Conflict is ubiquitous-within and between organizations and agencies, between citizens and agencies. The increasing complexity and interrelatedness of the issues that the public sector is called upon to address, and the increasing sophistication and engagement of groups representing both public and private interests, compounds the challenge. In this environment, it is essential for public and non-profit administrators to know how to manage conflict effectively. Through readings, discussions, and simulations students will develop an understanding of conflict dynamics and the art and science of negotiation and will be introduced to the role that can be played by conflict resolution techniques such as mediation. The course will emphasize the theoretical as well as the practical, the reflective as well as the applied.	Elective
Intelligent Transportation Systems	University of Massachusetts	John Collura: collura@ecs.umass.edu		Core
Transportation and Air Quality	University of Vermont	Britt A. Homen: baholmen@cems.uvm.edu	This course quantifies the impact of transportation on air quality including mobile source regulatory framework; internal combustion engine emissions and testing methodologies, secondary pollutant formation; driver behavior and emissions; laboratory vs. real-world emissions; and alternative fuels. Students will gain critical understanding of the theory, structure, functioning, and application of the major air quality models currently used for mobile source emissions estimation. They will also understand individual model components for the major models currently in use and the sources of error and statistical methods used in model estimation and forecasting.	Core
Transportation and Land Use	University of South Florida	Steve Polzin: polzin@cutr.usf.edu	This course provides a study of urban development and the relationships between transportation and land use. Topics include the economic theory of urban form, travel behavior and trip generation, growth management, urban design, and land use forecasting.	Core
Transportation Finance and Economics	City University of New York	Jonathan Peters: jpeters@mail.csi.cuny.edu	The goal of this course is to provide students with a comprehensive introduction to the economic theory and practices of transportation systems. A particular focus will be placed on demand management and road pricing. In addition, we will review the current literature on transportation finance reform as well a public private partnerships and public benefit corporations. Current readings from transportation journals will bring state of the art practices to the course.	Core
Transportation Systems	George Mason University	Jonathan Gifford: jgifford@gmu.edu	This course aims to provide an environment for students to learn essential facts, and to develop models and frameworks for understanding the planning, development and deployment of transportation systems. An essential characteristic of transportation systems is their socio-technical nature, that is, their being comprised of technical and social components. The course uses a combination of lectures (generally in the first half of the class session) and case studies and role playing (generally in the second half of the class session).	Core
Analysis for Transportation Managers	George Mason University	Laurie Schintler: schintl@gmu.edu	The course is intended to provide students with a foundation in methods that are used in transportation planning and policy analysis. Emphasis is on the practical application of statistics and models to transportation problems. Upon completion of the course, students should have an understanding of how to select an appropriate method for analysis, collect and explore quantitative data, conduct statistical and regression analysis, perform basic forecasting, calibrate, validate and interpret transportation planning models and visualize geographic data. The student should also learn how to present the results of quantitative analysis to both the layperson and a technical audience.	Elective
Quantitative Methods in Transportation	University of Utah	Peter Martin: Peter@trafflab.utah.edu	Transportation studies encompass a wide variety of disciplines. This course has been designed to provide you with an insight into a variety of techniques of quantitative analysis. The syllabus matter comes from both the fields of Operational Research and Management Science. Many of the methods you will learn have application beyond the Transportation field. The learning should provide you with a sound understanding of the role of applied mathematical techniques plays in the decision making process.	Elective
Transportation System Modeling	North Dakota State University	Subhro Mitra: Subhro.Mitra@ndsu.edu	This course focuses on quantitative techniques used for the planning and operation of transportation systems. Topics include: system capacities and flows, comprehensive models of transportation and urban systems, and understanding how political processes, new technologies, and economic considerations affect transportation decisions.	Elective
Transportation System Security	North Dakota State University	Jarret Brachman: Jarret.Brachman@ndsu.edu	This course examines security threats and solutions related to transportation systems. Specific focus is placed securing passenger and freight modes of transportation including railroad, highway, aviation, maritime and pipelines from acts of terrorism and intentional disruption.	Core

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Spring 2011 Courses

Course Name	University	Instructor	Course Description	Core/ Elective
Intelligent Transportation Systems	University of Utah	Peter Martin: Peter@trafficlab.utah.edu	Intelligent Transportation Systems "ITS", is the collective application of the following information and control technologies to surface transportation: <ul style="list-style-type: none"> • Operating our transportation system more effectively • Moving goods efficiently by connecting the modes of free transportation • Intelligently satisfying the demands for mobility and access • Promoting modal shift through encouraging car pools, van pools, and the use of public transportation 	Core
Transportation System Security and Safety	George Mason University	Michael Bronzini: mbronzin@gmu.edu	This course covers current issues in transportation security, including the roles of federal, state and local organizations; highway systems; transit systems; rail systems; passenger security; freight security; human factors; and planning for security	Core
Critical Infrastructure Protection in Theory, Policy and Practice	George Mason University	Christine Pommerening: cpommere@gmu.edu	Modern societies with their interdependent social, technical, and political systems are subject to a variety of risks, traditionally viewed as a function of threats, vulnerabilities, and consequences. Threats range from natural hazards to accidents to terrorist attacks; vulnerabilities can be organizational, structural, or geographical; consequences include human casualties as well as economic losses. Critical infrastructures, by one definition, are those physical and cyber-based systems essential to the functioning of economy and government, e.g. electric power, transportation, and public health. To deal with infrastructure risks, public and private actors have designed policies along a continuum of prevention, preparedness, response, and recovery. Recent analyses have suggested resilience as a strategic policy objective for national and homeland security. This course will introduce critical infrastructure protection as a policy field, examine its institutional framework, and consider its foundations in organizational theory and risk analysis. While the point of reference for this course is the United States, comparative analyses of policies in other developed countries and in the developing world will be included.	Elective
Transportation and Distribution	Penn State	Gary Gittings: glg@psu.edu	SCM 810 covers transportation and distribution activities in the fulfillment of demand from both end-consumers and business trading partners. Activities from the receipt of a customer order to the satisfaction of that order will be studied. Besides transportation, these activities include demand planning, inventory management, and warehouse operations.	Elective
Public Transportation	North Dakota State University	Jill Hough: Jill.Hough@ndsu.edu	This public transportation course will include concepts and models used in the transit industry for both rural and urban settings. Policy issues, government's role in transit, transit planning, demand forecasting, performance evaluation, and systems costing will be discussed. Students will have the opportunity to work on projects directly related to a transit system. Several industry experts will provide lectures throughout the course. The course objectives are to provide the student with an understanding and knowledge of the history, institutions, terminology, and the issues particular to public transportation policy, planning and management, and an introduction to employment opportunities in the transit industry for those students with career interests in the area.	Elective

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Summer 2011 Courses

Course Name	University	Instructor	Course Description	Core/ Elective
Transportation Systems Modeling	North Dakota State University	Subhro Mitra: Subhro.Mitra@ndsu.edu	This course focuses on quantitative techniques used for the planning and operation of transportation systems. Topics include: system capacities and flows, comprehensive models of transportation and urban systems, and understanding how political processes, new technologies, and economic considerations affect transportation decisions.	Elective
Urban Transportation Systems Analysis	North Dakota State University	Subhro Mitra: Subhro.Mitra@ndsu.edu	This course provides students with an understanding of system analysis tools used in urban transportation. Students will work with analytical techniques employed in urban transportation planning, such as traffic forecasting and system capacity analysis and apply these techniques using real-world data for analyzing both the demand and supply of transportation.	Elective

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Fall 2011 Courses

Course Name	University	Instructor	Course Description	Core/ Elective
Advanced Technical Communication	University of Utah	Peter Martin: Peter@traffclab.utah.edu	Advanced Technical Writing is an advanced communication course and students are expected to have a good command of written and spoken English. The course is not a writing primer, a series of tips on how to avoid common errors, or a review of the basics of English grammar. It is an advanced specialized course specifically designed to introduce the principles of how to communicate complex technical ideas.	Elective
Civil Infrastructure Systems	University of Delaware	Nii Attoh-Okine: okine@UDel.edu	Presents unified approach to management of civil infrastructure systems. Topics include analytical methods, development of data collection technologies, life cycle cost, prioritization, and optimization. Software tools for infrastructure management decision making introduced and critical infrastructure protection addressed. Types of infrastructure considered include pavements (roads and airports), bridges, drainage and sewer systems, water supply systems, and power supply facilities.	Elective
High Speed Rail Engineering	University of Illinois Urbana-Champaign	T.C Kao: tckao@illinois.edu	High-speed rail (HSR) passenger transportation systems have been, or are being, developed in dozens of countries around the world. Although the basic elements of the technology resemble conventional rail transport, there are numerous engineering design differences, including the subgrade, track system, motive power, rolling stock, traffic control, power distribution system, traffic control, and station design. Recent plans for development of HSR in North America mean that engineers must understand these engineering elements, as well as the planning, economics, construction, operation, maintenance, management, and other principles of HSR systems, in order to successfully develop them. This course provides upper level undergraduates and graduate students with an introduction to planning, design, construction, operation, and maintenance of high-speed rail (HSR) passenger transport systems with particular emphasis on the unique elements of HSR planning, engineering, and technology. Students learn about design and construction of a high-speed rail system including civil infrastructure (e.g. earthwork, bridges, viaducts, tunnels, track systems), power distribution, and wayside equipment. The course also covers design and construction of HSR stations and rolling stock maintenance facilities, trainset design, power, communication, signaling, and traffic control systems as well as an analysis of the costing and financial aspects of HSR transport systems.	Elective
Supply Chain Management	Penn State	Gary Gittings: glg@psu.edu	Introduction to the strategic framework, issues, and methods for integrating supply and demand management within and across companies. Strong writing skills are recommended for this course. If English is not your native language, it is important that you read additional information regarding English language proficiency before registering for this course. This course provides an enhanced understanding of key concepts in supply chain and information systems. The systems viewpoint is explored at the individual-firm level and from the perspective of inter-firm relationships among participants in logistics supply chains. Opportunity is provided for applying supply chain management concepts through cases and other collaborative activities.	Elective
Sustainable Transportation Asset Management	Kansas State University	Mustaque Hossain: mustak@ksu.edu	The goals of this course are to educate graduate level civil engineering students in the principles of transportation asset (bridges, pavements, tunnels, etc) management with an emphasis on pavement management. The purpose is to provide a core of civil engineering graduates with a thorough understanding of the asset management process. They can be expected to assist in the development and implementation of asset management processes in the agencies they work. Both network- and project-level asset management processes will be discussed, but the emphasis will be on network level. The principles of sustainability will be covered.	Elective

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Fall 2011 Courses *Continued*

Course Name	University	Instructor	Course Description	Core/ Elective
Traffic Systems Engineering	University of South Florida	Jian "John" Lu: lu@eng.usf.edu	Fundamentals of urban transportation planning: trip generation, trip distribution, modal split, traffic assignment. Introduction to environmental impact analysis, evaluation an choice of transportation alternatives.	Core
Transportation System Security	North Dakota State University	Jarret Brachman: jarret.brachman@ndsu.edu	This course examines security threats and solutions related to transportation systems. Specific focus is placed securing passenger and freight modes of transportation including railroad, highway, aviation, maritime and pipelines from acts of terrorism and intentional disruption.	Core

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