Transportation and Logistics

www.ndsu.edu/transportation/tl/

Program Director: Dr. Denver Tolliver
Assistant to the Director of Educational Programs: Jody Bohn (Jody.Bohn@ndsu.edu)
Program Location: Upper Great Plains Transportation Institute
Telephone Number: (701) 231-7938
Degree Offered: Ph.D.
Application Deadline: May 1 for fall semester and October 1 for spring semester
Test Requirements: GRE (GMAT may be substituted)
English Proficiency TOEFL ibT 71
Requirements: IELTS 6

Program Description

North Dakota State University offers an interdisciplinary program leading to the Ph.D. degree in Transportation and Logistics (TL). The Transportation and Logistics program is a joint effort of the Colleges of Agriculture, Food Systems, and Natural Resources; Business; Engineering; as well as the Upper Great Plains Transportation Institute. The following departments are participating in the program: Agribusiness and Applied Economics; Civil Engineering; Construction Management and Engineering; Industrial and Manufacturing Engineering; and Management, Marketing, and Finance; and Emergency Management.

The TL doctoral program allows students to develop advanced knowledge and research skills in the rapidly growing fields of transportation and logistics. The Ph.D. program consists of three main components: a core curriculum, an area of concentration, and a dissertation. After completing the interdisciplinary core curriculum, students may enter one of three areas of concentration: 1) Logistics and Supply Chain Systems, 2) Transportation Economics and Regulation, and 3) Transportation Infrastructure and Capacity Planning.

Admission Requirements

The Transportation and Logistics Ph.D. program is open to qualified graduates of universities and colleges of recognized standing. In addition to the Graduate School requirements, the applicant must have adequate preparation in one or more of the disciplines comprising Transportation and Logistics and have a stated interest in transportation and the capability to conduct transportation research.

Students who do not meet all requirements for admission or have deficiencies in prerequisite course work, but show satisfactory potential for graduate study, may be admitted conditionally. The conditional status may be changed to full graduate standing after the first or second semester of study, based on the student's academic performance.

A student wishing to pursue an area of concentration in Transportation Economics and Regulation must have completed intermediate-level microeconomics and taken at least one course in macroeconomics. In order to pursue an area of concentration in Logistics and Supply Chain Systems, a student must have earned a baccalaureate degree in Agribusiness, Business, Economics, Finance, Industrial Engineering, Management, Marketing, or a related field. All applicants must meet the general program prerequisites of at least one year of calculus, at least one course in statistics and economics, and an expressed interest in transportation. Preference will be given to students with prior transportation coursework and relevant research experience.

Financial Assistance

The number of assistantships vary from year to year, depending on grant availability and the number of students in residence. Applicants are considered on the basis of scholarship and potential to undertake advanced study and research.

To be considered for an assistantship, the student must complete a Graduate School application, be accepted by the department, and identify the desire for an assistantship or financial need in the applicants statement of purpose.

Graduate tuition is waived for students with qualifying assistantships.

The Ph.D. program requires the completion of a minimum of 90 credits of graduate study beyond the baccalaureate degree with an overall GPA of 3.0 or higher. Each student must develop a plan of study under the guidance of a faculty adviser and a supervisory committee. Twenty-five of the graduate credit hours must consist of core Transportation and Logistics courses or suitable substitutes. A minimum of 30 credit hours must consist of research-based dissertation credits. In addition, a minimum number of credit hours must be taken in the student's area of concentration, including quantitative methods courses related to the concentration. The remaining credits may be comprised of technical electives and additional dissertation credits.

Students must pass the comprehensive/preliminary examination after the majority of the coursework has been completed. The comprehensive exam includes written and oral components related to core transportation and quantitative concepts and to the student's area of concentration. The comprehensive exam also includes a dissertation prospectus examination in which the student must present and defend a plan for undertaking and completing a dissertation. After passing of the comprehensive exam and completion of the dissertation, the doctoral candidate must pass a final examination in which the completed dissertation is presented and defended.

Courses Offered

TL 711	Logistics Systems	4
TL 715	Enterprise Resource Planning	3
TL 719	Crisis Analysis and Homeland Security	3
TL 721	International Logistics Management	4
TL 723	Advanced Supply-Chain Planning Across the Enterprise	3
TL 725	Technology Advances and Logistics	3
TL 727	Organizational Change Management	3
TL 729	Adaptive Planning in Logistics Systems	3
TL 731	Logistics Decision Analysis	3
TL 733	Case Studies in Logistics	3
TL 735	Acquisition Contracts: Law and Management	3
TL 751	Transportation Systems Security	3
TL 752	Transportation Planning and Environmental Compliance	3
TL 753	Transportation System Modeling	3
TL 754	Urban Transportation Systems Analysis	3

TL 755	Context Sensitive Solutions	2
TL 756	Transportation Systems Laboratory	3
TL 782	Transportation Systems I	3
TL 783	Transportation Systems II	3
TL 785	Spatial Analysis in Transportation	3
TL 786	Public Transportation	3
TL 788	Research in Transportation and Logistics	3
TL 790	Graduate Seminar	3
TL 793	Individual Study	3
TL 796	Special Topics	3
TL 899	Doctoral Dissertation	1-15
ENGR 770	Quantitative Modeling	3
ENGR 771	Probabilistic and Deterministic Methods	3
AGEC 771	Economics of Transportation Systems	3
GEOG 655	Introduction to Geographic Information Systems	4
GEOG 656	Advanced Geographic Information Systems	3

Magdy Abdelrahman, Ph.D.
University of Illinois-Urbana, 1996
Research Interests: Characterization of Modified Asphalt Binders and Mixes; Pavement Maintenance and Rehabilitation Techniques; Performance-Related Specifications for Pavement Materials; Quality Control and Quality Assurance in Pavement Construction
Department: Civil Engineering

Canan Bilen-Green, Ph.D.
University of Wyoming, 1998
Research Interests: vQuality and Reliability Engineering, Design and Auditing of Quality and Productivity Monitoring Systems, Statistical Modeling and Applications, Applied Operations Research
Department: Industrial and Manufacturing Engineering

John Bitzan, Ph.D.
University of Wisconsin-Milwaukee, 1997
Research Interests: Transportation Economics
Department: Management, Marketing and Finance

Alan Dybing, Ph.D.
North Dakota State University, 2013
Research Interests: Asset Management, Energy Impacts, Freight Transportation, Agricultural Transportation, Supply Chain Management, Transportation Economics, Spatial Analysis, Transportation Systems Modeling
Department: Upper Great Plains Transportation Institute

Robert Hearne, Ph.D.
University of Minnesota, 1995
Research Interests: Natural Resource and Environmental Economics
Department: Agribusiness and Applied Economics

Siew Hoon Lim, Ph.D.
University of Georgia, 2005
Research Interests: Production Economics, Transportation, Industrial Organization
Department: Agribusiness and Applied Economics

Jill Hough, Ph.D.
University of California-Davis, 2007
Research Interests: Public Transportation, Travel Behavior, Built Environment, Accessibility and Mobility of Seniors
Department:Upper Great Plains Transportation Institute

Won Koo, Ph.D.
Iowa State University, 1974
Research Interests: International Trade
Department: Agribusiness and Applied Economics

Brenda Lantz, Ph.D.
Pennsylvania State University, 2006
Research Interests: Commercial vehicle safety systems and analysis, supply chain, intelligent transportation systems for commercial vehicle operations, and statistical modeling and diagnostics.
Department: Upper Great Plains Transportation Institute

EunSu Lee, Ph.D.
North Dakota State University, 2011
Research Interests: Transportation systems modeling, informatics, spatial analysis, logistics, supply chain management, Industrial engineering
Department: Upper Great Plains Transportation Institute

Pan Lu, Ph.D.
North Dakota State University, 2011
Research Interests: Asset Management, Freight Transportation, Statistical Modeling and Applications, Multi-Modal Transportation, Applied Operation Research
Department: Upper Great Plains Transportation Institute

Wesley Marshall, Ph.D.
University of Connecticut, 2009
Research Interests: Road Safety, Active Transportation, Transit, Street Networks, Transportation Planning and Land Use Modeling, Parking, Sustainability, Livability, and Resiliency
Department: University of Colorado Denver, Department of Civil Engineering

Subhro Mitra, Ph.D., P.E.
North Dakota State University, 2007
Research Interests: Freight Travel Demand modeling, Urban Travel Demand Modeling, Asset Management and Life-Cycle Cost Study Optimizing Logistics Network, Economic Appraisal of Infrastructure Investment
Department: University of North Texas at Dallas, Business School

Diomo Motuba, Ph.D.
North Dakota State University, 2009
Research Interests: Transportation Economics, Transportation Systems Modeling, Freight Transportation, Econometrics, Logistics, Supply Chain Management
Department: Upper Great Plains Transportation Institute

Peter O'Dour, Ph.D.
University of Missouri-Rolla, 2004
Research Interests: GIS, Groundwater contamination, Remote sensing
Department: Geosciences

Richard J. Porter, Ph.D.
Pennsylvania State University, 2007
Research Interests: Road Safety, Highway and Street Design, Project Development, Risk and Reliability Analysis, Traffic Operations
Department: University of Utah, Department of Civil & Environmental Engineering

Joseph Szmerekovsky, Ph.D.
Case Western Reserve University, 2003

Research Interests: Project management and scheduling, Complex systems and flexible manufacturing and using linear and nonlinear dynamic and integer programming and network flows
Department: Management, Marketing and Finance

Denver D. Tolliver, Ph.D.
Virginia Polytechnic University, 1989
Research Interests: Transportation Systems Planning, Freight Transportation, Economic Analysis
Department: Upper Great Plains Transportation Institute

Rodney D. Traub, Ph.D.
Purdue University, 1994
Field: Operations Management
Department: Management, Marketing, and Finance

Kim Vachal, Ph.D.
George Mason University, 2005
Research Interests: Policy, Economics, Regional Development
Department: Upper Great Plains Transportation Institute

Amiy Varma, Ph.D.
Purdue University, 1993
Research Interests: Transportation Systems and Planning, Traffic Engineering, Airports, and Infrastructure Management
Department: Civil Engineering

Nadim Wehbe, Ph.D.
University of Nevada, Reno, 1997
Research Interests: Reinforced and Prestressed Concrete Structures, Bridge Engineering, Earthquake-Resistant Bridges, Advanced Composites
Department: South Dakota State University, Department of Civil and Environmental Engineering

David L. Wells, Ph.D.
University of Missouri-Rolla, 1996
Research Interests: International Studies in Manufacturing Technology, Strategic Management, Economic Development Strategies
Department: Industrial and Manufacturing Engineering

William W. Wilson, Ph.D.
University of Manitoba, 1980
Research Interests: Commodity Marketing, Agribusiness, Industrial Organization
Department: Agribusiness and Applied Economics

Frank Yazdani, Ph.D., PE
University of New Mexico, 1987
Research Interests: Structural Engineering/Mechanics, Constitutive Modeling of Materials, Damage Mechanics, Plasticity, Computational Plasticity, Finite Elements, Concrete and Masonry Materials
Department: Civil Engineering