

**Appendix A – Outputs – Transportation and Transportation-Related Courses Offered This Period**  
**Grant No. 69A3551747108**  
**Mountain-Plains Consortium, North Dakota State University**  
**Reporting Period End Date: September 30, 2019**  
**SAPR#5**

**Transportation and Transportation-Related Courses Offered This Period**  
**Engineering & Design 1**

- CE 5510 Pavement Design
- CE 3500 Transportation Engineering
- CE 3600 Soil Mechanics
- CE 4510 Pavement Design
- CE 4620 Soil and Rock Slope Engineering
- CE 5590 Pavement Materials
- CEE 447/547 Foundation Engineering
- CEE 456 Concrete Theory and Design
- CEE 5070 Structural Steel Design
- CEE 106/106L Elementary Surveying and Lab
- CEE 282 Computer-Aided Design
- CEE 311 Structural Materials Lab
- CEE 3160/3165 Civil Engineering Materials
- CEE 331 Fluid Mechanics Lab
- CEE 411/511 411L/511L Asphalt Materials and Mix Design and Lab
- CEE 458/558 Design of Timber Structures
- CEE 492/592 Highway Engineering
- CEE 5100 Infrastructure Evaluation and Renewal
- CEE 6120 Bridge Engineering
- CEE 6130 Structural Dynamics and Seismic Design
- CEE 6930 Structural Design Loads
- CEE 759 Structural Dynamics
- CEE 792 Geosynthetics Design for Transportation
- CIVE 508 Bridge Engineering
- CVEEN 2010 Statics
- CVEEN 5420 Open Channel Flow
- CVEEN 6250 Structural Dynamics
- CVEEN 1400 Computer-Aided Design
- CVEEN 2140 Strength of Materials
- CVEEN 3210 Structural Loads and Analysis
- CVEEN 3310 Geotechnical Engineering I
- CVEEN 3410 Hydraulics
- CVEEN 3510 Civil Engineering Materials
- CVEEN 4221 Concrete Design I
- CVEEN 4222 Steel Design I
- CVEEN 5210 Structural Analysis II
- CVEEN 5220 Concrete Design II
- CVEEN 5230 Steel Design II
- CVEEN 5240 Masonry/Timber Design
- CVEEN 5305 Introduction to Foundations
- CVEEN 6310 Foundation Engineering

- CVEEN 6340 Advanced Geotechnical Testing
- CVEEN 7250 Structural Earthquake Engineering
- CVEEN 7310 Advanced Foundation Engineering
- CVEN 4602 Highway Engineering
- CVEN 5602 Advanced Street & Highway Design
- CVEN 5682 Pavement Design
- EM 321 Fluid Mechanics
- TL 783 - Transportation Systems II
- TRAN 4010 Introduction to Transportation Systems
- TRAN 4080 Transportation Law and Regulation: Domestic and International
- TRAN 4330 Principles of Supply Chain: Management and Technologies
- URPL 3000 Planning the Built Environment

### **Freight & Logistics**

- TL 721 - International Logistics Management
- TL 725 - ERP Configuration
- TL 733 - Case Studies in Logistics
- TL 733 - Case Studies in Logistics
- TL 831 - Modeling for Transportation and Logistics Decision Analysis
- CVEEN 2300 Engineering Economics
- TRAN 4080 Transportation Law and Regulation: Domestic and International
- TRAN 4460 Financial & Managerial Accounting s
- TRAN 4010 Introduction to Transportation Systems
- TRAN 4330 Principles of Supply Chain: Management and Technologies
- TRAN 4430 Applied Micro Economics & Pricing
- TRAN 4440 Marketing & Sales Management Strategies
- TRAN 4450 Legal Studies: Contracts & Regulation
- TRAN 4470 Financial Analysis & Capital Structure
- TRAN 4480 Capital Decision-making & Capital Markets
- TRAN 4490 Global Trade & Economics
- TRAN 4800 Analysis of Freight & Passenger Transportation Business Segments

### **Planning & Environment**

- CEE 5230/6230 Geometric Design of Highways
- CIVE 303 Infrastructure and Transportation System
- CVEEN 6920 Groundwater Hydrology
- CVEEN 3100 Technical Communication for Engineers
- CVEEN 3610 Environmental Engineering I
- CVEEN 5410 Hydrology
- CVEEN 5500 Sustainable Materials
- CVEEN 5560 Transportation Planning
- CVEEN 5605 Treatment Design
- CVEEN 5610 Water Chemistry and Laboratory Analysis
- CVEEN 6600 Solid Hazard Waste Engineering
- CVEEN 7410 Flood Modeling
- CVEEN 7430 Advanced Subsurface Modeling
- CVEEN 7460 Hydro informatics
- CVEEN 7660 Water Reuse
- CVEEN 7920 Environmental Processes
- CVEN 5631 Transport Modeling & Big Data

- TL 753 - Transportation System Modeling
- TL 755 - Context Sensitive Solutions
- TL 756 - Transportation and Land Use Integration
- TRAN 4020 Transportation Economics
- TRAN 4060 Transportation Marketing and Sales Tools
- TRAN 4320 Transportation Management, Leadership, and Values
- TRAN 4330 Principles of Supply Chain: Management and Technologies
- TRAN 4710 Transportation Finance
- URPL 5050 Urban Development
- URPL 6350 Form and Formation of Cities
- URPL 6355 Urban Redevelopment Strategies
- URPL 6365 Parks and Public Spaces
- URPL 6399 Introduction to Sustainable Urban Infrastructure
- URPL 6400 Community Development
- URPL 6410 Social Justice in Planning
- URPL 6600 Regional Planning

### **Public Transportation**

- CVEEN 1000 Introduction to Civil and Environmental Engineering
- CVEEN 5710 Cost Estimating/Proposal Writing
- CVEEN 5720 Project Scheduling
- CVEEN 5830 Project Management/Contract Administration
- CVEN 5800 Transit Design
- TL 787 - Public Transportation II
- 110 TRAN 4890 International Transportation Travel Seminar
- TRAN 4080 Transportation Law and Regulation: Domestic and International
- TRAN 4080 Transportation Law and Regulation: Domestic and International
- TRAN 4860 Senior Management-Executives & Issues Seminar
- TRAN 4870 Individual Leadership Development Project
- TRAN 4880 Business Development & Productivity Improvement Planning Project
- URPL 6560 Transit, Bicycle & Pedestrian Planning

### **Traffic & Operations**

- CE 4530 Traffic operation
- CE 5530 Traffic operation
- CE 5700 Traffic flow
- CEE 6210 Transportation Systems Analysis
- CEE 6290 Traffic Engineering
- CIVE 507 Transportation Engineering
- CVEEN 5110 GIS in Civil Engineering
- CVEEN 6530 Quantitative Methods for Transportation Operations
- CVEEN 7545 Transportation Modeling
- CVEN 4612 Traffic Impact Assessment
- CVEN 5612 Traffic Impact Assessment
- CVEN 5622 Traffic Operations and Control
- TL 757 - Intelligent Transportation Solutions

### **Transportation Safety**

- CVEN 5662 Transportation System Safety
- CEE 5255/6255 Transportation Safety

- CVEEN 5510 Highway Design
- CVEEN 5570 Pavement Design
- CVEEN 7920 Infrastructure Sensing and Health Monitoring
- CVEN 5611 Transportation Engineering Statistics

### **Transportation Systems**

- CIVE 303 Infrastructure and Transportation System
- CVEEN 3520 Transportation Engineering
- CVEEN 2310 Probability/Statistics
- CVEEN 6790 Advanced Computer Aided Construction
- CVEN 5633 Sustainable Transportation Systems
- TRAN 4010 Introduction to Transportation Systems
- TRAN 4050 Intermodal Transportation Systems
- URPL 6555 Transportation, Land Use, and the Environment