AOTA Approved Provider #4023

**Course Title:** Driver Rehab 105
**Course Subtitle**: Environmental Factors Impacting Drivers, Passengers and Pedestrians

**Course Description:**
Driver Rehab 105, Environmental Factors Impacting Drivers, Passengers and Pedestrians, is a 12-hour course designed for occupational therapists who are interested or currently working in the area of driver rehabilitation. This course consists of 5 parts. Part 1, Universal Design and the Automobile, incorporates the principles of universal design should be applied to the automobile as well. This course will review important considerations, principles, benefits and the process of universal design and how it can be applied to designing an automobile. Part 2, Wheeled Mobility Tiedown Systems and Occupant Restraints for Safety and Crash Protection, focuses on protecting individuals who are wheelchair –seated and how to best reduce injury and provide protection through the use of current restraint technologies and seat belt systems. Part 3, In-Vehicle intelligent Transport Systems, explores both current and future uses of intelligence systems with an emphasis on usability and safety. Part 4 of this course, Designing the External Environment for Traffic Safety, focuses on the 3 main elements of transportation, which include the driver, the physical environment and the vehicle and how these elements function as a system. Part 5, Driver Rehab for Recreation and Leisure, focuses on the various adaptations for a range of vehicles used to engage in recreational activities. Part 6 explores issues related to Driving Cessation and Alternative Community Mobility and lastly Part 7 of this course focuses on the Urban Planning for Efficient Community Mobility.

Upon successful completion of answering 35 interactive, multiple-choice questions, the learner will receive a certificate of completion for 1.2 AOTA eligible CEU's.

**Course Length:** 12 Hours

**Course Authors:**
**Part 1:** R. Darin Ellis, PhD and Gary Leonard Talbot, BSME
**Part 2:** Lawrence Schneider, PhD and Miriam Manary, MSE
**Part 3:** Marilyn Di Stefano, BAppSc and Wendy Macdonald, PhD
**Part 4:** Tapan Datta, PhD, PE
**Part 5:** Bethany Broadwell, BA and Susan Popek-Boeve, OT
**Part 6:** Joseph Pellerito, OT

**Part 7:** Urban Planning for Efficient Community Mobility

**Course Instructor:** Miriam Watson, OTR/L, CDRS

**Course Objectives:**
**Upon the completion of this course, the learner will be able to:**

Part 1:

- Identify design considerations for people with disabilities and aging-related concerns
- Understand the importance of universal design principles and how they are applied to the motor vehicle design process
- List 5 potential benefits to continuing innovation in automotive design

Part 2:

- Determine the most effective way to reduce injury to wheelchair-seated occupants in motor vehicle crashes
- Understand the 3 guiding principles for voluntary equipment standards
- Understand the 3 primary elements to the basic principles of occupant protection

Part 3:

- Discuss the importance of intelligent transport systems
- Understand why a driver rehabilitation specialist must analyze and evaluate the quality of the match between a particular in-vehicle intelligent transport system interface and each driver's needs, coping capacities, and limitations as a driver
- Describe the importance of efficient user interface design
- Evaluate the needs of a client, and make recommendations regarding products, devices, or services that are designed to in meeting short- and long-term goals

Part 4:

- Understand the relationships between the driver, physical environment, and vehicle to design and develop an effective driver rehabilitation program
- Understand the primary performance components related to the driving task to successfully incorporate human factors into traffic control strategies
- Understand why highway environmental issues are critical for safe driving and community mobility

Part 5:

- Understand how adaptations made to vehicles used to engage in recreational activities can enhance a person's quality of life
- Know the range of vehicles to which adaptations could be made
- Know what types of adaptations can be made to enhance motor vehicle usability

Part 6:

- Describe various medical conditions and aging factors that affect safe driving abilities and best approach cessation of driving
- Know strategies that a driver rehabilitation specialist can use to help a client maintain safe driving abilities
- List options available to a client for education and training in safe driving, including driver refresher courses
- Understand the challenges of persuading older drivers to recognize deficits in their driving-related abilities
- Become familiar with behavioral models for understanding the process of driving cessation

Part 7:

- Understand how the physical design of different communities affects one's daily life and impacts mobility choices
- Understand the difference between suburban and urban living and how it applies to the client's driving needs
- Recognize options specific to the client's community mobility needs

**Course Content:**

**Hour 1- 1.5:**
Traditional Vehicle Architecture
Demographics and the Domestic Market
Leveraging Shared Benefits with Other Consumers
Universal Design
Case Examples
Future Technology
Disability-Aware Design Tools
Summary

**Hour 1.5 - 3.0:**
Reducing Injury Risk: Restraint Technologies and Seat Belts
Occupants Seated in Wheelchairs: Safety Problems and the Need for Voluntary Standards
Guiding Principles for Voluntary Equipment Standards
Key Requirements of WTORS and Transit Wheelchair Standards
Implementation of Standards and Dealing with Nontransit Wheelchairs
Future Standards
Summary

**Hour 3 - 4:**
Impact of Technology on the Driving Task
Vehicle-Based Intelligent Transport Systems

IITS Interface Designs
Analyzing the Demands of IITS: A Cruise Control System
Environmental Conditions
Identifying Individual Client Requirements and Relevant Contextual Factors
IITS Issues Relevant to Different Client Groups
Case Studies
Prescription Issues: Choosing the Correct IITS to Meet the Individual Needs
IITS and Future Challenges
Summary

**Hour 4 - 7:**
Highway-Driver-Vehicle Relationship
Risk Assessment
Driver Expectancy and Highway Factors that Constitute Hazards
Highway Infrastructure
Traffic Control Devices
Summary

**Hour 7 - 8:**
Adapted Racecars
Adapted Motorcycles
All-Terrain Vehicles
Recreational Vehicles
Golf Carts
Nonmotorized Snow Sleds
Boats
Planes
Summary

**Hour 8 - 11**
Medical Conditions Effecting Safe Driving Conditions
Aging Factions Effecting Safe Driving Abilities
The Role of the DRS in the Driving Cessation Process
Strategies for Maintaining Safe Driving
Using Behavioral Models to Understand Driving Cessation
Alternative Transportation or Alternative Community Mobility
Summary

**Hour 11 - 12:**
Urban Design
Case Studies #1
Case Studies #2
Case Studies #3