



Students to get first course on rural road ecology

University Park, Pa. – Penn State students will have their first chance this fall to take a new course on rural road ecology and maintenance, developed by the Center for Dirt and Gravel Road Studies at Penn State’s Thomas D. Larson Pennsylvania Transportation Institute.

The course, ERM/FOR 497, is jointly hosted by the Environmental Resources Management Program and the Department of Ecosystem Science and Management. Registration for the course opened recently.

“This is one of the only road courses available at Penn State,” said Eric Chase, a researcher and instructor at the Center for Dirt and Gravel Road Studies. The center has been communicating key principles and advanced practices to working professionals in government and industry through specialized training workshops and courses for nearly 20 years.

The focus of the Center for Dirt and Gravel Road Studies is on environmentally sensitive research and maintenance training, specifically geared toward applying advanced techniques and materials to existing and reconstructed unpaved roadways. The Center provides education, guidance, and technical assistance to minimize the impact of unpaved roads and trails on natural landscapes and hydrology.

The new course will provide students with the fundamental understanding of the interaction of natural systems with unpaved and low-volume paved roads in order to economically maintain roadways with minimal impact on the surrounding environment. The major focus area will be the road/stream interface, including the fundamentals of hydrology, geology, soils, and erosion processes as they pertain to roads and streams.

The course’s inexorable link to transportation and civil engineering is keenly viewed as well.

“The availability of this course to students of civil and environmental engineering and other related disciplines opens new avenues for learning and cross-disciplinary linkages that will foster new job opportunities and help build healthy, vibrant communities,” said Patrick Fox, head of the Department of Civil and Environmental Engineering and interim director of the Larson Institute.

After completing the course, the students will be Environmentally Sensitive Maintenance (ESM) certified under Pennsylvania’s Dirt, Gravel and Low Volume Road Maintenance Program.

“This certification is of great interest to potential employers in government and industry in the Commonwealth of Pennsylvania,” said Chase, “as it recognizes a level of knowledge that is sought after and highly valued.”

The center’s work has been groundbreaking in several key areas, from enabling environmental and stream quality improvements to noteworthy cost savings at the state and local level. The

center developed a surfacing approach for unpaved roads that significantly reduces erosion and cuts the need for frequent road maintenance. Using a design mix called Driving Surface Aggregate that has official approval from the Pennsylvania Department of Transportation, this technique has also been used to reclaim heavily damaged paved roads, thereby eliminating the exorbitant costs of patching and repaving.

The center receives requests for technical advising and assistance from around the world. The center has also developed a similar approach for low-maintenance walking paths.

The center provides key services to Pennsylvania's Dirt Gravel, and Low Volume Road Maintenance Program, which was established in 1997 to provide funding to eliminate stream pollution caused by runoff and sediment from the state's comprehensive network of unpaved and low-volume public roads.

The PA State Conservation Commission allocates \$28 million annually to 65 of Pennsylvania's Conservation Districts, which are responsible for administering the Program at the county level. Local road-owning entities, typically municipalities, then apply to their Conservation District for project funding. Over 2,500 projects have been funded through 2015. The PA Bureau of Forestry administers an annual \$7 million allocation under the Program. The bureau funds projects on state forest roads throughout Pennsylvania, including an annual demonstration project to showcase new and innovative practices.

For more information on the new course, or the Center for Dirt and Gravel Road Studies, visit <http://www.dirtandgravel.psu.edu>.

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