Ecological Geology
Bio Sci 562, Section 103, Summer 2018

Class meets **July 16 - 20** (Monday - Friday) at the UWM Field Station. Hours: Monday - Friday, 9:00 a.m. to 5:00 p.m. Students are strongly encouraged to stay for one evening of extended lab work on Wednesday, July 18.

**Contact information.** Dr. Gretchen Meyer, gmeyer@uwm.edu, 262-675-6844 for any questions related to this course.

**Course Description.** This class will introduce participants to the interrelationship between geologic features and the health and sustainability of ecosystems in the context of the Cedarburg Bog system. We will examine the influence of geologic features on the Cedarburg Bog including the composition and structure of bedrock, glacial till, outwash deposits, and soils. We will collect auger samples from the Bog and surrounding areas and reconstruct the geologic and ecological history of the area. The importance of wetland geomorphology and chemistry will be discussed as part of the larger understanding of hydrology, geology and ecology. We will study how these features govern the flow rates, quality, and recharge ability of aquifers and how they define the surface-groundwater interactions in watersheds. The impacts of human land and water use will be discussed in the contexts of a carbon sequestration exercise, resource consumption, and conservation practices. In this course participants will learn field methods and assessment techniques useful in a wide range of field investigations and environmental studies.

**Instructor.** Dr. Roger Kuhns is a geologist, environmental scientist and sustainable practices expert managing his own firm SustainAudit.net. He has worked globally on geology, the environment, sustainable practices, water and mineral resource assessment, and natural resource management. He currently is focused on sustainable practices for businesses and governments, water and ecology in the Great Lakes region, Niagara Escarpment and coastal water issues, the use of ecological geology in land and water use planning, renewable energy, and ecosystem restoration from mining projects.

**Recommended materials.** Please bring a hand lens if you have one (some extra hand lenses will be available for you to borrow during the workshop), and wear shoes and clothing that can get wet and muddy. Be prepared to spend time in the field: bring a hat, rain gear, and insect repellent.
**Grading.** Students will be graded on a field notebook. In addition, the class will carry out several group projects, and grades will be assigned based on participation during the class and performance on the projects. Students are expected to complete readings that will be provided in advance of the class.

**Registration policy.** All course fees must be paid by the Monday prior to the course (July 9). You may be dropped from the course if your fees are not paid. This is a week-long course and you must attend every day in order to receive credit. If you are unable to enroll on PAWS because the class is full or if you have any other difficulty registering, please contact us.

**Housing at the Field Station.** Free housing is available at the Field Station if desired. If you don’t want to drive back and forth each day, you can use a bunkbed in a shared room at our farmhouse. You will need to bring a sleeping bag, pillow, and towels. Meals are not provided, but participants can cooperate to share the farmhouse kitchen to prepare meals. Please contact Cindy Boettcher at the Field Station (cboetchr@uwm.edu, 262-675-6844) for more information, or to sign up for housing.

**Directions to the Field Station:** We are located in Saukville, WI, about 30 miles north of campus. Take I-43 North to Hwy 33 (Saukville Exit, 22 miles north of downtown Milwaukee). Hwy 33 West to Blue Goose Road (Blue Goose is 4.3 miles west of Saukville and 2.7 miles west of the intersection of Hwy 33 and Co Hwy I). Take Blue Goose Road South 1.9 miles to the Field Station (second driveway on the west side of Blue Goose, south of Knollwood Road).