

Admission Requirements

For a degree-seeking student, admission to the Stream and Watershed Science Graduate Certificate requires that student be accepted by the Graduate School and the graduate academic program in which the student is enrolled. A post-baccalaureate student must have a Bachelor of Science or Arts degree, a minimum of 2.75 undergraduate GPA, and be accepted by the Graduate School as a post-baccalaureate student. The GRE (or equivalent) examination is required for degree-seeking applicants. The GRE (or equivalent) is not required for post-baccalaureate students.

To apply for admission into the Stream and Watershed Science Graduate Certificate program, visit the University of Kentucky Graduate School website at: www.research.uky.edu/gs. For questions about the certificate, please contact Dr. Carmen T. Agouridis, P.E. at carmen.agouridis@uky.edu or 859-257-3000 ext. 207.



This Graduate Certificate offers students the unique opportunity to study streams and watershed systems with an interdisciplinary focus at the graduate level.

Interdisciplinary Focus

The Stream and Watershed Science Graduate Certificate provides students with an understanding of the complex physical, biological and social systems involved in stream and watershed related issues.

Students may earn the certificate while making normal progress towards attainment of an M.S., M.A., and Ph.D. degree or while enrolled in post-baccalaureate status. Apply at the University of Kentucky Graduate School by visiting www.research.uky.edu/gs.

For more information, contact:

Dr. Carmen T. Agouridis, P.E.
carmen.agouridis@uky.edu
859-257-3000 ext. 207

128 C.E. Barnhart Building
Lexington, KY 40546-0276



Graduate Certificate

Stream and Watershed Science





The certificate will help students improve communication among stream and watershed professionals across academic disciplines and professional areas

Interdisciplinary Curriculum

The Stream and Watershed Science Graduate Certificate offers degree-seeking graduate students and post-baccalaureate students an interdisciplinary, graduate-level curriculum that integrates many of the disciplines and professional areas of engineering, science, policy and management in the study of stream and watershed systems and the successful management of these complex systems.

The certificate facilitates the understanding of research findings from diverse specialties and the field application of these findings in the management of stream and watershed systems.

Curriculum Focus Areas

The certificate requires completion of 12 credit hours and consists of a foundation course (BAE 532/CE 542 Introduction to Stream Restoration) and three primary focus areas: Stream and Floodplain Engineering and Science, Water Quality, and Policy and Management.

Engineering and Science >>>

Courses in the engineering and science focus area are taught in the Departments of Biosystems and Agricultural Engineering, Civil Engineering, Geography, and Earth and Environmental Sciences. The approved courses for the certificate are:

- >> BAE 536/CE 546 Fluvial Hydraulics
- >> CE 642/BAE 642 Open Channel Flow
- >> CE 643/BAE 643 Mechanics of Sediment Transport
- >> GEO 451G Fluvial Forms and Processes
- >> GEO 721 Biogeomorphology
- >> GEO 731 Earth Surface Systems
- >> GLY 585 Hydrogeology

Water Quality >>>

Courses in the water quality focus area are taught in the Departments of Civil Engineering, Chemistry, Earth and Environmental Science, and Plant and Soil Science. The approved courses for the certificate are:

- >> CE 555 Microbial Aspects of Environmental Engineering
- >> CE 653/BAE 653 Water Quality for Surface Waters
- >> CHE 565 Environmental Chemistry
- >> GLY 530 Low Temperature Geochemistry
- >> PLS 450G/NRE 450G Biogeochemistry
- >> PLS 455G/NRE 455G Wetland Delineation
- >> PLS 566 Soil Microbiology

Policy and Management >>>

Courses in the policy and management focus area are taught in the Departments of Agricultural Economics, Biosystems and Agricultural Engineering, Civil Engineering, and Economics. The approved courses for the certificate are:

- >> AEC 654 Natural Resources Economics
- >> BAE 538/CE 568 GIS for Water Resources
- >> CE 699 Environmental Management
- >> ECO 721/PA 727 Environmental Economics, Regulation and Policy



Foundation Course

BAE 532/CE 542 Introduction to Stream Restoration is the foundation course for the certificate. This course provides an overview of stream restoration focusing on the main issues related to coupling the fields of biosystems and agricultural engineering, civil engineering, geography, geology, ecology and social science. The foundation course includes background classes on the basic tools used in in stream and watershed assessment and restoration.

Completing the Certificate >>>

To complete the certificate, students must take the foundation course (BAE 532/CE 542 Introduction to Stream Restoration) and at least three credit hours from each of the three primary focus areas: engineering and science, water quality, and policy and management. At least six of the twelve credit hours must be from outside the student's major area of study (graduate students only) or undergraduate degree discipline (post-baccalaureate only). Courses numbered 400G-499G count towards the certificate only for non-majors.