CSP3210 - Applied Fluvial Geomorphology

Course Code  CSP3210
Course Title  Applied Fluvial Geomorphology
Description  All non-FWS participants, including DOI agencies, must register through Wildland Hydrology (Phone: 970/568-0003).

This introductory course is designed to familiarize students with the fundamentals of river behavior, the general principles of fluvial geomorphology, sedimentation, hydraulics, restoration, fish habitat improvement, riparian grazing management, and stream bank erosion. Applications of these principles are presented utilizing a stream classification system. Problem solving techniques for watershed management, riparian assessment, fish habitat structure evaluation, stream restoration, non-point source pollution and the integration of ecosystem concepts into watershed management are taught. A combination of both lecture and field applications are provided.

Prerequisite: CSP3200 Stream Habitat Measurement Techniques

Objectives:
- Discuss geomorphology and the role of the river including discharge and flood frequency, meander geometry/channel dimension and pattern, riffle/pool relations, bankfull discharge, and valley morphology;
- Perform extrapolation and prediction of hydrologic characteristics including hydraulic geometry relations, basin character/discharge relations, and channel morphology as predictors;
- Discuss sedimentation including role of sediment-aggradation/degradation processes, bedload/suspended load relations, sediment rating curves, stream flow relations to sediment size and load, and analysis and prediction;
- Determine and define stream classification including purpose of classification, delineation criteria, influences, interpretations of stream types, and applications such as Manning’s roughness and riparian management guidelines;
- Analyze watershed management implications including cumulative effects procedures (HYSED, WRENS, etc.), stream threshold concepts and procedures, and streamside management guidelines.

Target Audience: Field staff involved in stream habitat assessment and restoration. This course is a pre-requisite to the CSP3310 River Morphology & Applications -Level II course.

*NOTE: Only USFWS Employees may enroll through DOI Talent for this course, all others must enroll directly through Wildland Hydrology, www.wildlandhydrology.com

Delivery Method  Instructor Led
Non-FWS Fee  $1,195.00
Instructional Hours  36
Credits/CEUs  3.0
Course Content Contact  Gary Schetrompf: (304) 876-7255; gary_schetrompf@fws.gov
Curriculum Category  Habitat Assessment Restoration and Management
Course Frequency  Once per year
Registration Link  Register in DOI Talent
DOI TALENT Course Type  ILT
College Credit Name  Semester Hours
College Credit Value  2
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| 4/20/2020  | 4/24/2020 | For registration questions: michele_atha@fws.gov  
             | For course content questions: gary_schetrompf@fws.gov  
             | National Conservation Training Center (NCTC)                                           | michele_atha@fws.gov                    |