

# Science of river restoration emphasis of weeklong course in Truckee

Geomorphic and Ecological Fundamentals for River and Stream Restoration is a weeklong course at the Sagehen Creek Field Station in Truckee.

The Aug. 13-17 program is an introductory course emphasizing the understanding of geomorphic and ecological process as a sound basis for planning and designing river restoration, covering general principles and case studies from a wide range of environments. Incorporating insights from recent research in fluvial geomorphology and ecology, the course emphasizes developing predictive connections between objectives and actions, learning from built restoration projects, and developing restoration strategies and innovative management approaches to address underlying causes of channel or ecosystem change, rather than prescriptive approaches.

The course integrates perspectives from leading academic researchers to consulting practitioners in river restoration, and across that spectrum it draws on a range of approaches from state-of-the-art hydraulics and sediment transport, historical geomorphic-ecological process analysis, urban-infrastructure-focused approach, to resource-focused approaches.

In addition to field techniques, the course uses spreadsheet models to calculate sediment transport and channel design based on this analysis, map and aerial photo analysis, and sequential problem solving in approaching restoration of fluvial processes. The course includes field trips to the Truckee River and streams in the Lake Tahoe Basin, and workshops on stream restoration problems faced by participants

for discussion and ideas on analytical approaches and resources.

This course emphasizes integration of hydrology, hydraulics, sediment transport, geomorphology, aquatic ecology, fisheries, and riparian ecology, and includes field measurements, mapping, and interpretation. An advanced course focuses explicitly on geomorphic, sediment transport, and riparian vegetation principles applied to channel design.

For more information and registration details, go online.