

Class: **CIVE 717 03(3-0-0) RIVER MECHANICS - Spring 2022**

Professor: P.Y. Julien, Eng. Bldg., A207H, pierre@engr.colostate.edu
Engineering Research Center, Room B205, 491-8450

Description: Analysis of rivers, mechanics of water and sediment transport emphasizing alluvial systems, channel stabilization, control, response.

Prerequisite: CE716 or the equivalent.

Course Topic Outline: River basins; review of steady flow and flood propagation in rivers; river equilibrium; river dynamics; aggradation and degradation; local scour; engineering analysis of fluvial systems; stream restoration; river stabilization; river dynamics and response; river engineering; navigation and dredging; physical and mathematical river models; and waves and tides in river estuaries.

Lectures: Tuesday -Thursday, 3:30 - 4:45 pm, Eddy 103

Office Hours: **email/zoom only during the pandemic**, thereafter
Campus – Tuesday 1:30-3:15 and Thurs. 2:30-3:15.

Web-page: The course's web page is
http://www.engr.colostate.edu/~pierre/ce_old/classes/ce717/ce717.html

Computer Model: The purpose is to develop computer modeling skills and calculate the changes in bed elevation profiles with time.

Field Trip: **there is no field trip during the pandemic**
Your team assignment is to observe and report on river stabilization measures of the South Platte River near Denver.

Text: P. Julien, "River Mechanics", 2nd Cambridge University Press, 2018

Evaluation:	Homework (4x 20)	80%
	Field Trip Report	0%
	Computer Problem	20%