CIVE 724 RIVER BASIN MORPHOLOGY

Instructor
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Office Hours
Engineering A226
Tue 1-3 pm, Fri 9-10 am, or by appointment

Website
www.engr.colostate.edu/
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Textbook
None, course uses journal articles

Prerequisites
Differential equations
Probability and statistics
Programming (Matlab)
Hydrology

Grading

Homework	30%
Project	40%
Paper Presentation	20%
Class Participation	10%

Plus/minus grading will be used

Homework
Three to four assignments
Due before class on due date
Late homework will not be accepted
Must be your own work, but discussion with others is allowed
Show your work and explain your results

Project
Instructor must approve topic (5^{th} week)
Project can be related to other courses or research projects, but it should not duplicate them
10 min. progress report (10^{th} week)
15 min. final presentation (15^{th} week)
Written report due at end of term (about 10 pages at 1.5 line spacing)

Paper Presentations
Submit critical review, not a summary of the paper (2 pages at 1.5 line spacing)
Lead a class discussion on the paper

Class Participation
Read papers before discussions
Contribute questions and observations to discussions

Subject	Class	Topic	Readings
Traditional Measures of Basins	1	Introduction	*Will be posted*
	2	Stream Network Properties	*on course*
	3	Horizontal Basin Structure	*website*
	4	Basin Topography	
	5	*Paper Discussion*	
Fractal Measures of Basins	6	Fractals	
	7	Results for Stream Networks	
	8	Self-Affinity	
	9	Self-Affine Records	
	10	Self-Affine Courses	
	11	Basin Self-Affinity	
	12	Implications	
	13	*Paper Discussion*	
Stochastic Network Models	14	Basic Models	
	15	Random Topology Model	
		Spring Break	
		Hydrology Days (No Class)	
	16	Optimal Channel Networks	
	17	Properties of OCNs	
	18	Feasibility, Temperature	
	19	*Project Status Reports*	
	20	Self-Organized Criticality	
	21	SOC Inspired Basin Model	
	22	*Paper Discussion*	
Deterministic Basin Evolution Models	23	Model Derivation	
	24	Model Behavior	
	25	Transport-Limited Case	
	26	Detachment-Limited Case	
	27	*Project Presentations*	
	28	*Project Presentations*	