



UNIVERSITY OF
WATERLOO



CSHS
Canadian
Society for
Hydrological
Sciences
Canadian Water
Resources Association

SCSH
Société
Canadienne
des Sciences
Hydrologiques
Association Canadienne
des Ressources Hydriques



CWRA
Canadian
Water
Resources
Association

ACRH
Association
Canadienne
des Ressources
Hydriques



Principles of Hydrologic Modelling

Professional Short Course & UW Graduate Course (CIVE 781)

University of Waterloo, June 19-23/24, 2017

Co-sponsored by:

the [Canadian Society for Hydrological Sciences](#) (CSHS) and

the [Canadian Water Resources Association](#) (CWRA)

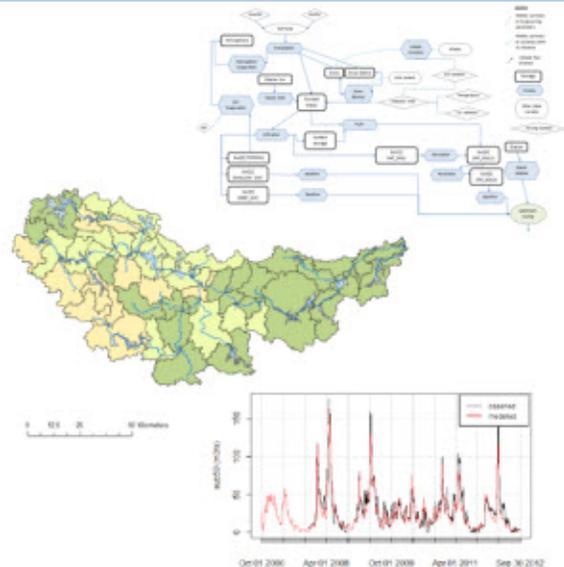
with support from [NSERC FloodNet](#)

Course Description

This course addresses the development of computational models of watershed hydrology in support of water resources management and scientific investigation. The full model development and application cycle is considered: pre-processing, understanding, and generating input forcing data; system discretization and algorithms for simulating hydrologic processes; parameter estimation; and interpreting model output in the context of often significant system uncertainty. The course will include practical applications of models to alpine, boreal forest, prairie, and agricultural settings in Canada.

Professionals taking the course (from Mon, June 19 to Friday June 23) will receive a certificate of completion from the CSHS. Graduate students currently enrolled at a Canadian University participate for one additional day and earn a graduate credit for the course.

Students will be exposed to a number of useful hydrological modelling software tools, including [R](#), [Ostrich](#), [Raven](#), and [CRHM](#). Hydrologic modelling practitioners will present both complex and simple modelling case studies demonstrating the challenges confronted in real-world modelling applications.



Instructors

- [Dr. James Craig](#), PhD, P.Eng., Canada Research Chair in Hydrologic Modelling and Analysis, University of Waterloo. Lead author of the Raven hydrological modelling framework, Dr. Craig is an expert in hydrological model development and an award-winning University instructor.
- [Dr. Kevin Shook](#), PhD, P.Eng., SGI Canada Research Fellow, University of Saskatchewan. Formerly senior flood forecaster and hydrological modeller with Alberta Environment, Dr. Shook is an expert in prairie hydrometeorology, cold regions hydrology, and hydrological modelling.
- [Dr. Bryan Tolson](#), PhD, Associate Professor, University of Waterloo. Dr. Tolson is an expert in the fields of calibration and uncertainty analysis with application to water resource systems.
- [Multiple guest speakers](#) from consulting and academia

Detailed information available at

http://www.civil.uwaterloo.ca/jrcraig/CSHS_modelling_course.html