

Course Schedule

Schedule is subject to change. All changes will be posted here. If there is a conflict between the due dates for an assignment between this page and Canvas, consider this page to be the correct version.

Date	Lesson	Assignments
Mon., Aug. 25	Course Introduction	PS0 (ungraded) Assigned, Final Project Introduced
Wed., Aug. 27	Module 1 Introduction	PS1 Assigned
Fri., Aug. 29	Lab 1: Julia Setup & Hello World	
Mon., Sep. 1	NO CLASS - Labor Day	
Wed., Sep. 3	EVT Fundamentals	
Fri., Sep. 5	Lab 2: Julia Data Handling	
Mon., Sep. 8	Likelihood & MLE	
Wed., Sep. 10	Tutorial: MLE with Turing.jl	
Fri., Sep. 12	Lab 3: GEV Inference	
Mon., Sep. 15	Bayesian Statistics	
Wed., Sep. 17	MCMC Methods	
Fri., Sep. 19	Lab 4: Bayesian Rainfall Analysis	
Mon., Sep. 22	Nonstationarity & Covariates	
Wed., Sep. 24	Sampling Variability & Regionalization	
Fri., Sep. 26	Lab 5: Regional Pooling Implementation	
Mon., Sep. 29	Advanced Model Selection	
Wed., Oct. 1	Guest Lecture: IDF Curves and Duration	PS1 Due
Fri., Oct. 3	PS1 Due & Module 1 Exam Review	
Mon., Oct. 6	Module 1 Test	PS2 Assigned
Wed., Oct. 8	Module 2 Introduction	
Fri., Oct. 10	Lab 6: Why Uncertainty Matters	
Mon., Oct. 13	No Class: Fall Break	
Wed., Oct. 15	Physics-Based Modeling, Discretization & Implementation	Final Project Proposal Due
Fri., Oct. 17	Lab 7: Model Implementation and Testing	
Mon., Oct. 20	Calibration I: Hydrological Skill Scores & Optimization	
Wed., Oct. 22	Calibration II: Bayesian Calibration with Autocorrelated Residuals	

Date	Lesson	Assignments
Fri., Oct. 24	Lab 8: Bayesian Calibration	
Mon., Oct. 27	Introduction to Climate Models & Bias Problems	
Wed., Oct. 29	Bias Correction Methods	
Fri., Oct. 31	Lab 9: Quantile Mapping Implementation	
Mon., Nov. 3	Hidden Markov Models	
Wed., Nov. 5	Non-Homogeneous HMMs & Climate Change	
Fri., Nov. 7	Lab 10: HMM & NHMM Implementation	
Mon., Nov. 10	Streamflow Generators & Advanced Methods	
Wed., Nov. 12	GANs, Diffusion Models & Modern ML	
Fri., Nov. 14	Lab 11: ML Downscaling Implementation	
Mon., Nov. 17	Global Sensitivity Analysis	
Wed., Nov. 19	PS2 Due & Module 2 Review	PS2 Due
Fri., Nov. 21	Module 2 Test	
Mon., Nov. 24	Workshop: Final Project Support	
Wed., Nov. 26	No Class: Thanksgiving Week	
Fri., Nov. 28	No Class: Thanksgiving Break	
Mon., Dec. 1	Student Teaching Sessions	
Wed., Dec. 3	Student Teaching Sessions	
Fri., Dec. 5	Student Teaching Sessions & Course Wrap-up	Final Project Research Proposal & Lecture Notes Due

Bibliography