In this course, we use our knowledge about the physiology and ecology of plants to build and apply process-based plant ecophysiology models. Through modeling, we address questions like “how will crops respond to climate extremes?” and “When will the cherry trees on UW campus bloom?” The primary focus is on explanatory models but other approaches including statistical and machine learning models are discussed. Basic understanding and curiosity in plant ecophysiology and interest in scientific computing are recommended to take and enjoy this course. We will do some coding in Julia language using Cropbox package as the modeling framework (https://github.com/cropbox) but fluency in programming is not required. See course materials at: https://github.com/uwkimlab/plant_modeling