NOTE: each lower case sub topic represents 1 contact hour

A. A formal decision making process (6 contact hours)
   a) Introduction to decision making
   b) PrOACT process
   c) Making decisions: uncertainty, risk, and linked decisions
   d) Decision trees and decision making under uncertainty
   e) Being a decision maker
   f) Decision trees and decision models

B. Decision making in natural resources and conservation contexts (5 contact hours)
   a) Introduction to structured decision making in natural resources management
   b) History, rational, and applications of decision making in natural resources and conservation
   c) Types of decision making philosophies in natural resources
   d) Structuring and quantifying objectives
   e) Decision making and working with stakeholders

C. Assembling and parameterizing decision models (16 contact hours)
   a) Statistics and decision making: Estimating current system states-I
   b) Statistics and decision making: Estimating current system states-II
   c) Using data to estimate parameters and quantify uncertainty
   d) Predicting outcomes in a decision context: linear models
   e) Predicting outcomes in a decision context: generalized linear models
   f) Predicting outcomes in a decision context: hierarchical linear models
   g) Estimating current states (marked populations): abundance
   h) Estimating current states (marked populations): survival
   i) Estimating current states (marked populations): survival & abundance
   j) Estimating current states (marked populations): multi-state
   k) Estimating current states (unmarked populations): Occupancy
   l) Estimating current states (unmarked populations): multi season and state occupancy models
   m) Estimating current states (unmarked populations): Closed and open N-mixture models
   n) Introduction to influence diagrams
   o) Using graphical models to predict outcomes
   p) Eliciting and quantifying expert judgment

D. Identifying optimal decisions (7 contact hours)
   a) Influence diagrams and decision alternatives
   b) Choosing the best decision alternative and evaluating the effect of uncertainty-I
   c) Choosing the best decision alternative and evaluating the effect of uncertainty-II Monte Carlo Simulation
   d) Sensitivity analysis and estimating the value of information
   e) Introduction to optimization
   f) Case study I-Setting harvest regulations
   g) Case study II-Invasive species control

E. Adaptive management (AM)-learning from management actions (9 contact hours)
   a) Conflict Resolution and Knowledge Acquisition through adaptive management
   b) AM: More than just trial and error

c) Learning from monitoring in AM
d) Prioritizing learning: Passive versus active AM
e) Case study-black duck management
f) Case study-Golden Eagles and trail closures in Denali National Park
g) Case study-reconnection of fragmented habitats
h) Case study-Adaptive management of horseshoe crabs and red knots
i) Advanced topics in SDM and AM: Risk and extreme uncertainty

F. Final examination (3 contact hours)

Total contact hours = 46 hours