NORTHERN ARIZONA UNIVERSITY

Department of Mathematics and Statistics

COLLOQUIUM
Tuesday, February 28th, 2017
4:00 – 5:00 pm, Adel Mathematics Bldg., Room 164
(refreshments at 3:45)

Dr. Brent Burch
NAU

Comparing sampling strategies to estimate the age characteristics of a forest

Abstract: We investigate the use of different sampling strategies to estimate the age characteristics of a forest. The sampling units are selected from a grid structure overlaying a 100 hectare simulated forest where the location of each tree and the diameter at breast height (dbh) of each tree are known. The model-based tree ages are determined by an age-dbh relationship where the variability in age increases as dbh increases. The choice of the particular model is based on actual age-size data from trees in the vicinity. The trees in the sample are determined by considering either fixed-radius plot sampling, k-tree sampling, or variable-radius plot sampling. The properties of the estimators are determined using design-based and model-based approaches. Simulation results suggest that the estimator associated with the easy-to-implement k-tree sampling method, with a few extra trees per plot, may be preferred.

Algebra Combinatorics Geometry and Topology (ACGT) Seminar meets every Tuesday, 12:45 – 1:45 pm, AMB 146.
- *Ryan Wood will present this Tuesday.*

Applied Math Seminar (AMS) meets every Thursday, 12:45 – 1:45 pm, AMB 146.

Friday Afternoon Undergraduate Mathematics Seminar (FAMUS) meets Fridays, 3pm, AMB 164.