Title:
Developing a Phenology of Place at UVic Through Citizen Science Native Plant Photography: Designing a Database To Determine Seasonal Patterns

Question:
Can a collection of photographs, taken over a 5-year period by amateur citizen scientist, provide enough useful data to develop the basis of a seasonal calendar of native plant growth phases over their photosynthetic period?

Course Description:
Read about phenology and repeat plant photography. Choose representative samples from unnamed photos. Create a database and populate with data mined from photos. Organize representative photo samples in on-line gallery. Write paper: review and analyze literature, document database design and data collection process, look for patterns, discuss, future suggestions, conclusions.

Content:
1. Create on-line Photo Gallery of chosen indicator species
   a. Sort through photographs I've taken at UVic campus 2009-2014
   b. Find representative samples in various flower & leaf growth stages
   c. Choose a few indicator species to focus on (spring & autumn)
   d. Identify sites for repeat photos, species verification, GPS location
   e. Continue to take photos
2. Design a Database of Native Plant Phenological Info at UVic
   a. Liaise with other plant database administrators
   b. Logically name photos to self-sort, and related to database
   c. Populate with data gleaned from photos (e.g. 100)
   d. Organize, analyze, summarize data, note patterns
3. Write a paper
   a. Review literature about phenology using photo analysis to establish patterns and citizen scientists to collect data
   b. Summarize photo database design method
   c. Discuss: results, repeat photos, research merit, recommendations
   d. Appendix: Database Summary Tables, Photo Gallery example, Guide to UVic Native Plant Seasons, Map Plant Locations

Skills to Learn:
Design research project; take photographs attending to Data collection; mine photos for ecological data; design native plant database; create web gallery.

Deliverables & Proposed Evaluation Technique:
40% - Paper: Develop Phenology of Place at UVic by Designing Photo Database
40% - Database: Design, populate with chosen indicator species
20% - On-line Photo Gallery: Selected Photos from Database