

**Biol 475, Vegetation Description and Analysis**  
**Course Syllabus, Fall Semester 2006**  
**Lectures: Mondays, 1-2 pm; Labs: Mondays, 2:15-5:15 pm**

**Readings:**

**KC** = Kent, M. and Coker, P., 1992: *Vegetation Description and Analysis: A Practical Approach*. Boca Raton: CRC Press.

**MD&E** = Mueller-Dombois, L. D. and Ellenberg, H., 1974: *Aims and Methods of Vegetation Ecology*. New York: John Wiley and Sons.

**BBPG&S** = Barbour, M.G., J.H. Burk, W.D. Pitts, F.S. Gilliam, and M.W. Schwartz. 1999. *Terrestrial Plant Ecology*. Menlo Park: Addison Wesley Longman.

<b>Date</b>	<b>Lesson</b>	<b>Topics/Activities</b>	<b>Reading assignment</b>	<b>Written assignment due</b>
<b>11 Sep</b>	Lecture 1	<b>Major considerations in vegetation sampling</b>	<b>KC</b> , skim Chapter 1, Quantitative plant ecology and vegetation science.	
	<i>Lab 1</i>	<b>Field lab: Field trip to Murphy Dome:</b> <i>Description of vegetation in the field, physiognomic and floristic data, sampling design, choosing sample sites minimal area for plot size. Minimal area sampling exercise.</i>	<b>KC</b> , Read p. 38-48 in Chapter 2, <i>Methods of vegetation description based on floristics.</i>  <b>Bring: rain gear (jacket and pants), good water-proof boots, sweater, cap, gloves, hand lens, notebook, pencil, scotch tape, collection bags.</b>	
<b>18 Sep</b>	Lecture 2	<b>The relevé sampling approach</b>	<b>BBPG&amp;S</b> , Methods of sampling plant communities, the relevé method, Chap.9. p. 210-220.	
	<i>Lab 2</i>	<b>Field lab: UAF Arboretum: Relevé sampling, white spruce forest</b>		
<b>25 Sep</b>	Lecture 3	<b>No Lecture: We will leave for the field at 1pm</b>	Westhoff, V. & van der Maarel, E. (1978). The Braun-Blanquet approach. In <i>Classification of plant communities</i> (ed R.H. Whittaker), Dr. W. Junk, Den Haag. Read pp. 289-313.	
	<i>Lab 3</i>	<b>Field lab: UAF Arboretum: Relevé sampling, black spruce forest</b>		

<b>2 Oct</b>	Lecture 4	<b>Forest sampling, Point-centered quarter method</b>	<b>MD&amp;E</b> , p. 93-135, Chapter 7, The count-plot method and plotless sampling techniques	
	<i>Lab 4</i>	<i>Point-centered quarter sampling in white and black spruce forests</i>	<i>Point-centered quarter method handout</i>	
<b>9 Oct</b>	Lecture 5	<b>Plot-count method.</b>		
	<i>Lab5</i>	<i>Field lab: Plot count method, point-sampling methods, tree height determination; Measure dbh and height of all trees in revevé plots.</i>	<i>Plot count method and tree height handout</i>	
<b>16 Oct</b>	Lecture 6	<b>Overview of moss and lichen identification</b>		
	<i>Lab 6</i>	<i>Herbarium: Plant identification of voucher collections</i>	<i>Plant ID handout</i>	
<b>23 Oct</b>	Lecture 7	<b>Soils</b>	<b>BBPG&amp;S</b> , pp. 473-500 in Chapter 17, Soil	
	<i>Lab 7</i>	<i>Soils analyses: pH, grain size, soil color</i>	<i>Soil handhout</i>	
<b>30 Oct</b>	Lecture 8	<b>Braun-Blanquet approach to Classification I</b>	<b>K&amp;C</b> , p. 245-275, Chapter 7, Phytosociology and the Zurich-Montpellier (Braun-Blanquet) school of subjective classification	1. Soil lab analyses finished 2. Plant IDs finished 3. Report on point-centered quarter and plot count methods (graded homework)
	<i>Lab 8</i>	<i>Computer lab:(1) Data entry, (2) Introduciton to TurboVeg, (3) BeginBraun-Blanquet table sorting</i>	<b>TurboVeg Manual</b> (reading to be determined)	
<b>6 Nov</b>	Lecture 9	<b>Braun-Blanquet Analysis II:</b>	Shimwell, D.W. (1971) The Description and Classification of Vegetation University of Washington Press, Seattle. Chap. 6, pp. 184-215	
	<i>Lab 9</i>	<i>Computer lab: (1) Classification: Sorted Table analysis using Excel,</i>	<b>JUICE Manual</b> (reading to be	Data entry complete

		<b>(2) Introduction to JUICE.</b>	determined)	
<b>13 Nov</b>	Lecture 10	<b>Indirect ordination, Similarity indices, polar ordination</b>	<b>K&amp;C, p. 162-185, Chapter 5, Ordination methods I, 1950-1970</b>	
	<i>Lab 10</i>	<i>Computer lab: Introduction to PC-Ord; Ordination of class data</i>	<b>PC-Ord Manual</b>	Sorted Tables due (graded homework)
<b>20 Nov</b>	Lecture 11	<b>Ordination: PCA.</b>	<b>K&amp;C, p. 186-214, Chapter 5, Ordination methods I, 1950-1970</b>	
	<i>Lab 11</i>	<i>Computer lab: Analysis of class data using PC-Ord I</i>	<i>PC-Ord manual (reading to be determined)</i>	
<b>27 Nov</b>	Lecture 12	<b>Ordination: DCA, CCA, NMS</b>	<b>K&amp;C, p. Chapter 6, Ordination methods II, 1970-1992</b>	
	<i>Lab 12</i>	<i>Computer lab: Analysis of class data using PC-Ord II</i>	<i>PC-Ord manual (reading to be determined)</i>	Ordination exercise due. (Graded homework)
<b>4 Dec</b>	Lecture 13	<b>Work on class project</b>		
	<i>Lab 13</i>	<i>Computer lab: Analysis of class data, Preparation of talks</i>		
<b>Evening or Sat Dec 9 (3-4 hours)</b>	Lecture 13	<i>Final class presentations</i>		