

NRM 240 – Natural Resources Measurement and Inventory

Instructor – Nancy Fresco

Lectures - MW 1:00-2:00 (via Zoom)

Lab – Monday 2:15 – 5:15 (Outdoors – meet outside on the south side of O’Neill. I’ll bring lab materials, but please have a notebook, pen/pencil, phone if possible, and mask.)

Office Hours – by appointment – email me to set up a time to talk, get extra help, etc.

Email – nlfresco@alaska.edu (This is generally the best way to reach me.)

Reading:

There is no textbook for this class.

Reading material will include articles selected from published scientific literature and reports and websites produced by resource management agencies. These materials will be made available via Blackboard and web links. In some cases, you will be asked to search for literature online.

Course Description

How do natural resource managers know what’s out there, and how it is changing over time?

Whether you are managing the timber in a forest, the salmon in a watershed, or the scenic vistas in a National Park, you need meaningful ways to measure the quantity, quality, and value of your resources.

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Course Goals

Grades: It is my intention to grade and respond to student assignments within seven days, and to post these grades in Blackboard as well as returning assignments in class.

Grading

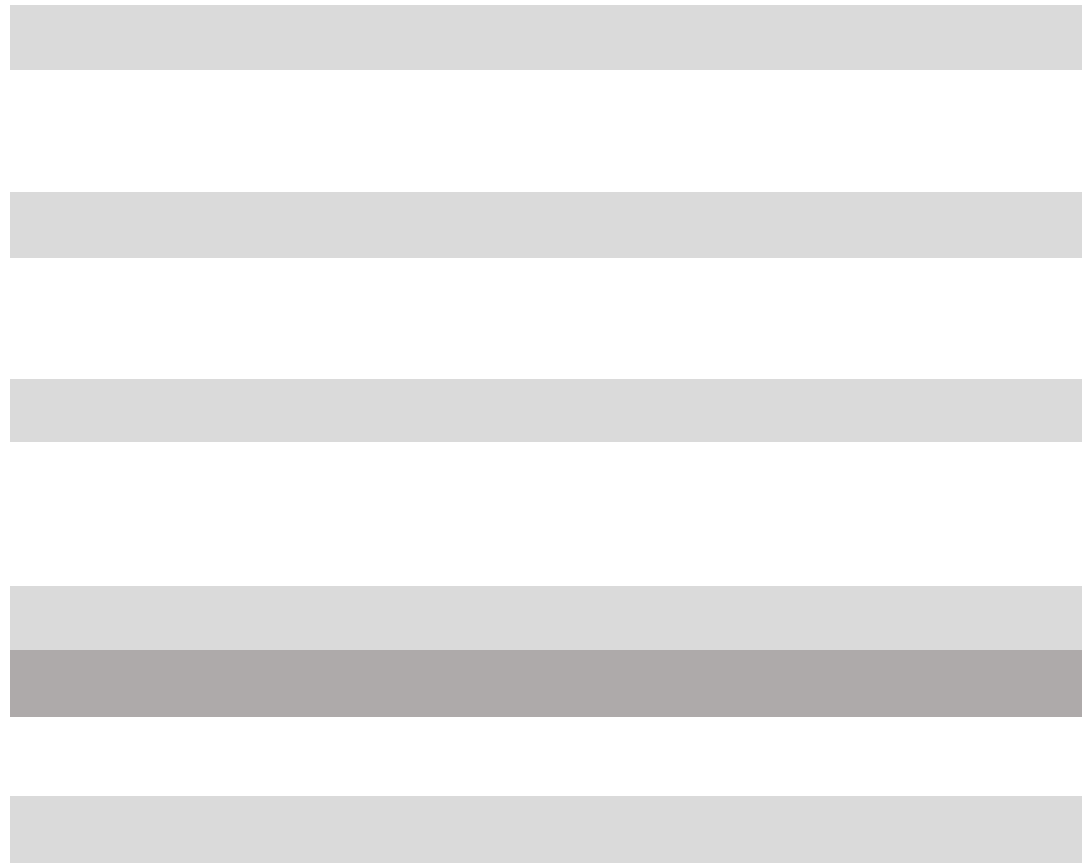
The grade received in this course will be based upon performance on exams, homework, and lab assignments. Lab grades will be based on participation (50%) and quality of the write-up (50%). The following weighting scale will be used. Grades will not be curved, although extra credit may occasionally be available.

<u>Components of grade</u>		<u>Requirements for letter grade</u>	
<i>Midterm Exam</i>	20%	A+ > 96%	C+ 77% to 79%
		A 93% to 96%	C 70% to 76%
<i>Final Exam</i>	25%	A- 90% to 92%	
<i>Homework Assignments</i>	20%	B+ 87% to 89%	D 60% to 69%
		B 83% to 86%	
<i>Lab Assignments</i>	35%	B- 80% to 82%	
Total	100%		F < 60%

Lecture, Lab and Assignment Schedule

Not that this schedule is approximate. Always check Blackboard to make sure of due dates, etc.

			Topic (Lecture and lab Mon., lecture Weds.)	
1	1	Mon Aug 24	Introduction; measurement	
1		Mon Aug 24		No lab the first week of class
1	2	Weds Aug 26	Accuracy, precision, bias, and estimation	#1: Estimation and critical thinking
2	3	Mon Aug 31	Sampling	#1: Estimation and critical thinking
2		Mon Aug 31	Lab 1: Berry data, eg sampling	
3	4	Weds Sep 2	Statistics-- intro	#2: Confidence intervals
3	5	Mon Sep 7	Statistics-- intro	#2: Confidence intervals
3	6	Weds Sep 9	Statistics-- intro	#2: Confidence intervals
3	7	Mon Sep 14	Statistics-- intro	#2: Confidence intervals
3	8	Weds Sep 16	Statistics-- intro	#2: Confidence intervals
3	9	Mon Sep 21	Statistics-- intro	#2: Confidence intervals
3	10	Weds Sep 23	Statistics-- intro	#2: Confidence intervals
3	11	Mon Sep 28	Statistics-- intro	#2: Confidence intervals
3	12	Weds Sep 30	Statistics-- intro	#2: Confidence intervals
3	13	Mon Oct 5	Statistics-- intro	#2: Confidence intervals
3	14	Weds Oct 7	Statistics-- intro	#2: Confidence intervals
3	15	Mon Oct 12	Statistics-- intro	#2: Confidence intervals
3	16	Weds Oct 14	Statistics-- intro	#2: Confidence intervals
3	17	Mon Oct 19	Statistics-- intro	#2: Confidence intervals
3	18	Weds Oct 21	Statistics-- intro	#2: Confidence intervals
3	19	Mon Oct 26	Statistics-- intro	#2: Confidence intervals
3	20	Weds Oct 28	Statistics-- intro	#2: Confidence intervals
3	21	Mon Nov 2	Statistics-- intro	#2: Confidence intervals
3	22	Weds Nov 4	Statistics-- intro	#2: Confidence intervals
3	23	Mon Nov 9	Statistics-- intro	#2: Confidence intervals
3	24	Weds Nov 11	Statistics-- intro	#2: Confidence intervals
3	25	Mon Nov 16	Statistics-- intro	#2: Confidence intervals
3	26	Weds Nov 18	Statistics-- intro	#2: Confidence intervals
3	27	Mon Nov 23	Statistics-- intro	#2: Confidence intervals
3	28	Weds Nov 25	Statistics-- intro	#2: Confidence intervals
3	29	Mon Nov 30	Statistics-- intro	#2: Confidence intervals
3	30	Weds Dec 2	Statistics-- intro	#2: Confidence intervals
3	31	Mon Dec 7	Statistics-- intro	#2: Confidence intervals
3	32	Weds Dec 9	Statistics-- intro	#2: Confidence intervals
3	33	Mon Dec 14	Statistics-- intro	#2: Confidence intervals
3	34	Weds Dec 16	Statistics-- intro	#2: Confidence intervals
3	35	Mon Dec 21	Statistics-- intro	#2: Confidence intervals
3	36	Weds Dec 23	Statistics-- intro	#2: Confidence intervals
3	37	Mon Dec 28	Statistics-- intro	#2: Confidence intervals
3	38	Weds Dec 30	Statistics-- intro	#2: Confidence intervals
3	39	Mon Jan 4	Statistics-- intro	#2: Confidence intervals
3	40	Weds Jan 6	Statistics-- intro	#2: Confidence intervals
3	41	Mon Jan 11	Statistics-- intro	#2: Confidence intervals
3	42	Weds Jan 13	Statistics-- intro	#2: Confidence intervals
3	43	Mon Jan 18	Statistics-- intro	#2: Confidence intervals
3	44	Weds Jan 20	Statistics-- intro	#2: Confidence intervals
3	45	Mon Jan 25	Statistics-- intro	#2: Confidence intervals
3	46	Weds Jan 27	Statistics-- intro	#2: Confidence intervals
3	47	Mon Feb 1	Statistics-- intro	#2: Confidence intervals
3	48	Weds Feb 3	Statistics-- intro	#2: Confidence intervals
3	49	Mon Feb 8	Statistics-- intro	#2: Confidence intervals
3	50	Weds Feb 10	Statistics-- intro	#2: Confidence intervals
3	51	Mon Feb 15	Statistics-- intro	#2: Confidence intervals
3	52	Weds Feb 17	Statistics-- intro	#2: Confidence intervals
3	53	Mon Feb 22	Statistics-- intro	#2: Confidence intervals
3	54	Weds Feb 24	Statistics-- intro	#2: Confidence intervals
3	55	Mon Feb 29	Statistics-- intro	#2: Confidence intervals
3	56	Weds Mar 2	Statistics-- intro	#2: Confidence intervals
3	57	Mon Mar 7	Statistics-- intro	#2: Confidence intervals
3	58	Weds Mar 9	Statistics-- intro	#2: Confidence intervals
3	59	Mon Mar 14	Statistics-- intro	#2: Confidence intervals
3	60	Weds Mar 16	Statistics-- intro	#2: Confidence intervals
3	61	Mon Mar 21	Statistics-- intro	#2: Confidence intervals
3	62	Weds Mar 23	Statistics-- intro	#2: Confidence intervals
3	63	Mon Mar 28	Statistics-- intro	#2: Confidence intervals
3	64	Weds Mar 30	Statistics-- intro	#2: Confidence intervals
3	65	Mon Apr 4	Statistics-- intro	#2: Confidence intervals
3	66	Weds Apr 6	Statistics-- intro	#2: Confidence intervals
3	67	Mon Apr 11	Statistics-- intro	#2: Confidence intervals
3	68	Weds Apr 13	Statistics-- intro	#2: Confidence intervals
3	69	Mon Apr 18	Statistics-- intro	#2: Confidence intervals
3	70	Weds Apr 20	Statistics-- intro	#2: Confidence intervals
3	71	Mon Apr 25	Statistics-- intro	#2: Confidence intervals
3	72	Weds Apr 27	Statistics-- intro	#2: Confidence intervals
3	73	Mon May 2	Statistics-- intro	#2: Confidence intervals
3	74	Weds May 4	Statistics-- intro	#2: Confidence intervals
3	75	Mon May 9	Statistics-- intro	#2: Confidence intervals
3	76	Weds May 11	Statistics-- intro	#2: Confidence intervals
3	77	Mon May 16	Statistics-- intro	#2: Confidence intervals
3	78	Weds May 18	Statistics-- intro	#2: Confidence intervals
3	79	Mon May 23	Statistics-- intro	#2: Confidence intervals
3	80	Weds May 25	Statistics-- intro	#2: Confidence intervals
3	81	Mon May 30	Statistics-- intro	#2: Confidence intervals
3	82	Weds Jun 1	Statistics-- intro	#2: Confidence intervals
3	83	Mon Jun 6	Statistics-- intro	#2: Confidence intervals
3	84	Weds Jun 8	Statistics-- intro	#2: Confidence intervals
3	85	Mon Jun 13	Statistics-- intro	#2: Confidence intervals
3	86	Weds Jun 15	Statistics-- intro	#2: Confidence intervals
3	87	Mon Jun 20	Statistics-- intro	#2: Confidence intervals
3	88	Weds Jun 22	Statistics-- intro	#2: Confidence intervals
3	89	Mon Jun 27	Statistics-- intro	#2: Confidence intervals
3	90	Weds Jun 29	Statistics-- intro	#2: Confidence intervals
3	91	Mon Jul 4	Statistics-- intro	#2: Confidence intervals
3	92	Weds Jul 6	Statistics-- intro	#2: Confidence intervals
3	93	Mon Jul 11	Statistics-- intro	#2: Confidence intervals
3	94	Weds Jul 13	Statistics-- intro	#2: Confidence intervals
3	95	Mon Jul 18	Statistics-- intro	#2: Confidence intervals
3	96	Weds Jul 20	Statistics-- intro	#2: Confidence intervals
3	97	Mon Jul 25	Statistics-- intro	#2: Confidence intervals
3	98	Weds Jul 27	Statistics-- intro	#2: Confidence intervals
3	99	Mon Aug 1	Statistics-- intro	#2: Confidence intervals
3	100	Weds Aug 3	Statistics-- intro	#2: Confidence intervals



8	13	Mon Oct 12	Stratified sampling		#4: Ecological Datasets
8		Mon Oct 12	Lab 7: Snow Sampling (weather dependent)	Lab 7	Lab 6 due
8	14	Wed Oct 14	Stratified sampling cont.		
9	15	Mon Oct 19	Power and sample size	#5 Wildlife Datasets	
9		Mon Oct 19	Lab 8: Intro to Excel	Lab 8	Lab 7 due
9	16	Wed Oct 21	Paired T tests		
10	17	Mon Oct 26	Population ecology and growth		#5 Wildlife Datasets
10		Mon Oct 26	Lab 9: Probability and CLT	Lab 9	Lab 8 due
10	18	Wed Oct 28	Pop. ecology cont.		
11	19	Mon Nov 2	Meta-populations and life tables	#6 Population Estimations	
11		Mon Nov 2	Lab 10: Hypothesis testing	Lab 10	Lab 9 due
11	20	Wed Nov 4	Estimating wildlife populations		
12	21	Mon Nov 9	Mark/recapture		
12		Mon Nov 9	Lab 11: Population dynamics	Lab 12	Lab 10 due
12	22	Wed Nov 11	Biodiversity		#6 Population Estimations

