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SEP 0 6 2000

Grande Prairie Regional College

Dept. of Science & Technology

COURSE OUTLINE

Biology 2080
Principles of Ecology

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Description:

Ecology is the scientific study of the interactions between organisms and their environment in a hierarchy of levels of organization: individuals, populations, communities, and ecosystems. The course is designed to provide a comprehensive survey of ecological concepts that can stand alone or serve as preparation for advanced courses in ecology. Labs and field exercises emphasize the collection, analysis and interpretation of data from ecological experiments and complement lecture and seminar material. Examples will be drawn from a broad range of organisms and systems.

Prerequisites: Zoology 1200 or Botany 1990 or Biology 1080
(Note: This course replaces Zoology 2310. Students may not obtain credit for both Zo 2310 and Bio 2080.)

Transferability: U of C - Ecology 313
U of A - Biology 208
U of L - Biology 2200

Resources:

Krohne, D.T., 1998, General Ecology, Wadsworth Publ. Co., 722pp (required textbook)

Ambrose, H.W., and K.P. Ambrose, 1977, A Handbook of Biological Investigation, 4th ed., Hunter (recommended)

Biology 208, Principles of Ecology - Laboratory Manual, 1995-96, Department of Biological Sciences, U of A (required lab manual)

Brewer, R., 1994, The Science of Ecology, 2nd ed, Saunders Publ. Co

Krebs, C.J., 1999, Ecology: The Experimental Analysis of Distribution and Abundance, 4th ed, Harper and Row Publ. Co.

Requirements:

Since presence at lectures and laboratories, participation in classroom discussion and projects, and the completion of assignments are important components of this course, students will serve their interests best by regular attendance. Those who choose not to attend must assume whatever risks are involved. In this connection, the attention of students is directed to the Academic Guidelines of Grande Prairie Regional College.

All assignments must be completed and handed in to the instructor by the date specified. Late assignments will not be marked.

Evaluation:

Quizzes:	10%
Mid-term Exam:	20%
Laboratory:	40%
Final Lecture Exam:	30%

Course Topics:

#	Topic	Text Readings
1	**Introduction to Ecology & BIOL 208 A1**	xi - 8
2	**Problem-solving in Ecology**	8 - 16
3	**Environmental Patterns (Spatial)**	67-68, 624-634, 639-645
4	**Environmental Patterns (Temporal)**	663-669
5	**Responses of Organisms to Environmental Pattern**	64-67,76-78,101-106,110-111,339-343
6	**Adaptation**	17-24,40-44,52-53,60-62,218-219,223-230,241-244
7	**Natural Selection and Evolution**	24-40
8	**Life History**	260-295
9	**Concepts and Properties of Populations**	116-132,138-139
10	**Population Growth**	132-146,152-160
11	**Population Regulation**	163-194
12	**Human Population Growth**	203-205
13	**Competition**	343-350,354-363,366-379,432-441
14	**Predation**	381-383,409-423
15	**The nature and diversity of communities**	429-432,460,466-481,494-510,659-660
16	**"Island" Populations & Communities**	194-199,213-215,461-462,481-493,495
17	**Succession**	513-557
18	**Historical Ecology**	
19	**Ecosystems**	593-622