GRANDE PRAIRIE REGIONAL COLLEGE

F.93

ENTOMOLOGY 1200

GENERAL INFORMATION

Instructor: Ken Fry
Office: J222
Telephone: 539-2827

Description: An introduction to the structure, function, behaviour, ecology, and systematics of insects with emphasis on the regulation of their metabolism, locomotion, reproduction and development, on their evolution, and on their interactions with other organisms, including humans.

Text-book: Gillott, C. 1980. **ENTOMOLOGY**, Plenum Press, N.Y.

Requirements: A) Since participation in lectures and laboratories and completion of assignments are all important components of this course, students will serve their interests best by regular attendance. Those who chose not to attend must assume whatever risks are involved. In this regard, the attention of the students is directed to the Academic Guidelines of the College.
B) Laboratory Quizzes
C) Lecture Midterm (October 18)
D) Laboratory project (Due December 2nd)
E) Final Lecture Exam (date set by Registrar)

Lectures: Section A2 M, W, F 1000 - 1050 Room J101

Laboratory: Section L1 Thurs. 0800 - 1050 Room J126

EVALUATION

Your final mark will be calculated from the following combination of marks:

Laboratory:

Quizzes.....4 @ 5% each = 20%
Project.....20%

Lecture:

Midterm Exam.....20%
Final Exam.....40%

Examinations will consist of both short answer and essay questions. The midterm will include all topics covered through Oct. 18. The final exam will include all material considered in the course. To do well you must be able to interpret and synthesize material covered in lecture, lab, and text (the organization and emphasis of my course differs considerably from that of the text). I also expect you to participate fully in class discussions.

TRANSFERABILITY

Univ. of Alberta:	ENT 120
Univ. of Calgary	Jr. Biol.
Univ. of Lethbridge	ZOOL 2xxx
Athabasca Univ.	BIOL 2xxx
Augustana	BIO 2xx
Concordia	SCIENCE 1xx
King's College	BIOL 220
Canadian Union College	BIOL 1xx

LECTURE OUTLINE

Date		Topic	Text Chapter
September			
Wed.	8	Introduction	1, 8
Fri.	10	Hexapod Success	2, 3
Mon.	13	External Structure	4
Wed.	15	Locomotion	4
Fri.	17	Locomotion	4
Mon.	20	Locomotion	4
Wed.	22	Securing Food	3
Fri.	24	Internal Structure and Function	4
Mon.	27	Internal Structure and Function	4
Wed.	29	Development	5
October			
Fri.	1	Development	5
Mon.	4	Development	5
Wed.	6	Development	5
Fri.	8	Populations and Species	1, 3,
Mon.	11	Thanksgiving Day	**NO CLASS**
Wed.	13	Populations and Species	1, 3, 7
Fri.	15	Populations, Species and Humans	9, 10
Mon.	18	**MIDTERM EXAM**	**IN CLASS**
Wed.	20	Evolution and Systematics	3, 11
Fri.	22	Classification	11
Mon.	25	Classification	11
Wed.	27	Classification	11
Fri.	29	Nervous system	4
November			
Mon.	1	Sensory perception	4
Wed.	3	Sensory perception	4
Fri.	5	Reproduction	5
Mon.	8	Reproduction	5, 6
Wed.	10	Reproduction	5
Fri.	12	Hexapods, Weather and Climate	
Mon.	15	Hexapods, Weather and Climate	
Wed.	17	Behaviour	6
Fri.	19	Social Behaviour	6
Mon.	22	Social Behaviour	6
Wed.	24	Social Behaviour	6
Fri.	26	Hexapods, Soil and Water	4, 7
Mon.	29	Hexapods and plants	7, 8, 9

December

Wed.	1	Hexapods and plants.....7, 8, 9
Fri.	3	Hexapods and vertebrates.....9
Mon.	6	Hexapods and vertebrates.....9
Wed.	8	Careers in Entomology

LABORATORY OUTLINE

Date	Topic
September	
Thurs. 9	Introduction to Collection Techniques & Collecting Trip
Thurs. 16	Specimen Preparation
Thurs. 23	External Morphology
Thurs. 30	Internal Anatomy
October	
Thurs. 7	Morphological Adaptations and Sense Organs
Thurs. 15	Metamorphosis
Thurs. 22	Camouflage and Mimicry
Thurs. 29	Medical and Veterinary Entomology
November	
Thurs. 4	Laboratory Project
Thurs. 11	**NO LAB**
Thurs. 18	Laboratory Project
Thurs. 25	Laboratory Project
December	
Thurs. 2	Laboratory Project

THE ABOVE SCHEDULES AND PROCEDURES IN THIS COURSE ARE SUBJECT TO CHANGE IN THE EVENT OF EXTENUATING CIRCUMSTANCES

LABORATORY PROJECT

Due Date: December 2nd 1993 In Lab

Each student will hand in a minimum of 20 different mounted or preserved insect specimens collected during the semester.

Each specimen must be labeled with the following information:

a) Identification
   - including Order & Family (Genus & Species optional)

b) Collection date
   - in the form: day.month.year (i.e.: 12.IX.93)

c) Location of capture
   - geographical location, plant collected from, etc.

d) Name of collector

Along with the collection, each student must hand in a written report containing the following information for each specimen:

a) A listing of all taxonomic levels (Kingdom, Phylum, Class, Order, Suborder, Family, Subfamily, Genus, Subgenus, Species, as applicable)

b) Reference source(s) of taxonomic information

c) Distinguishing morphological features of the specimen

You will be graded by the following criteria:

- variety of specimens
- number of specimens (repeats of identical specimens will not count)
- thoroughness and accuracy of identification and information
- quality of presentation

This is an independent project, so all aspects must be completed on your own. Any evidence of plagiarism will not be tolerated.

LABORATORY PROJECT REFERENCE LIST

Anonymous. 1978. How to Make an Insect Collection. Ward's Natural Science Establishment Inc. Rochester.

Borror, D. J., De Long, D. M., & Triplehorn, C. A. 1976. An Introduction to the Study of Insects. 4th Edition. Saunders College Publ. Philadelphia

Borror, D. J. & White, R. E. 1970. A field Guide to the Insects. Houghton Mifflin Co. Boston.

Chu, H. F. 1949. How to Know the Immature Insects. W. C. Brown Co. Publ. Dubuque.

Covell, C. V. 1984. Field Guide to the Moths of Eastern North America. Houghton Mifflin Co. Boston.

Ehrlich, P. R. & Ehrlich, A. H. 1961. How to Know the Butterflies. W. C. Brown Co. Publ. Dubuque.

Holldobler, B. & Wilson, E. O. 1990. The Ants. Belknap Press. Cambridge.

Jaques, H. E. 1951. How to Know the Beetles. W. C. Brown Co. Publ. Dubuque.

Jaques, H. E. 1947. How to Know the Insects. W. C. Brown Co. Publ. Dubuque.

Klots, A. B. 1951. A Field Guide to the Butterflies of North America. Houghton Mifflin Co. Boston.

Merritt, R. W. & Cummins, K. W. 1984. An Introduction to the Aquatic Insects of North America.

Milne, L. J. 1980. The Audubon Society Field Guide to North American Insects and Spiders. Knopf. New York.

Swain, R. B. 1948. The Insect Guide. Doubleday. Garden City, N. Y.

Tilden, J. W. & Smith, A. C. 1986. Western Butterflies. Houghton Mifflin Co. Boston.