

GRANDE PRAIRIE REGIONAL COLLEGE

SCIENCE DEPARTMENT

FALL 1983

COURSE: Biology 299 : Biological Function.

INSTRUCTORS: T. R. Shewchuk P. Lemay  
Office D306. 539-2986 Office D304. 539-2984  
Lab F130. 539-2953 Lab F130. 539-2953  
  
J. Snyder  
Office F134. 539-2058  
Lab F130. 539-2953.

CREDIT: Biology 299 is a three credit university level course open to students who have satisfactorily completed Biology 30 or its equivalent. This course is one of the courses in the Introductory Biology Program core.

NATURE OF COURSE: This course is an introductory survey of the physiology of major groups of organisms. Major emphasis will be placed on cells as functional units, respiration, circulation, metabolism, thermal relationships, ionic and osmotic relationships, movement, and control and integration. The course consists of 3 hours of lecture and 3 hours of laboratory per week.

REQUIREMENTS AND  
EVALUATION: A. Laboratory Reports 20%  
B. Essay 15%  
C. Mid-term Exam 15%  
D. Final Lab Exam 10%  
E. Final Lecture Exam 40%

RESOURCES: Biology 299. Biological Function. Laboratory Manual.  
University of Alberta.  
Greulach, V. Plant Function and Structure. MacMillan.  
Ray, P. The Living Plant. Holt, Rinehart, Winston.  
Wood, D. W. Principles of Animal Physiology. Edward Arnold.

BIOLOGY 299  
COURSE SYNOPSIS

- A. Introduction.
- B. The Cell as the Fundamental Functional Unit.
- C. Cellular Chemistry.
- D. Ionic and Osmotic Relationships.
- E. Metabolism
  - Thermodynamics
  - Autotrophic Metabolism
  - Heterotrophic Metabolism.
- F. Respiration
  - Plant Gas Exchange
  - Animal Gas Exchange.
- G. Transport
  - Plant Nutrient Transport
  - Animal Nutrient Transport.
- H. Thermal Relationships
  - Plants
  - Poikilothermy
  - Homeothermy.
- I. Movement
  - Tropisms
  - Animal Movement.
- J. Information
  - Plant Responses
  - Animal Nervous Systems.
- K. Control and Integration
  - Hormones
  - Neuroendocrines.

BIOLOGY 299  
LABORATORY SCHEDULE  
FALL 1983/1984

|      |    |    |   |
|------|----|----|---|
| 1983 | 09 | 13 | Orientation - Lab I - U of A.               |
|      | 09 | 20 | Plant Water Relations - Lab II - U of A.    |
|      | 09 | 27 | Photosynthesis - Lab III - U of A.          |
|      | 10 | 04 | Chromatography - Handout.                   |
|      | 10 | 11 | Whole Animal Respiration - Lab IV - U of A. |
|      | 10 | 18 | Mid Term Exam During Lab Period.            |
|      | 10 | 25 | Blood Lab - Handout.                        |
|      | 11 | 01 | Vertebrate Skeletal Muscle - Handout.       |
|      | 11 | 08 | Vertebrate Heart - Handout.                 |
|      | 11 | 15 | Fatigue - Handout.                          |
|      | 11 | 22 | Respiration - Handout.                      |
|      | 11 | 29 | Final Laboratory Exam.                      |