is on, s t io(s)
Revised:y &

Physiology **E: 3**

Subject & Course No.	Descriptive Title	Semester Credits

F: Calendar Description:

This course uses a problem-based learning format to study the anatomy and physiology of humans. Students learn a problem solving process in the context of dissecting several cases, which involve the skeletal, muscular, circulatory, respiratory, nervous, digestive, excretory and endocrine systems. Enrolment is usually limited to students in the Therapeutic Recreation program.

G: Allocation of Contact Hours to Type of Instruction / Learning Settings

Primary Methods of Instructional Delivery and/or Learning Settings:

Problem-based learning-seminar, student directed learning and laboratory

Number of Contact Hours: (per week / semester for each descriptor)

3 hours per week in group sessions and laboratory

Number of Weeks per Semester: **15**

H: Course Prerequisites:

None

I: Course Corequisites:

As described by THRT

J: Course for which this Course is a Prerequisite

None

K: Maximum Class Size:

25

L: PLEASE INDICATE**:**

	Non-Credit
X	College Credit Non-Transfer
	College Credit Transfer:

SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS (www.bccat.bc.ca)

M: Course Objectives / Learning Outcomes

N: Course Content:

The major topics in the course include problems that involve the following learning issues:

1. **Alternative Hypotheses to explain the symptoms presented in each case**
   - Ç Developing as many explanations for the symptoms presented as possible.

2. **Integumentary System**
   - Ç Anatomy and physiology of the skin
   - Ç Review function of skin in maintaining health
   - Ç Review the involvement of the integumentary systems in the homeostatic systems of water balance and temperature regulation
   - Ç Review of skin layers and implications for damage to each layer and implications with respect to surface area involved

3. **Skeletal System**
   - Ç Bone cells, tissues
   - Ç Types of bone and bone growth
   - Ç Anatomy of skeletal system and types of joints
   - Ç Composition of joint – joint serum
   - Ç Relationship of muscles to joints
   - Ç Types and causes of arthritis

4. **Muscular System**
   - Ç How muscles work
   - Ç Anatomy of muscular system with respect to movement
   - Ç Biomechanics of movement

5. **Digestive System**
   - Ç Anatomy of the digestive tract and associated organs
   - Ç Function of the digestive tract and associated organs, in particular the pancreas and liver
   - Ç Role of intestines and colon in digestion/absorption
   - Ç Relationship of liver to blood homeostasis
   - Ç Malfunctions of the digestive tract, particularly the colon
   - Ç Relationship of diet to health of digestive tract
   - Ç Consequences of obesity

6. **Respiratory System**
   - Ç Anatomy of respiratory system
   - Ç Relationship between respiratory system and blood gases
   - Ç Importance of breathing, with specific reference to brain cells
   - Ç Review of normal respirations/minute and reasons for deviance
   - Ç Causes and consequences of acute respiratory distress syndrome (ARDS)

7. **Circulatory System**
   - Ç Anatomy of circulatory system
   - Ç Relationship of circulatory system to the skin, the brain and digestive system
   - Ç Causes and consequences of lack of blood to cells
   - Ç Relationship between nutrition and cardiovascular health
   - Ç Review of normal pulse, BP, and temperature
   - Ç Review diagnostic tests, including normal counts of white blood cells, red blood cells, blood pH, hematocrit and blood proteins
   - Ç Significance of blood tests and homeostasis of body
   - Ç Connection between body weight and reproductive hormones
   - Ç Relationship of endocrine system to appropriate food intake
   - Ç Significance of serum electrolytes (sodium, potassium and chloride)
   - Ç Causes and consequences of shock

8. Immune System

- Non-specific defences (membrane barriers, cellular and chemical defences)
- Specific immune defences – immunity
- Interactions with other systems – complements
- Antigens/antibodies
- Humoral immune response/cell-mediated response
- Immunodeficiencies/autoimmune diseases

9. Endocrine Systems

- Major endocrine glands
- Definition of hormones
- Functions of hormones generally
- Pancreatic hormones
- Role of pancreas in homeostasis of blood sugar
- Effect of aging on endocrine system functioning
- Connection between body weight and reproductive hormones
- Relationship of endocrine system to appropriate food intake
- 9.

Q: Means of Assessment

TYPE OF EVALUATION	POINTS
Weekly Class Participation	25
Project	25
Minor Exam	20
Major Exam	30
TOTAL	100

GRADES: A+ 95-100 A 90-94 A- 85-89 B+ 80-84 B 75-79 B-70-74
C+ 65-69 C 60-64 C- 55-59 P 50-54 F 0-49

Notes:

Exam: Both exams are open book and similar in style to the classroom work, except that each student must analyze the problem in their own exam book, without discussion. The minor exam will take one to two hours, the major exam will take about three hours.

Participation: As PBL requires that each student be present to gain information and problem solving skills, participation is essential. Each class missed can result in the loss of a maximum of 2.5% , to a total of 25%. At the end of each case, students will be assessed for their contribution to the problem solving process. If a class is missed, the participation opportunity is lost. 1.5% will be lost for each class missed, even if the cause of the missed class is unavoidable.

Project: Each student will be required to choose a health issue of interest, relating to the topics in that semester and