

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



**SAULT  
COLLEGE**

**COURSE OUTLINE**

<b>COURSE TITLE:</b>	Body Structure and Function I		
<b>CODE NO. :</b>	PSW108	<b>SEMESTER:</b>	1
<b>PROGRAM:</b>	Personal Support Worker		
<b>AUTHOR:</b>	Gwen DiAngelo, Alan Kary		
<b>INSTRUCTOR:</b>	Christine Giardino		
<b>DATE:</b>	May 2011	<b>PREVIOUS OUTLINE DATED:</b>	Jan.2010
<b>APPROVED:</b>	"Marilyn King"		May/11
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	<b>CHAIR, HEALTH PROGRAMS</b>		<b>DATE</b>
<b>TOTAL CREDITS:</b>	3		
<b>PREREQUISITE(S):</b>	None		
<b>HOURS/WEEK:</b>	3		

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*For additional information, please contact the Chair, Health Programs*  
*School of Health and Community Services*  
*(705) 759-2554, Ext. 2689*

**I. COURSE DESCRIPTION:**

This course will provide the learner with a general understanding of the structure and function of the human body. The learner will begin to examine body systems to obtain knowledge of how the structures and functions are related to maintain homeostasis.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

Upon successful completion of this course, the student will demonstrate the ability to:

1. Use the appropriate terminology related to the organization, structure and function of the human body.

Potential Elements of the Performance:

- a. Define anatomy and physiology
  - b. Name the following:
    - Levels of organization of the human body
    - Major organs for each body system
    - Common terms used for relative positions of the body
    - Major planes of the body
  - c. Define homeostasis
2. Examine the chemical composition and chemical interactions (life processes of the human body.

Potential Elements of the Performance:

- a. Define the terms matter and elements
  - b. List the four elements that compose 96% of body weight
  - c. List five reasons why water is essential to life
  - d. Define energy and describe the role of adenosine tri-phosphate (ATP) in energy transfer
3. Describe the location, structure and function of cells, tissues and organs of stated body systems.

Potential Elements of the Performance:

**a. The Cell**

- Describe the structure of a typical cell
- List the function of each part of a typical cell
- List the two processes of cell division: mitosis and meiosis
- Differentiate between mitosis and meiosis
- Label a diagram of the main parts of a typical cell
- Describe the active and passive movement of substances across a cell membrane: diffusion osmosis
- Define tonicity
- Compare isotonic, hypotonic and hypertonic solutions

- Explain cell division
- Define metabolism, anabolism and catabolism
- Differentiate between anaerobic and aerobic metabolism
- Describe the roles of DNA and RNA

**b. Tissues and Membranes**

- List the four basic types of tissues
- Describe the location and function of the four basic types of tissues
- Differentiate between endocrine and exocrine glands
- Differentiate between mucous and serous membranes

**c. Systems****i. Integumentary System**

- Describe the basic structure of the skin and its layers
- List and describe the basic functions of the skin and its layers
- Describe how skin colour is determined
- Identify the basic accessory structures of the skin

**ii. Skeletal System**

- List the functions of the skeletal system
- Identify the composition of bone structure
- Explain the basic process of bone formation
- Name the two divisions of the skeleton
- Label selected important landmarks for bones on the skeleton
- Compare cervical, thoracic, lumbar and sacral vertebrae
- List the main types and functions of joints

**iii. Muscle System**

- Identify three types of muscle tissue
- Explain the basic concept of muscle contraction
- Explain the relationship between muscle origin, insertion and action
- Label a diagram of the major muscles of the body
- Describe action of the major muscles of the body

**iv. Nervous System**

- Name the anatomical divisions of the nervous system
- Name the functional divisions of the nervous system
- Compare neuroglia and neuron
- Explain the function of the myelin sheath
- Label a diagram of the four major areas of the brain and the four lobes of the cerebrum
- Describe the function of the four major areas of the brain
- Describe the anatomy of the spinal cord
- List the three functions of the spinal cord
- Explain how the central nervous system is protected from injury

**v. Autonomic Nervous System**

- Describe the function of the autonomic nervous system
- Identify the two divisions of the autonomic nervous system

**vi. The Special Senses**

- State the functions of the sensory system
- Define the five types of sensory receptors
- Describe the five general and special senses
- Label a diagram and describe the structure of the ear and eye
- Describe papillary changes
- Describe the functions of the parts of the ear and eye involved in hearing and sight
- Explain how the ear maintains body equilibrium

**III. TOPICS:**

1. Introduction to the Human Body
2. Basic Chemistry
3. The Cell
4. Cell Metabolism
5. Tissues and Membranes
6. Integumentary System
7. Skeletal System
8. Muscular System
9. Nervous System
10. Special Senses

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

Sorrentino, S. et al (2009). *Mosby's Canadian textbook for the personal support worker*. (2<sup>nd</sup> Canadian ed.). Elsevier Mosby.

Kelly, R. T., Sorrentino, S. et al (2009). *Workbook to accompany Mosby's Canadian textbook for the personal support worker*. (2<sup>nd</sup> Canadian ed.). Toronto: Elsevier Mosby.

Herlihy, B. & Maebius, N. K. (2011). *The human body in health and illness* (4<sup>th</sup> ed.). Elsevier W. B. Saunders.

**V. EVALUATION PROCESS/GRADING SYSTEM:**

1. The pass mark for this course is 60%. It is composed of quizzes, exams, and an assignment.

**2. Evaluation Methods:**

Online Quizzes (5% each X 9)	45%
Assignment	5%
Midterm Exam	25%
Final Exam	25%

**Online quizzes:** two attempts for each quiz, highest mark will be recorded

3. Students missing the quizzes for any reason will not be able to write them after the due date.
4. Students missing the midterm or final exam because of illness or other serious reason must contact the professor before the exam to inform her/him (759-2554, Ext. 2468 or via email). Those students who have notified the professor of their absence, according to policy, will be eligible to arrange an opportunity to write the exam at another time. Students must contact the teacher on their first day back at school or clinical following a missed test or exam. Those students who do not follow the above procedures will receive a zero for that exam.

**A minimum of a “C” grade is required to be successful in all PSW coded courses.**

The following semester grades will be assigned to students:

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

***NOTE: Mid Term grades are provided in theory classes and clinical/field placement experiences. Students are notified that the midterm grade is an interim grade and is subject to change.***

## VI. SPECIAL NOTES:

### Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

**VII. COURSE OUTLINE ADDENDUM:**

The provisions contained in the addendum located on the portal form part of this course outline.