

I. COURSE DESCRIPTION:

Students will explore the basis for normal body posture and movement, the factors involved and normal variables due to age, work environment, psychosocial impact. This course is divided into Theory and Lab demonstration and practice.

II. LEARNING OUTCOMES:

The student will:

1. Demonstrate a general understanding and application of the foundations for normal functional movement.

A: Normal Motor Development

Identify milestones in normal motor development through the ages and stages of man.

- gross motor movement
- fine motor movement
- identify normal changes with aging

2. Describe essential components required for production and carrying out of movement as well as safe body mechanics.

B: Concepts of Movement

2. Explain essential components required for normal functional movement

- | | |
|------------------|-----------------------|
| a) motor | g) planes of movement |
| b) sensory | |
| c) cognitive | |
| d) perceptual | |
| e) psychosocial | |
| f) environmental | |

3. Explain essential concepts required to understand normal functional movement.

- | | |
|----------------|--------------------|
| a) weight | h) base of support |
| b) gravity | l) centre of mass |
| c) force | |
| d) leverage | |
| e) momentum | |
| f) inertia | |
| g) equilibrium | |

4. Explain the clinical implications of objectives 2 and 3 on normal functional movement.

C: Body Alignment and Positioning

5.
 - a) Explain the purpose and benefit of positioning and proper body alignment.
 - b) Describe the effects of poor posture/positioning on joints/muscles.
 - c) Demonstrate how to maintain proper spinal alignment
6. Demonstrate ability to assist others to a variety of positions using good body alignment.

D: Body Mechanics

7. Identify essential body mechanics required for work in health and human services.
8. Practice the safe use of body mechanics in simulated situations in the lab.
9.
 - a) Demonstrate consistent use of good body mechanics.
 - b) Demonstrate the ability to teach a client how to effectively move from a position of lying to sitting, and sitting to standing using correct body mechanics.

E: Postural Control

10. Review basic elements of good posture and provide rationale for each guideline on posture. Identify parameters of normal posture -
 - lumbar lordosis
 - cervical lordosis
 - thoracic kyphosis
11. Describe the Postural Control Mechanism: spinal reflexes; brainstem reflexes; righting reactions; equilibrium reactions.
12. Relate biology content to postural control.
 - a) explain how the sensory system affects posture
 - b) describe how the motor system impacts postural control
 - c) discuss how the integration of sensory and motor control is essential for normal functional movement
 - d) Identify significant surface anatomical landmarks such as C7, T12, L2, spine and inferior angle of the scapula, coracoid process, acromion process, olecranon process, styloid process, ASIS, PSIS, head of fibula, ischial tuberosity, medial and lateral malleoli.
13. Describe normal physiological changes of aging on posture.
14. Explain how postural control mechanism can affect movement and function.

3. Describe and demonstrate normal mobility of joints, soft tissues and resulting movement.

F: Transfers and Lifts

15. Identify and demonstrate different types of lifts and transfers:
- sliding boards
 - 1 person
 - 2 person
 - mechanical
 - their functional sequence
 - assistive devices for their safe completion
16. Identify and define tone, balance and cognitive status, and explain how they affect lifts, transfers and handling
17. a) Identify risk factors and contraindications in the use of lifts and transfers.
b) Safely transfer patients in a variety of situations:
- chair to bed
 - one chair to another
 - bed to chair

G: Functional Movement

18. Identify the normal functional sequence of:
- | | |
|-----------------------------------|-----------------------|
| - ambulation | - rolling over |
| - gait | - lying to sitting |
| - ascending and descending stairs | - sitting to standing |
19. Recognize simple abnormal patterns of gait

H: Mobility and Exercise

20. a) Define and demonstrate the type of muscle contractions.
- Isometric
 - Isotonic
 - Isokinetic
 - Eccentric
 - Concentric
- b) Define and demonstrate these forms of treatment: resisted, active, active assisted and passive.
21. Describe and demonstrate:
- a) types of joint movement (synarthroses, diarthroses, amphiarthroses)
 - b) directional terms (abduction, adduction, extension, etc.)

4. Demonstrate safe and purposeful handling for normal limbs.
 22. Recognize progression in exercise routines and explain the risks of overloading or underloading the client's exercises.
 23. Demonstrate safe passive range of motion on normal joints of the upper and lower extremities.
 24. Identify precautions/contraindications to exercise, ROM and stretching.
 25. Demonstrate functional activities that may be used to increase/maintain strength.
 26. Explain the benefits and purposes of exercises, range of motion and stretching and the environments where these activities may take place.
 27. Demonstrate the normal range of movement for each major joint of the extremities and trunk.
 28. Identify and demonstrate levels of assistance and safety procedures that may be required for therapeutic activities and forms of mobility.
 29. Explain the effects of improper handling techniques on the patient.

5. Describe and demonstrate normal breathing patterns and common procedures/devices to promote effective chest wall movement.
 30. Describe the anatomy and function of the lungs as they pertain to pulmonary patients.
 31. a) Describe normal breathing patterns and rates - diaphragmatic, reverse diaphragmatic.
 - b) Recognize signs of distress that may arise in bronchial hygiene treatments, and when to report these to PT/RN.
 32. a) Identify and demonstrate the use of devices that may be used in bronchial hygiene.
 - b) Recognize different oxygen delivery systems.
 33. Describe and recognize signs of respiratory distress and abnormal breathing patterns.
 34. Recognize the changes in sputum production and when to report this to the registered health professional.
 35. Define and demonstrate: postural drainage, deep breathing, and the sequence of coughing.

6. Demonstrate awareness of natural modifications of functional movement relative to age and stage, work environment and psychosocial impact on individuals/families.
36. Discuss the normal variations in functional movement that occur due to:
- genetics
 - environment
 - age
 - psychosocial issues
 - work/leisure activities
37. Demonstrate an understanding of the difference between gait re-education, walking to increase endurance, walking to maintain functional ability and identify the action(s) to be taken.
38. Recognize changes in behaviour patterns and abnormal responses during exercise/movement. Describe signs of distress and identify the action(s) to be taken.
39. Identify ambulatory aids, levels of weight bearing and environmental and architectural risk factors to ambulation.

III. TOPICS

- A: Normal Motor Development – all ages and stages
- B: Concepts of Movement
- C: Body Alignment and Positioning
- D: Body Mechanics
- E: Postural Control
- F: Functional Movement
- Gait
 - Patterns
 - Co-ordination
 - Effort
- G: Normal Variations
- Age
 - Work Environment
 - Psychosocial Affect
- H: Mobility
- ROM
- I: Transfers/Lift
- J: Chest Wall Movement

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Keating, Pat. Lifts and Transfers...A Therapeutic Approach. Toronto: Interaction Publishing Company

Pierson, F.M. (1999). Principles and Techniques of Patient Care. (2nd ed.) Toronto: W.B. Saunders

Lippirt Clinical Kinseology F.A. Davis, Mall. – used in BIO100.

ADDITIONAL RESOURCE MATERIALS: Available in the College Library. See teacher resources - booklets in class.

V. EVALUATION PROCESS/GRADING SYSTEM:

A combination of tests and assignments will be used to evaluate student achievement of the course objectives. A description of the evaluation methods will be provided and discussed by the teacher within the first two weeks of class.

NOTE: All tests/exams are the property of Sault College.
 All papers are to be in scholarly format as per *Student Success Guide*.

The following semester grades will be assigned to students in post secondary courses:

| <u>Grade</u> | <u>Definition</u> | <u>Grade Point Equivalent</u> |
|--------------|---|-------------------------------|
| A+ | 90 - 100% | 4.00 |
| A | 80 - 89% | 3.75 |
| B | 70 - 79% | 3.00 |
| C | 60 - 69% | 2.00 |
| R (Repeat) | 59% or below | 0.00 |
| CR (Credit) | Credit for diploma requirements has been awarded. | |
| S | Satisfactory achievement in field placement or non-graded subject areas. | |
| X | A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see <i>Policies & Procedures Manual - Deferred Grades and Make-up</i>). | |
| NR | Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has been impossible for the faculty member to report grades. | |

VI. SPECIAL NOTES:

Special Needs:

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with the instructor and/or contact the Special Needs office, Room E1204, Extension 493, 717, or 491 so that support services can be arranged for you.

Retention of course outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other post secondary institutions.

Disclaimer for meeting the needs of learners:

The Professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the instructor. Credit for prior learning will be given upon successful completion of the following: