

**SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY  
SAULT STE MARIE, ON**



**COURSE OUTLINE**

**Course Title: Normal Functional Movement**

**Code No.: RSP102 Semester: 1**

**Program: Rehabilitation Assistant**

**Author: Nancy McClelland**

**Date: December, 1997 Previous Outline Date: 01/97**

**Approved:**

  
**Dean**

**Date**

**Total Credits: Prerequisite(s): N/A**

**Length of Course: 2.5 Hrs/Wk Total Credit Hours: 45**

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For additional information, please contact Donna Tremblay, School of Health Sciences, Human  
Sciences and Teacher Education, (70S) 759-2554, Ext. 690.**

**COURSE NAME****CODE****I. PHILOSOPHY/GOALS:**

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.

**H. LEARNING OUTCOMES:**

The student will:

1. Demonstrate a general understanding and application of the foundations for normal functional movement.
2. Describe essential components required for production and carrying out of movement as well as safe body mechanics.
3. Describe and demonstrate normal mobility of joints, soft tissues and resulting movement.
4. Demonstrate safe and purposeful handling for normal limbs.
5. Demonstrate awareness of natural modifications of functional movement relative to age and stage, work environment and psychosocial impact.

**m. 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

- Coordination

-Effort

G: Normal Variations

- Age

- Work Environment

- Psychosocial Affect

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**m. TOPICS (continued)**

- H: Mobility - ROM  
- Safe Handling
- I: Transfers/Lift
- J: Chest Wall Movement

**IV. LEARNING ACTIVITIES:****A: Normal Motor Development**

1. Identify milestones in normal motor development through the ages and stages of man.
  - gross motor movement
  - fine motor movement
  - identify normal changes with aging

**B: Concepts of Movement**

2. Explain essential components required for normal functional movement
  - a) motor
  - b)** sensory
  - c) cognitive
  - d) perceptual
  - e) psychosocial
  - 0** environmental
3. Explain essential concepts required to understand normal functional movement.
  - a) weight
  - b) gravity
  - c) force
  - d) leverage
  - e) momentum
  - 0** inertia
  - g) equilibrium
4. Explain the clinical implications of objectives 2 and 3 on normal functional movement.

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**IV. LEARNING ACTIVITIES (continued)****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.
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. Demonstrate consistent use of good body mechanics.

**E: Postural Control**

10. Review basic elements of good posture and provide rationale for each guideline on posture.
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
13. Describe normal physiological changes of aging on posture.
14. Explain how postural control mechanism can affect movement and function.

**F: Functional Movement**

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

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**IV. LEARNING ACTIVITIES (continued)**

17. Demonstrate an understanding of the difference between gait re-education, walking to increase endurance, walking to maintain functional ability and identify the items to be observed in each instance.
18. Recognize changes in behaviour patterns and abnormal responses during exercise/movement. Describe signs of distress and identify the action(s) to be taken.
19. Identify ambulatory aids, levels of weight bearing and environmental and architectural risk factors to ambulation.

**G: Normal Variations**

20. Discuss the normal variations in functional movement that occur due to:
  - genetics
  - age
  - work/leisure activities
  - environment
  - psychosocial issues

**H: Mobility and Exercise**

21. 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.
22. Describe and demonstrate:
  - a) types of joint movement (synarthroses, diarthroses, amphiarthroses)
  - b) directional terms (abduction, adduction, extension, etc.)
23. Recognize progression in exercise routines and explain the risks of overloading or underloading the client's exercises.
24. Demonstrate safe passive range of motion on normal joints of the upper and lower extremities.
25. Identify precautions/contraindications to exercise, ROM and stretching.

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## IV. LEARNING ACTIVITIES (continued)

26. Demonstrate functional activities that may be used to increase/maintain strength.
27. Explain the benefits and purposes of exercises, range of motion and stretching and the environments where these activities may take place.
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.

## I: Transfers/Lifts

30. 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
31. Identify and define tone, balance and cognitive status, and explain how they affect lifts, transfers and handling techniques.
32. Identify risk factors and contraindications in the use of lifts and transfers.

## J: Chest Wall Movements

33. Describe the anatomy and function of the lungs as they pertain to pulmonary patients.
34. Describe normal breathing patterns and rates - diaphragmatic, reverse diaphragmatic.
35. Identify and demonstrate the use of devices that may be used in bronchial hygiene.
36. Describe and recognize signs of respiratory distress and abnormal breathing patterns.
37. Recognize the changes in sputum production and when to report this to the physical therapist.
38. Define and demonstrate: postural drainage, deep breathing, and the sequence of coughing

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**IV. LEARNING ACTIVITIES (continued)**

- 39. Recognize signs of distress that may arise in bronchial hygiene treatments, and when to report these to the physical therapist and/or the Registered Nurse.
- 40. Recognize different oxygen delivery systems.

**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.

All tests/exams are the property of Sault College.

Grading symbols used are those established by the College.

A+	=	90 - 100%
A	=	80 - 89%
B	=	70 - 79%
C	=	60 - 69%

**VI. REQUIRED STUDENT RESOURCES:**

Lifts and Transfers by Pat Keating.

Principles and Techniques of Pt. Care by Pearson, 1994.

**VII. ADDITIONAL RESOURCE MATERIALS:**

Available in the College Library. See teacher resources - booklets in class.

**VIII. SPECIAL NOTES:**

Students with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations with the instructor and/or contact the Special Needs Office so that support services can be arranged for you.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.

IX. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the instructor.