## COURSE OUTLINE: OPA104 - HUMAN MOVEMENT

Prepared: Joanna MacDougall
Approved: Bob Chapman, Dean, Health

| | |
|---|---|
| **Course Code: Title** | OPA104: HUMAN MOVEMENT |
| **Program Number: Name** | 3022: OCCUP/PHYSIO/ASSIST |
| **Department:** | OTA/PTA ASSISTANT |
| **Academic Year:** | 2024-2025 |
| **Course Description:** | This course will provide the student with a foundation in the principles of normal functional human movement. Essential terminology and concepts related to normal human movement, the articular system, components of movement, biomechanics, motor development and skill acquisition will be introduced. In addition, students will develop an understanding of normal growth and motor development, posture, balance, and body mechanics. |
| **Total Credits:** | 4 |
| **Hours/Week:** | 4 |
| **Total Hours:** | 56 |
| **Prerequisites:** | There are no pre-requisites for this course. |
| **Corequisites:** | There are no co-requisites for this course. |
| **Substitutes:** | RSP102 |
| **This course is a pre-requisite for:** | FIT151, FIT155, FIT156, OPA107, OPA109, OPA110, OPA115, OPA130, OPA131 |
| **Vocational Learning Outcomes (VLO's) addressed in this course:**<br><br>**Please refer to program web page for a complete listing of program outcomes where applicable.** | **3022 - OCCUP/PHYSIO/ASSIST**<br><br>VLO 1 Communicate appropriately and effectively, through verbal, nonverbal, written and electronic means, with clients, their significant others, occupational therapists, physiotherapists, and members of the interdisciplinary health care team and others.<br><br>VLO 4 Promote a safe environment that prevents or minimizes potential physical or mental harm to the client, therapist assistant and others.<br><br>VLO 8 Perform the roles and responsibilities of the therapist assistant effectively through the application of relevant knowledge of health sciences, psychosocial sciences, health conditions, resource management, and clinical procedures.<br><br>VLO 9 Contribute to the occupational therapist's or physiotherapist's assessment of the client and the development, implementation and modification of intervention/treatment plans. |
| **Essential Employability Skills (EES) addressed in this course:** | EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.<br><br>EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication.<br><br>EES 7 Analyze, evaluate, and apply relevant information from a variety of sources. |

| | EES 10   Manage the use of time and other resources to complete projects. |
|---|---|
| **General Education Themes:** | Science and Technology |
| **Course Evaluation:** | Passing Grade: 60%, C

A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation. |
| **Books and Required Resources:** | Clinical Kinesiology & Anatomy (w/Glued-in Access) by Lippert
Publisher: F.A. Davis Company Edition: 6th
ISBN: 0803658230 |
| **Course Outcomes and Learning Objectives:** | |

| Course Outcome 1 | Learning Objectives for Course Outcome 1 |
|---|---|
| 1. Demonstrate an understanding of terminology and concepts related to normal movement of the human body. | 1.1 Identify and describe anatomical terms including: planes of movement, body surfaces and directions of movement.
1.2 Describe the following aspects of normal functional movement and where appropriate, normal changes across the lifespan:
a) motor
b) sensory
c) cognitive
d) perceptual
e) psychosocial
f) environmental

1.3 Explain the following biomechanical concepts and the implications of these on normal functional movement:
a) weight
b) gravity
c) force
d) leverage
e) momentum
f) inertia
g) equilibrium
h) base of support
i) center of mass |
| **Course Outcome 2** | **Learning Objectives for Course Outcome 2** |
| 2. Describe the basic structure of connective tissue and muscle and function. | 2.1 Define the following, endomysium, perimysium, epimysium, tendon, aponeurosis.
2.2. Describe the structure and function of synovial membrane, ligaments, tendons, cartilage, synovial membrane and the intervertebral disc. |
| **Course Outcome 3** | **Learning Objectives for Course Outcome 3** |
| 3. Demonstrate an understanding of the articular system and resulting movement. | 3.1 Identify and describe:
a) types of joints and associated movements including normal range of motion for each joint.
b) directional terms (abduction, adduction, extension etc.).
3.2 Identify the normal curvatures of the vertebral column and |

| | |
|---|---|
| | explain their normal development.<br>3.3 Identify and describe scoliosis, lordosis and kyphosis.<br>3.4 Identify normal age related changes of the articular system throughout the lifespan. |
| **Course Outcome 4** | **Learning Objectives for Course Outcome 4** |
| 4. Demonstrate an understanding of the role of muscles in the production of movement. | 4.1 Define the following terms: origin, insertion, prime mover/agonist, antagonist, synergist, fixator.<br>4.2 Describe graded response, tetanus, muscle fatigue and muscle tone as they apply to skeletal muscle.<br>4.3 Identify and describe different types of muscle contractions:<br>a) isometric<br>b) isotonic, eccentric and concentric<br>c) isokinetic<br><br>4.4 Describe and demonstrate the following types of movement: resistive, active, active assistive, passive.<br>4.5 Describe the length-tension relationship of muscle tissue (active and passive insufficiency).<br>4.6 Demonstrate skill in manual muscle testing.<br>4.7 Identify normal age related changes of the muscular system throughout the lifespan. |
| **Course Outcome 5** | **Learning Objectives for Course Outcome 5** |
| 5. Demonstrate an understanding of normal motor development throughout the lifespan. | 5.1 Identify normal motor milestones in gross and fine motor development.<br>5.2 Identify and explain the role of infant reflexes in normal motor development. |
| **Course Outcome 6** | **Learning Objectives for Course Outcome 6** |
| 6. Demonstrate knowledge of normal posture and postural control throughout the lifespan. | 6.1 Explain how the sensory system (vestibular, vision, somatosensory systems) controls posture.<br>6.2 Describe balance strategies and their impact on postural control.<br>6.3 Identify and describe proper body alignment.<br>6.4 Identify normal age-related changes related to posture.<br>6.5 Describe how to maintain good posture and body alignment. |
| **Course Outcome 7** | **Learning Objectives for Course Outcome 7** |
| 7. Demonstrate knowledge and skill in the application of good body mechanics. | 7.1 Identify, describe and demonstrate best practice of body mechanics required for work in health and human services.<br>7.2 Analyze and correct body mechanics of another. |
| **Course Outcome 8** | **Learning Objectives for Course Outcome 8** |
| 8. Demonstrate knowledge of terminology and concepts related to normal gait patterns. | 8.1 Identify the normal functional sequence of gait throughout the lifespan.<br>8.2 Describe normal gait using correct terminology.<br>8.3 Identify factors affecting gait (vertical and horizontal displacement, width of base of support, lateral pelvic tilt, step length, stride length). |
| **Course Outcome 9** | **Learning Objectives for Course Outcome 9** |

| 9. Demonstrate knowledge of terminology and concepts related to the mechanics respiration. | 9.1 Identify the gross anatomy of the respiratory system.<br>9.2 Explain the functions of the components of the respiratory system.<br>9.3 Describe the normal movement patterns of the chest wall during respiration throughout the lifespan.<br>9.4 Describe normal breathing patterns and rates of respiration throughout the lifespan.<br>9.5 Describe and demonstrate diaphragmatic breathing. |
|---|---|
| **Course Outcome 10** | **Learning Objectives for Course Outcome 10** |
| 10. Demonstrate knowledge of the process of motor learning. | 10.1 Identify and describe the three stages of motor learning (cognitive, associative and autonomous).<br>10.2 Recognize the characteristics of the learner during each stage of learning.<br>10.3 Identify appropriate instructional strategies for each stage of learning.<br>10.4 Describe intrinsic and extrinsic feedback and the timing of providing such feedback. |

**Evaluation Process and Grading System:**

| Evaluation Type | Evaluation Weight |
|---|---|
| 1. Lab/Learning Activities | 30% |
| 2. Quizzes/Tests/Exams | 70% |

**Date:** August 15, 2024

**Addendum:** Please refer to the course outline addendum on the Learning Management System for further information.