



**I. COURSE DESCRIPTION:**

This course describes the basic concepts involved with various changes occurring in the disease/injury state. The course also examines the major pathologies of the immune, integumentary, musculoskeletal systems, mental health systems and nervous/special senses systems which would be of particular relevance to the clinical practice of massage therapists.

It is imperative that you have a good understanding of normal anatomy and physiology to understand the processes of disease. Thus, you must review the associated anatomy and physiology before the study of each system. You will find that by reviewing the material and then applying the knowledge, your understanding of pathophysiology will deepen and be retained longer. Keep your anatomy and physiology texts close at hand so that you may constantly refer to it.

**II. LEARNING OUTCOMES:**

Upon successful completion of this course, the student will be able to:

- a. explain the basic concepts of pathophysiology and the general principles of disease and injury.
- b. discuss how the human body deals with the dynamic aspects of a disease or injury process.
- c. analyze common pathologies of an organ or system and the effect on the human body from a holistic viewpoint.
- d. discuss the clinical implications/contraindications of massage treatment for common pathologies and common medications.
- e. explain when to refer clients to other health care professionals.

**III. TOPICS:****A. Alterations in Cell Function, Structure, Growth and Differentiation**

- review cell and tissue biology
- cell injury
- cellular adaptation to various injurious stimuli
- inflammation
- tissue response, repair and wound healing
- neoplasia

**B. Alteration in Musculoskeletal System****Musculotendinous**

- muscle contracture
- muscle flaccidity/spasticity
- muscle atrophy
- muscle belly strain
- tendinitis, tenosynovitis, tenovaginitis
- contusion

**Joint**

- dislocation/subluxation
- bursitis
- adhesive capsulitis
- synovitis
- arthritis
- strains/sprains
- compartment syndrome
- overuse injury
- intervertebral disc lesion (prolapse, herniation)
- Dupuytren's contracture

**Muscle Disorders, Connective Tissue Disorders and Arthritides**

- polymyalgia rheumatica
- polymyositis/dermatomyositis
- myositis ossificans
- muscular dystrophy
- myasthenia gravis
- systemic lupus erythematosus
- scleroderma
- polyarteritis nodosa
- ankylosing spondylitis
- rheumatoid arthritis/juvenile rheumatoid arthritis
- osteoarthritis
- infectious arthritis
- gout, calcium pyrophosphate dihydrate crystal deposition disease
- psoriatic arthritis
- Reiter's syndrome
- hypermobility disorders
- neurofibromatosis

**Bone Disorders**

- fractures (types, healing and complications)
- osteoporosis
- osteomalacia and rickets
- Paget's Disease
- infections (osteomyelitis, tuberculosis)
- osteochondrosis (Legg-Calve-Perthes Disease)
- osteochondritis (Osgood-Schlatter Disease, Scheuermann's Disease)
- osteonecrosis
- renal osteodystrophy

**Bone Neoplasms**

- benign (osteoma, osteochondroma, giant cell tumour)
- malignant (osteogenic sarcoma)
- multiple myeloma
- Ewing's sarcoma
- secondary bone tumours

**C. Mental Health Disorders**

- alcohol and drug abuse
- sexual abuse and child abuse
- psychotic disorders
- anxiety disorders
- mood disorders

**D. Immunity and Alterations in the Immune Responses**

- immune system
- immunity and immune mechanisms
- allergic and hypersensitivity disorders (ie. 20<sup>th</sup> century disease)
- autoimmune diseases
- immune deficiency diseases
- Acquired Immune Deficiency Disease
- Effects of chemotherapy and ionizing radiation

**E. Mechanisms of Infectious Diseases/Public Health**

- agents of infectious diseases
- mechanism of infection
- stages of infectious diseases
- transmission and prevention of transmission of infectious diseases
- reportable diseases and RMT obligations

**F. Alterations in Skin Function and Integrity**

- structure of skin
- types of skin conditions
- common skin lesions
- infectious skin conditions
  - viral (herpes, chicken pox, measles, mumps)
  - bacterial (impetigo, folliculitis, furuncle)
  - fungal (tinea, candidiasis)
  - parasitic (scabies, lice)
- other skin disorders (dermatitis, eczema, acne, psoriasis, decubitus ulcer, disorders of pigmentation)
- burns (first, second and third degree)
- tumours of the skin
  - benign (seborrheic keratoses, nevus)
  - malignant (actinic keratosis, squamous cell carcinoma, basal cell carcinoma, melanoma)

**G. Neuropathology**

- alterations of the peripheral nervous system
  - neuralgia, neuritis
  - nerve entrapment syndromes
    - carpal tunnel syndrome
    - tarsal tunnel syndrome
    - femoral neuropathy, meralgia paresthetica, sciatic nerve palsy
    - median, ulnar and radial nerve lesions
    - disc herniations (L4, L5, S1)
    - Bell's Palsy
    - trigeminal neuralgia
  - plexus injuries (Erb's, Klumpke's)
  - cervical rib and thoracic outlet syndrome
- traumatic and vascular injuries of the central nervous system
  - coma
  - upper and lower motor neuron lesions
  - head injury
    - skull fractures
    - traumatic brain injury
    - cerebrovascular accident
  - spinal cord injury
  - seizure disorders
- brain tumours
- infections
  - encephalitis, meningitis
  - poliomyelitis, Reye's syndrome

- development or congenital disorders
  - spina bifida
  - Arnold-Chiari malformations
  - syringomyelia
  - hydrocephalus
  - cerebral palsy
  - chromosomal abnormalities
- disorders of progressive weakness or paralysis
  - myasthenia gravis
  - Guillain-Barré syndrome
  - multiple sclerosis
  - amyotrophic lateral sclerosis
- disorders of abnormal movements
  - Parkinson's Disease
  - Huntington's Disease
- disorders of cognition
  - Alzheimer's Disease
  - arteriosclerotic dementia
  - Pick's Disease
- pain mechanism, response, perception, management
- headache
- sensory alterations
- vision - refraction defects, visual field defects, glaucoma, cataracts, retinal detachment
- hearing - hearing loss, vertigo, Meniere's disease

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

Porth, C. (2002). Pathophysiology: Concepts of Altered Health States (6<sup>th</sup> ed.). Philadelphia: Lippincott.

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

**Evaluation Methods:**

The evaluation methods and procedures for missed exams will be discussed with students and a copy will be provided in writing during the first two weeks of class.

**Supplemental Exam:**

One opportunity for a supplemental exam will be offered to students who meet the following criteria:

- a) have a grade of 50 – 59% in the course
- b) have attended at least 80% of the scheduled class time

The final grade for the semester will be based solely on the supplemental exam. The grade achieved will not be higher than a "C".

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%	4.00
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00
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:** For such reasons as program certification or program articulation, certain courses require minimums of greater than 50% and/or have mandatory components to achieve a passing grade.

It is also important to note, that the minimum overall GPA required in order to graduate from a Sault College program remains 2.0.

## **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 your professor and/or the Special Needs office. Visit Room E1101 or call Extension 703 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 postsecondary institutions.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Rights and Responsibilities*. Students who engage in “academic dishonesty” will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course outline amendments:

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 professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

**VIII. DIRECT CREDIT TRANSFERS:**

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.