



**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/Physiology text close at hand so that you may constantly refer to it.

***Please bring your textbook to every class for the learning activities. Also bring your Anatomy/Physiology text or share the responsibility of bringing the texts with a partner.***

**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
- infective 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

**E. Mechanisms of Infectious Diseases**

- agents of infectious diseases
- mechanism of infection
- 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
- 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:**

Bullock, B. and Henze, R. (2000) Focus on Pathophysiology, Lippincott Williams & Wilkins.

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

The evaluation methods will be determined and discussed with students the first two weeks of class.

***Grading***

1. The pass mark for this course is 60%. The letter grades for this course will be assigned in accordance with those established by Sault College.
2. Students who miss scheduled tests during the semester will not be allowed to write on another day.

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

3. If the instructor has been appropriately notified of your absence for the test, the test you missed will count for the same percentage as you receive on the final exam. If you have not notified your instructor, you will receive a grade of "0" for the missed test.
4. Each student must write the final exam, and do any required assignments.
5. Final Grading:
 

Weekly quizzes:	10%
Test 1	25%
Test 2	25%
Final Exam	40%

***Supplemental Exam***

1. A supplemental examination, which tests the entire semester's course material, may be offered in this course at the discretion of the instructor.
2. A supplemental exam will only be offered to students who have failed the Pathophysiology course.
3. The final grade for the semester will be based solely on the supplemental exam. The grade achieved will not be higher than a "C".
4. Supplemental exams will not be repeated.

***The following semester grades will be assigned to students in postsecondary 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.	
U	Unsatisfactory 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 &amp; 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 not been possible 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 your instructor and/or the Special Needs office. Visit Room E1204 or call 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 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.