

# Langara.

THE COLLEGE OF HIGHER LEARNING.

## **The Basic Anatomy and Physiology for Body Work Practitioners Continuing Studies January 2023 on-line**

**Program Coordinator: Raymond Chow**

Email: [rchow@langara.ca](mailto:rchow@langara.ca)

Tel: 604-323-5927

**Prepared and taught by: Dr. David Li Lam, Dr.TCM, RMT**

Email: [dlam@langara.ca](mailto:dlam@langara.ca)

Tel: 604-808-5828

### **COURSE DESCRIPTION**

This 42 hours course presents the essentials of the Anatomy and Physiology of the Human Body as a guide for future health professionals beginning their exploration of the complexities of the human body.

This course is intended to students in the health-related professions, who require the knowledge of the body's parts and functions for the understanding of how the dynamic physiological processes are maintained within a narrow range compatible with life.

The understanding of the human organism requires the beginner to appreciate both its normal and abnormal structure and function to apply for entry into more advance courses.

This course contains subject matter related to the reproductive systems for both males and females. Some of the course materials and topics discussed may be sensitive in nature to some of you. Please note that those topics are a requirement for this course.

### **REQUIRED TEXT BOOK**

1. The Anatomy Coloring Book. Kapit and Elson. Fourth Edition, 2014. Pearson Education. ISBN: 9780321832016
2. Study notes and presentation slides from the Instructor.

## **SUGGESTED READING**

1. Introduction to Human Anatomy and Physiology. Solomon, Eldra. Fourth Edition. Elsevier. ISBN: 9780323239257

## **METHODOLOGY**

This course will be taught on-line in a total of 42 hours by Lectures, demonstrations, Student-Instructor interactions, and Written Evaluations.

The students will have access on BrightSpace to a digital booklet with the contents in-brief to be used in conjunction with the textbook in class. All the power point presentation slides will also be accessible on BrightSpace to support their preparation.

There will be a total of six (6) on-line quizzes and two (2) Diagram tests. A final exam will not be applied in this course.

## **REQUIRED RESOURCES**

Students are expected to attend the on-line classes and be prepared to learn. This includes having the adequate resources such as laptops, tablets or similar devices and adequate internet service.

## **LEARNING OUTCOMES:**

- Describe the concept of homeostasis.
- Understand the anatomical terms and use them for the location of body parts, lesions, etc.
- Locate and name the body cavities, the internal organs and the membranes protecting them.
- Describe the structures and functions of a composite animal cell.
- Describe the four tissues of the body.
- Understand the mechanism of cell and tissue injury in the development of diseases and conditions.
- Describe the inflammatory process.
- Describe the structure and functions of the eleven systems of the body.
- Describe and recognize basic skin lesions and diseases pointing out the contagious ones.
- Describe the three most common skin cancers.
- Understand the musculoskeletal system describing the structure and functions of the bones, joints and muscles of the body by regions.

- Understand the main actions of the principal muscles groups of the body.
- Describe some common diseases and conditions of the musculoskeletal system that most likely the future bodywork therapist would encounter in practice.

**EVALUATION OF THE COURSE:**

The grading scale applicable for the course is as follows:

A+ 95 – 100%	A 90 -94 %	A- 85 – 89%
B+ 80 – 84%	B 75 – 79%	B- 70 – 74%
C+ 65 – 69%	C 60 – 64%	C- 55 – 59%
D 50 – 54%	F 49% or below	

The evaluation of the Learning Outcomes of the **Basic Anatomy & Physiology for Bodywork Practitioners online** will include:

<b>6 on-line Quizzes @ 12% each</b>	<b>72%</b>
<b>2 on-line Diagram Tests @ 14% each</b>	<b>28%</b>
<b>Total</b>	<b>100%</b>

The on-line Quizzes and Diagram tests will be completed on the BrightSpace platform as scheduled in the outline of the course and within their allotted time frame.

It is expected that the students complete the on-line evaluations individually, following the Langara academic integrity policies <https://langara.ca/student-services/student-conduct-and-academic-integrity/academic-integrity/index.html>

Although not required, students may choose voluntarily to keep their webcam on until finished their quiz/exam.

**Any kind of recording, saving, photographing or similar during the evaluations is prohibited**

The student must complete and submit all evaluations and assignments, and receive a cumulative total of at least 60% (C grade) overall to pass the course.

A failing grade will be assessed if a student did not complete all of the course requirements.

## **Langara Academic Integrity Policy**

<https://langara.ca/student-services/student-conduct-and-academic-integrity/academic-integrity/index.html>

All material provided in this course is protected by copywrite (except where identified) including lecture slides, handouts, assignments and exams and are the sole property of the author. Students may not share instructor-created material with others unless by express permission.

It is a violation of policy to aid, enable or assist other students to cheat, including by sharing course information without permission. Students found to have violated the policy may be subject to disciplinary sanctions.

## **REFUNDS AND WITHDRAWALS**

**Before course starts:** All refunds are subject to an administration fee of 20% of the course/event fee (minimum \$15 to a maximum of \$35 per course). Cancellations must be received at least 24 hours prior to the first day of class. Please note: We would be pleased to hold a 100% credit of the registration fee toward taking another Langara Continuing Studies course/s. This credit is valid for 12 months.

**After course has started:** No refunds are issued except for extraordinary circumstances and where approved by the program coordinator. In such case, request must be submitted in writing by e-mail, fax, mail or in person to the relevant program coordinator. Students wanting to discontinue taking a course after the course drop/refund period must officially withdraw from the course. Students may withdraw from the course by contacting the program coordinator prior to the end of the sixth session (of 14 classes). Please note that courses withdrawn from after the drop deadlines will not be eligible for a refund. If the student qualifies their transcript will indicate a W (Withdrawn). After this time if a student does not complete the course they will receive an "I" Incomplete on their transcript.

### **THE INSTRUCTOR, Dr. David Li Lam**

- Medical Doctor (MD) graduated in Havana, Cuba
- Specialist Degree in Human Anatomy
- Doctor of Traditional Chinese Medicine (Dr.TCM)
- Registered Massage Therapist (RMT)

Dr. Lam's extensive and intimate knowledge of the human body's structure and function is matched with his vast clinical experience in both TCM and Western Medicine.

From 1986 to 1993, Dr. David Li Lam had taught Medical Sciences to medical and nursing students in both Cuba and the Republic of Yemen. After moving to Canada, Dr. Lam brought his unique teaching style of Western Medical Sciences to several TCM Colleges in Vancouver (1996) and to the Langara College (2000).

For over fifteen years, Dr. Lam has successfully assisted students understand and apply Western Medical Sciences and Theories to the TCM model of practice. He is currently teaching academic subjects in the RMT program at the Langara College. Dr. Lam also teaches Physical Assessment for practicing Pharmacists and the A&P module for the Medical Aesthetics program.

**COURSE SCHEDULE: 2023-1 Scheduled on-line, Tuesdays @ Thursdays 6:00pm to 9:00pm**

<b>Class</b>	<b>Date</b>	<b>Topics</b>
1	Jan 10	<p><b>Introduction. Anatomical terminology. Cavities and membranes. Abdominopelvic regions. (1-5)</b></p> <p>Introduction of the course. Review of the details of the outline followed by completing a practice quiz on BrightSpace.</p> <p>The homeostasis is the process that keeps a living organism alive, healthy, and capable of reproducing by continuously adjusting the disturbances happening in the internal and external environments.</p> <p>The application of the anatomical terms for the professional communication in the location of body parts, hypothetical lesions in the body, and so on will be practiced in class.</p> <p>The students will identify the main body cavities, their membranes and organs using the models, diagrams, charts, etc.</p>
2	Jan 12	<p><b>Cell and tissues of the body. (6-11, 13) Cell and tissue injury. Inflammation, healing.</b></p> <p>The structure and functions of a composite animal cell will be applied to the study of the four main tissues of the human body.</p> <p>The interpretation of the mechanisms of diseases comes from understanding the cell and tissue injury.</p> <p>The primary response of the body to the cell and tissue injury is the inflammatory process, which ultimately leads to healing and back to homeostasis.</p>
3	Jan 17	<p><b>Quiz 1 (classes 1-2) on-line</b> <b>Debriefing of Quiz 1</b></p> <p><b>Integumentary system. (15,16) Diseases of the skin.</b></p> <p>After reviewing the quiz, the students will study the first system of the body learning to see its structural patterns to accomplish its physiological functions to ultimately keep the homeostasis.</p> <p>The failure of the homeostatic mechanisms would lead to disease.</p>

		The skin diseases and conditions would be frequent challenges of the therapist to practice safely and avoid contagion.
4	Jan 19	<p><b>Skeletal system. Joints. (17, 19-28) Axial skeleton (24-30)</b></p> <p>Introduction to the skeleton.</p> <p>All types of joints in the skeletal system are studied in relation to their functions for the body.</p> <p>The synovial joints would be studied with details as they are fundamental in the mobility of the body and are the one most likely to get injured or diseased.</p> <p>The axial portion of the skeletal system including the head, vertebral column, and thorax will be studied by pointing out the main features in relation to their functions.</p>
5	Jan 24	<p><b>Quiz 2 (classes 3-4) on-line</b></p> <p><b>Debriefing of Quiz 2</b></p> <p><b>The appendicular skeleton (29-41)</b></p> <p>After reviewing the quiz, the skeleton of the extremities will be studied with more details as these portions of the body would be the most liable to injuries and conditions the therapist would likely have in practice. The main joints in the extremities will be studied with more details too.</p> <p>The students will practice the range of motion of the principal joints and name the movements in relation to the classification of the joints studied in class.</p>
6	Jan 26	<p><b>Muscular system, muscles of the axial body. (42-51)</b></p> <p>The study of the muscular system includes the structure and functions of the skeletal muscle.</p> <p>The students will learn important terms related to the muscle structures made of connective tissue such as fascia, tendon, and aponeurosis as well as the concepts of origin, insertion, agonist, antagonist, synergist, and fixator.</p> <p>The muscles of the axial body will be studied by regions: the head, neck, trunk, and perineum. In each region, the students will match the muscles to the functions within the region to meet the homeostatic needs of the body.</p>

		<p>The students will study the muscles identifying those palpable in their bodies and showing their location and actions.</p> <p>The actions of the muscles will be referred to as the action of the muscular group they belong to. The actions of some individual muscles will be studied in context.</p>
7	Jan 31	<p>This class consists of two separate sessions for the completion on-line of two evaluations.</p> <p><b>Part 1:</b>  <b>Quiz 3 (classes 5,6) on-line</b>  <b>Debriefing of Quiz 3</b></p> <p><b>Part 2:</b>  <b>Diagram Test 1 (classes 1 to 6) on-line</b>  <b>Debriefing of Diagram Test 1</b></p>
8	Feb 2	<p><b>Muscular system, muscles of the extremities. (52-67)</b></p> <p>The students will identify and palpate the muscular groups in both the upper and lower extremities. Some important individual muscles will be identified and palpated.</p> <p>The actions of the muscles will be referred to as the action of the muscular group they belong to. The actions of some individual muscles will be also studied for practical applications.</p>
9	Feb 7	<p><b>Musculoskeletal diseases.</b></p> <p>The students will learn some of the most common diseases and conditions of the musculoskeletal system divided into those affecting the bones, joints, and muscles, as these may be the most likely conditions the future therapist would encounter in their practice.</p>
10	Feb 9	<p><b>Quiz 4 (classes 8-9) on-line</b>  <b>Debriefing of Quiz 4</b></p> <p><b>Endocrine system (149-154) CNS, PNS, ANS. (68, 73-77,82,83,87,88, 91-93)</b></p> <p>The endocrine and the nervous systems work together and independently to inter-communicate and co-ordinate all the systems in the body to maintain the homeostasis and reproduce.</p>

		<p>The endocrine system communicates by secreting the hormones into the blood stream. The functions and dysfunctions of the hormones secreted by the endocrine organs will be studied.</p> <p>The nervous system communicates by nerve impulses. It is the ultimate control system of the body. It will be divided into three portions: CNS: central nervous system, PNS: peripheral nervous system and ANS: autonomic nervous system.</p> <p>The CNS and ANS will command the functions of both the voluntary activities, such as the voluntary movements of the body parts and the involuntary activities of the body such as the functions of organs in the systems.</p>
11	Feb 14	<p><b>Cardiovascular system. Blood. Heart. (100-106) Circulatory routes. (102-106,111,114,116-119)</b></p> <p>The blood is a liquid connective tissue. The structure of the blood explains its functions.</p> <p>The heart is a pump that moves the blood along the circulatory routes moving substances back and forth. The detailed structure of the heart including its chambers, valves, and attached blood vessels will be studied.</p> <p>The principal arteries and veins will be followed in the diagrams and palpated in the body, wherever possible. Superficial veins will be pointed out in the surface of the body mainly in the limbs and neck differentiating them from the arteries.</p>
12	Feb 16	<p><b>Quiz 5 (classes 10-11) <a href="#">on-line</a></b> <b>Debriefing of Quiz 5</b></p> <p><b>Lymphatic system and immune response. (120-126) Respiratory system. (127-132)</b></p> <p>The lymphatic system is an open system that runs parallel to the circulatory system. It carries the lymph through the lymphatic vessels, which ultimately drains into the blood stream.</p> <p>The lymphatic system oversees the immune response, which defends the body against the different threats to the homeostasis. The structure of the respiratory system allows the exchange of the carbon dioxide, a waste the body needs to expel, for the oxygen, which is needed for the metabolic reactions that would maintain the homeostasis.</p>

13	Feb 21	<p><b>Digestive, urinary and reproductive systems (134-137, 139, 141-146, 155-160, 162)</b></p> <p>The digestive system is studied divided into the alimentary canal and the accessory organs. It is arranged to allow the processing and absorbing of the food substances passing through the alimentary canal. The non-absorbable waste would be expelled out.</p> <p>The different metabolic processes in the body generate potentially harmful waste substances that are carried by the blood to the urinary system for clearance.</p> <p>The reproductive system oversees the continuity of the species. Its functions differ from the urinary's but they originate from the same areas in the embryo and some structures are shared by both systems in males. The name of genitourinary system is a reflexion of the above.</p> <p><b>The subject matter related to the reproductive systems for both males and females contains some materials and topics, which may be sensitive in nature to some of you. Please note that those topics are a requirement for this course.</b></p>
14	Feb 23	<p>This class consists of two separate sessions for the completion on-line of two evaluations.</p> <p><b>Part 1:</b>  <b>Quiz 6 (classes 12,13) on-line</b>  <b>Debriefing of Quiz 6</b></p> <p><b>Part 2:</b>  <b>Diagram Test 2 (classes 8 to 13) on-line</b>  <b>Debriefing of Diagram Test 2</b></p> <p>Conclusion of the course</p>