

SYLLABUS

Name of Course: Regional Anatomy I – ANAT 126/626 (Lec/Lab)

Length of Course: Lec - 2 units, 33 hours (3 hours lecture) Lab – 1.5 units, 30 hours

Course description: This course examines the anatomy of the upper and lower extremities. The general structure and actions of the muscles, as well as the neurovascular distribution, will be studied. The relationships of these structures will be stressed to provide the student a functional understanding of body mechanisms.

Prerequisites: Systemic Histology (ANAT 110), Skeletal Anatomy (ANAT 111), Skeletal Anatomy Lab (ANAT 611)

Co-requisites: Regional Anatomy1 Lab (ANAT 626)

Course Offered by: Basic Sciences Department

Required Text: [Hansen, John T. \(2010 or 2014\) Netter's Anatomy Coloring Book](#)
OR

[Wynn, K., & Elson, L. M. \(1993\). The Anatomy Coloring Book.](#)

Recommended Text: [Netter, Frank \(2014\) Atlas of human anatomy 6th ed. Elsevier](#)
[Moore, et al, \(2014\). Clinically Oriented Anatomy 7th ed..](#)

Recommended Media: [Acland Anatomy DVDs Upper \(1\) and Lower Extremities \(2\)](#)
Also LCCW Anatomy Lab DVDs featuring Dr. Steve James.

Reference Text & Media: [see complete reference list on class web page](#)

Materials: Some handouts will be provided by the instructor, although anatomy laboratory specimens and library models will be helpful for the best retention of information. The instructor will post Youtube and other digital links on CANVAS web page for further clarification of concepts.

Method of Instruction: Lecture, in-class problem-based clinical application of material; handouts as well as in-class experimental student teaching opportunities.

Evaluation/Grading Criteria:

Midterm: 50 questions
Final: 50 questions

Total of two examinations will reflect quarter grade. (**Note** that attendance and participation are not authorized as “point driven.”)

With that in mind, students are urged to recognize that timeliness and willingness to engage in discourse of course material are taken into account when calculating grade point averages into the final score.

Students are encouraged to take tests when they are scheduled. Make up exams are hand written. A blue book is required.

A: 90-100%
B: 80-89%
C: 70-79 %
F: below 70%

See the student handbook for additional information regarding grading criteria.

PLEASE NOTE: in order to have access to grades, quizzes and other crucial class information, the student MUST enroll in the class web page on the CANVAS website.

Grades and the Grading System Final Grades are available online through the CAMS student portal. If there are any questions on grading procedures, computation of grade point average, or the accuracy of the grade report, please contact the Registrar’s Office or the Office of Academic Affairs. Grades will be reported and evaluation will be based on the Academic Policies, Procedures, & Services. Please refer to Evaluation Policy (**Policy ID: OAA.00007**)

In order to maintain Satisfactory Academic Progress, a student must maintain a 2.0 or better in each and every course. Any grade less than a C must be remedied by repeating the class. Please refer to Satisfactory Academic Progress (**Policy ID: OAA.0006**)

Attendance: Please refer to Attendance Policy (**Policy ID: OAA.0002**)

Conduct and Responsibilities: Please refer to the Personal Conduct, Responsibility and Academic Responsibility Policy (**Policy ID: OAA.0003**)

Make-up Exams: Please refer to Make-up Assessment Policy (**Policy ID: OAA.0001**)

Request for Special Testing: Please refer to Request for Special Testing (**Policy ID: OAA.0004**)

Accommodation for Students with Disabilities:

If you have approved accommodations, please make an appointment to meet with your instructor as soon as possible. If you believe you require an accommodation, but do not have an approved accommodation letter, please see the Academic Counselor Lori Pino in the Office of Academic Affairs. Contact info: Lpino@lifewest.edu or 510-780-4500 ext. 2061. Please refer to Service for Students with Disabilities Policy (**Policy ID: OAA.0005**)

Electronic Course Management:

Canvas is LCCW's Learning Management System (LMS). Canvas will be used throughout the quarter during this course. Lectures, reminders, and messages will be posted. In addition, documents such as the course syllabus and helpful information about the class project will be posted. Students are expected to check Canvas at least once a week in order to keep updated. The website address for Canvas is <https://lifewest.instructure.com/login/canvas> Please refer to the Educational Technologies Policy (**Policy ID: OAA.0009**)

Course Goals: To learn the anatomy of the lower and upper extremities, recalling origin, insertion, action, innervation, & vascular supply. To show further comprehension through expansion on basic facts and ideas presented in class. To apply the straightforward information learned in a different, more in depth way than covered in lecture and lab material.

Course Objectives:

A week-by-week breakdown of material the instructor will present during lecture (please note students are responsible for missed information due to tardiness and/or absence.)

Required reading pages from the Netter Coloring Book (NCB) are listed here. A more complete list of media references is included in power point presentation modules as well as the CANVAS class web page. (See above)

Week 1 REVIEW NCB: 1-1, 2, 3, 7, 8, 9, 10, & 11

- Present learning framework, material parameters, grading, and class trajectory for the quarter: Apropos, Mantras, HIPPIRONEL, Intro to History
- Embryology: Teach the varying symptom patterns associated with the extremities: radicular, fascial, ligamentous, muscular and tendinous, peripheral nerve, and visceral
- Teach the relevance of Wolf's law, Davis' law, Hilton's law, and Sherrington's law to the clinical understanding of the extremities in chiropractic practice
- Biomechanics: Introduce an overview of the mechanical relationship of the axial skeleton and torso to the lower and upper extremities and vice versa.
- Musculoskeletal: Introduce overall relationship of torso/core musculature to upper and lower extremities.
- Neurology: Introduce an overview of the neurological relationship of the axial skeleton and torso to the lower and upper extremities and vice versa.

- Cardiovascular & Immune: Introduce an overview of the vascular and lymphatic relationship of the axial skeleton and torso to the lower and upper extremities and vice versa.

Week 2 NCB 2-10, 11, 3-8, 9, 10, 12, 4-16, 4-29, 5-11, 5-19

- Teach the bones of the shoulder girdle; their important landmarks and attachment sites
- Teach the components of the thoracic outlet (aka the coracopectoral tunnel)
- Teach the gleno-humeral, sterno-clavicular, acromio-clavicular, ligaments and bursa
- Teach the components of the scapulo-spinal (cervical, thoracic, and lumbar) articulations
- Teach the muscles of the shoulder; their origins, insertions and actions
- Introduce the Brachial Plexus and instruct the neurological innervation of the shoulder
- Instruct the vascular and lymphatic system found in the shoulder area
- Introduce an understanding of pathologies and diagnoses that may occur at the shoulder

Week 3 NCB 3-17, 18 & 19

- Teach the anatomical placement of the humerus and elbow; important landmarks and attachment sites
- Teach the ligaments and bursa of the glenohumeral, as well as humerus with ulna and radius
- Teach the muscles of the humerus and elbow; their origins, insertions and actions
- Instruct the neurological innervation of the humerus and elbow
- Instruct the vascular and lymphatic system found in the humeral and elbow areas
- Introduce an understanding of pathologies and diagnoses that may occur at the humerus and elbow
- Review the Brachial Plexus and instruct the neurological innervation of the arm to forearm to hand

Week 4 NCB 3-20, 21, & 22

- Teach the landmarks and attachment sites of the forearm; ulna and radius
- Teach the ligaments, bursa and interosseous membrane of the forearm
- Teach the muscular and tendon components of the forearm
- Instruct the neurological innervation of the forearm
- Instruct the vascular and lymphatic system found at the forearm
- Introduce a basic understanding of pathologies and diagnoses that may occur at the forearm

Week 5 NCB 3-23 & 3/24 REVIEW FOR MIDTERM

- Teach the bones of the wrist, hand, thumb, and phalanges; their important landmarks and attachment sites

- Teach the ulno-carpal and radiocarpal as well as carpo-metacarpal, carpo-phalangeal, phalangeal, and thumb ligaments and bursa
- Teach the muscles of the wrist, hand, thumb, and phalanges; their origins, insertions and actions
- Instruct the neurological innervation of the wrist, hand, thumb, and phalanges
- Instruct the vascular and lymphatic system found in the wrist, hand, thumb, and phalangeal area
- Introduce an understanding of pathologies and diagnoses that may occur at the wrist, hand, thumb, and phalanges

Week 6

- Give midterm examination covering the upper extremity
- Teach the major structures and functions of the pelvis, knee, ankle, foot and phalanges as they relate to the idea of lower cross syndrome

Week 7

NCB 2-15 & 17, 3-14, 25, 26, 27, 28, 4-30 & 31, 5-12, 5-20

- Teach the bones of the hip and thigh; their important landmarks and attachment sites
- Teach the lumbosacral, sacroiliac, sacro coccygeal, and acetabular-femoral ligaments and bursa
- Teach the muscles of the hip and thigh; their origins, insertions and actions
- Instruct the neurological innervation of the hip and thigh
- Instruct the vascular and lymphatic system found in the hip and thigh area
- Introduce an understanding of pathologies and diagnoses that may occur at the hip and thigh

Week 8 NCB 2-18

- Teach the landmarks and attachment sites of the knee at the distal femur, proximal tibia and fibula
- Teach the ligaments and bursa of the knee at the distal tibia, proximal femur and patella
- Teach the muscular and tendon components of the knee; origins, insertions, and actions
- Instruct the neurological innervation of the knee
- Instruct the vascular and lymphatic system found at the knee area
- Introduce a basic understanding of pathologies and diagnoses that may occur at the knee

Week 9 NCB 2-19 & 20, 3-29, & 30

- Instruct the bony landmarks and attachment sites of the tibia and fibula
- Teach the ligaments, bursa, and interosseous membrane of the tibia and fibula
- Teach the muscles of the leg; their origins, insertions and actions
- Instruct the neurological innervation of the leg
- Instruct the vascular and lymphatic system found at the leg
- Introduce a basic understanding of pathologies and diagnoses that may occur at the leg

Week 10 NCB 3-31, & 32 REVIEW FOR FINAL

- Teach the bones of the ankle, foot, and toes; their important landmarks and attachment sites
- Teach the distal tibial and fibular as well as talar, calcaneal, navicular, cuneiform, cuboid, metatarsal, and phalangeal ligaments and bursa
- Teach the muscles of the ankle, foot, and toes; their origins, insertions and actions
- Instruct the neurological innervation of the ankle, foot, and toes
- Instruct the vascular and lymphatic system found in the ankle and foot area
- Introduce an understanding of pathologies and diagnoses that may occur at the ankle, foot, and toes

Student Learning Outcomes:

1. **Recall origin, insertion, action, innervation and blood supply** for the muscles and tendons of each muscle directly related to upper and lower extremities. [PLO: 1, 2, 5, 8, 10]
2. **Recall** anatomical names for **spaces and places** intrinsic to the upper and lower extremities, including **structures contained and related to them**. As well as a basic clinical understanding of their involvement in patient scenarios. [PLO: 1, 2, 3, 5, 8, 10]
3. **Recall** the structures in the upper and lower extremities by demonstrating the **anatomical relationship** between the **axial and appendicular** musculoskeletal systems through each of the **cardinal movements**, including **muscles** activated and **joint** position. [PLO: 1, 2, 5, 8, 10]
4. **Describe** the skeletal components of **each joint** in the upper and lower extremities through description of location of **ligaments, capsules, bursa** and other passive connective tissue. [PLO: 1, 2, 3, 5, 8, 10]
5. **Discuss** the **brachial plexus** and the locations of its **terminal branches** in the upper and lower extremities to show an **understanding**, of how **symptom patterns** may appear. [PLO: 1, 2, 3, 5, 8, 10]
6. **Discuss** the **cardiovascular** and **lymphatic** structures of the upper and lower extremities, describe how normal and compromised **situations** may appear. [PLO: 1, 2, 3, 5, 8, 10]

Program Learning Outcomes (PLO): Students graduating with a Doctor of Chiropractic degree will be proficient in the following:

1. **ASSESSMENT AND DIAGNOSIS:** An assessment and diagnosis requires developed clinical reasoning skills. Clinical reasoning consists of data gathering and interpretation, hypothesis generation and testing, and critical evaluation of diagnostic strategies. It is a dynamic process that occurs before, during, and after the collection of data through history, physical examination, imaging, laboratory tests and case-related clinical services.
2. **MANAGEMENT PLAN:** Management involves the development, implementation and documentation of a patient care plan for positively impacting a patient's health and well-being, including specific therapeutic goals and prognoses. It may include case follow-up, referral, and/or collaborative care.

3. **HEALTH PROMOTION AND DISEASE PREVENTION:** Health promotion and disease prevention requires an understanding and application of epidemiological principles regarding the nature and identification of health issues in diverse populations and recognizes the impact of biological, chemical, behavioral, structural, psychosocial and environmental factors on general health.
4. **COMMUNICATION AND RECORD KEEPING:** Effective communication includes oral, written and nonverbal skills with appropriate sensitivity, clarity and control for a wide range of healthcare related activities, to include patient care, professional communication, health education, and record keeping and reporting.
5. **PROFESSIONAL ETHICS AND JURISPRUDENCE:** Professionals comply with the law and exhibit ethical behavior.
6. **INFORMATION AND TECHNOLOGY LITERACY:** Information literacy is a set of abilities, including the use of technology, to locate, evaluate and integrate research and other types of evidence to manage patient care.
7. **CHIROPRACTIC ADJUSTMENT/MANIPULATION:** Doctors of chiropractic employ the adjustment/manipulation to address joint and neurophysiologic dysfunction. The adjustment/manipulation is a precise procedure requiring the discrimination and identification of dysfunction, interpretation and application of clinical knowledge; and, the use of cognitive and psychomotor skills.
8. **INTERPROFESSIONAL EDUCATION:** Students have the knowledge, skills and values necessary to function as part of an inter-professional team to provide patient-centered collaborative care. Inter-professional teamwork may be demonstrated in didactic, clinical or simulated learning environments.
9. **BUSINESS:** Assessing personal skills and attributes, developing leadership skills, leveraging talents and strengths that provide an achievable expectation for graduate success. Adopting a systems-based approach to business operations. Networking with practitioners in associated fields with chiropractic, alternative medicine and allopathic medicine. Experiencing and acquiring the hard business skills required to open and operate an on-going business concern. Participating in practical, real time events that promote business building and quantifiable marketing research outcomes
10. **PHILOSOPHY:** Demonstrates an ability to incorporate a philosophically based Chiropractic paradigm in approach to patient care. Demonstrates an understanding of both traditional and contemporary Chiropractic philosophic concepts and principles. Demonstrates an understanding of the concepts of philosophy, science, and art in chiropractic principles and their importance to chiropractic practice.