

## SYLLABUS

**Name of Course:** ANAT 111/611 (LEC/LAB) – Skeletal Anatomy

**Length of Course:** 22 hours, 1.5 units (2 hours lecture per week)

**Course Description:** This course uses an integrative approach to the skeletal system. Included are the detailed gross and microscopic anatomy of bones and joints, their respective classifications, structure-function correlations, osteogenesis and chondrogenesis. The student should expect to develop a basic vocabulary of terms relating to the osseous and cartilaginous components of the body.

**Prerequisites:** None

**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. Skeletal Anatomy Note Packet for lab with Dr Scott](#)  
Hard copy notes provided by Dr Thompson (also available on CANVAS website)

**Recommended Texts:**

Marieb, E. N., & Hoehn, K. Ninth Edition. 2013. Human Anatomy and Physiology. (PAGES 173 through 275)  
**AND**

**Reference Materials:**

Acland, R. D., Riggs, G. H., DeJesus, R. A., Üstüner, E. T., Ljubic, I., & Bas, H. (1996). *Video atlas of human anatomy*. Williams & Wilkins.

Bass, W. M. (1987). *Human osteology: a laboratory and field manual* (No. 2). Missouri Archaeological Society.

Hall, B. K. (2005). *Bones and cartilage: developmental and evolutionary skeletal biology*. Academic Press.

White, T. D., Black, M. T., & Folkens, P. A. (2011). *Human osteology*. Academic press.

**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 sites.

**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	100 points

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 timelines and willingness to engage in discourse during class are taken into account when calculating grade point averages into a final score.*

Students are encouraged to take tests when scheduled. Make up exams may be hand written. A blue book would be required.

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

PLEASE NOTE: in order to have access to lecture notes and other class information, the student MUST enroll in CANVAS website. For access to grades & role refer to CAMS 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.0007**)

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](mailto: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 develop a basic understanding of skeletal system structure. Through understanding of basic anatomy vocabulary, positional and motion references will be learned. General to in depth understanding of the structural and functional organization with the bones and joints will be stressed. From microscopic to gross levels of bone development, homeostasis, as well as remodeling and repair will be studied. Basic anatomical landmarks of each bone individually and as it relates to the whole body will be studied.

**Learning Objectives**

**Week 1:**

Syllabus & introduction to class structure (lecture, anatomy lab & bridge hour)  
Terminology, nomenclature, anatomical directions & ranges of motion

**Week 2:**

Skeletal Cartilage: structure, types, locations, & growth  
Classification & functions of bone

**Week 3:**

Bone structure: gross & microscopic anatomy as well as chemical composition  
Bone development; formation of bony skeleton & postnatal bone growth

**Week 4:**

Bone homeostasis: remodeling & repair  
Homeostatic imbalances: osteomalacia, rickets, osteoporosis, osteopenia, & Paget's

**Week 5:**

Developmental aspects of bones: timing of events; birth to young adulthood & age related changes

Review for midterm examination

**Week 6:**

Midterm examination

**Week 7:**

Classification of Joints

Fibrous & Cartilaginous joints

**Week 8:**

Synovial joints: gross anatomy

Synovial joints: microscopic anatomy

Movement of synovial joints

**Week 9:**

Types of synovial joints

Homeostatic imbalances of joints

**Week 10:**

Developmental aspects of joints

Review for final examination

**Week 11:**

Final exam

**Student Learning Outcomes:**

**This course aligns to the following PLOs:(1 and 2)**

1. Demonstrate understanding of anatomical terminology and relational nomenclature
2. Describe chondrogenesis and osteogenesis along with structure, types, location, growth, classification and function of cartilage and bone.
3. Discuss gross and microscopic anatomy, chemical composition, as well as

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formation of the bony skeleton and postnatal bone growth.

4. Identify mechanisms of remodeling and repair, homeostatic imbalances, as well as developmental timing of events from birth through age related changes.
5. Compare and contrast fibrous, cartilaginous, and synovial joint classifications, fully explaining the structure and functional movements of synovial joints. Describe homeostatic imbalances and developmental aspects of bone.

### **Summary of Student Learning Outcomes**

The student will develop a general understanding of the overall anatomy of the skeletal system with particular emphasis on the development of bone, various joints, and the structural and functional components of each. Familiarity with anatomical terms, and an overall appreciation of the homeostasis process, it is hoped that a foundation for further knowledge and understanding will be accomplished.

**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.