

## SYLLABUS

**Name of Course:** Bone and Joint Pathodiagnosis, PATH-315

**Length of Course:** 33 hours, 3 hours lecture per week, 2.0 units

**Course Description:** This course focuses on the pathophysiology and clinical presentations of conditions affecting the skeleton. Topics addressed include arthritis, neoplasm, osteoporosis, fracture, infection, avascular necrosis, and skeletal dysplasia. X-rays will be introduced in order to illustrate the various disorders.

**Prerequisites:** ANAT-111, ANAT-120

**Course Offered By:** Basic Science Department

**Required Text:** *Bone & Joint Path. Class Notes*  
Kumar V. *Robbins and Cotran Pathologic Basis of Disease* 8<sup>th</sup> ed. 2010.

**Recommended Text:** Yochum TR. *Essentials of Skeletal Radiology*. 3<sup>rd</sup> ed. 2005  
Greenspan A. *Orthopedic Radiology*. 3<sup>rd</sup> ed. 2000

**Reference Text:** Schumacher HR. *Primer on the Rheumatic Disease*. 13<sup>th</sup> ed. 2008  
JOURNAL: *Journal of Musculoskeletal Medicine*

**Materials:** Class notes – bookstore

### Evaluation/Grading:

2 mid-terms 30% each  
1 comprehensive final 40%

### Evaluation/Grading

A	(4.0)	Superior Work	90-100%
B	(3.0)	Above Average	80-89%
C	(2.0)	Average Work	70-79%
F	(0.0)	Failure – Must repeat the entire course	00-69%

**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**)

**Extra Credit:** There will be no extra credit work accepted in this class.

**Independent Student Work:**

All exams must be the product of the individual student's original efforts for this class. Collaboration on other class assignments is permitted as defined by the instructor.

**Course Goals:**

Students should become familiar with common bone and joint pathologies such as degenerative, inflammatory, metabolic, crystalline arthritis, primary and secondary malignancies, metabolic bone disease and skeletal dysplasias.

## **Course Objectives:**

**Week 1:** Review of bone histology and physiology  
Review of osteogenesis/osteolysis

### **Arthritis**

Degenerative  
Osteoarthritis (a.k.a., Degenerative Joint Disease, DJD)

**Week 2:** Diffuse Idiopathic Skeletal Hyperostosis, DISH, (Forrestier's disease)  
Ossified Posterior Longitudinal Ligament Syndrome  
Neurotrophic Arthropathy

Inflammatory disorders  
Rheumatoid Arthritis  
Juvenile Rheumatoid Arthritis, JRA (Still's Disease)

**Week 3:** Systemic Lupus Erythematosus (SLE)  
Scleroderma (Progressive Systemic Sclerosis)

Ankylosing Spondylitis (Marie Strumpell's disease)  
Psoriatic Arthritis  
Reiter's Syndrome

**Week 4:** Enteropathic Arthritis  
Metabolic Disorders

Gout  
Pseudogout/chondrocalcinosis/ CPPD

**Week 5: Tumors and Tumor-like Processes**

Metastatic bone tumors  
Primary bone tumors  
Malignant

- Multiple Myeloma
- Osteosarcoma
- Chondrosarcoma
- Ewing's Sarcoma

**Week 6:** Benign

- Osteochondroma
- Solitary
- Multiple (osteochondromatosis,

hereditary multiple exostosis)

**Week 7:** Tumor-like Processes

- Paget's Disease
- Fibrous Dysplasia
- Neurofibromatosis

**Week 8:** Osteopenias and Defective Bone Maintenance Osteoporosis

- Postmenopausal
- Senile

Reflex Sympathetic Dystrophy/Sudeck's atrophy

Osteomalacia/Rickets

Hyperparathyroidism

**Week 9:** Infectious Disorders of Bones and Joints

Suppurative Osteomyelitis

Tubercular Spondylitis (Pott's disease)

Review of fracture and healing

**Week 10:** Osteochondrosis (Avascular necrosis)

Scheuermann's (Juvenile Kyphosis)

Legg-Calve-Perthes Disease

Osgood-Schlatter's Disease

Skeletal Dysplasias

Osteogenesis Imperfecta

Osteopetrosis

Achondroplasia

**Student Learning Outcomes:**

1. Students will demonstrate an understanding of the pathophysiology of the conditions listed in the syllabus. [PLO: 1, 3, 4]
2. Student will be able to recognize and identify the important clinical features, including signs, symptoms, and laboratory findings, of these conditions. [PLO: 1, 2, 3, 4]
3. Students will be able to recognize and identify the important radiological features of these conditions. [PLO: 1, 3]
4. Students will demonstrate an understanding of the prevention and treatment of these conditions. [PLO: 1, 2, 3, 4]
5. Students will be able to explain to a patient how chiropractic care may help in the prevention and treatment of these conditions. [PLO: 1, 2, 3, 4, 5, 6]

**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.