

SYLLABUS

Name of Course: Diagnosis and Management of Spinal Disorders (TECH - 333)

Length of Course: 3.5 units, 55 hours (5 hours lecture/week)

Course Description: This course will integrate the chemical, orthopedic, and neurological pathophysiology and management of specific diagnostic spinal conditions as well as the subluxation complex. It includes discussions on the academic basis of how regional problems can influence systemic health.

Prerequisites: DIAG-226, DIAG-239, HC-310

Course Offered By: Technique Department

Required Text: Class Notes

Recommended Text: Sears B *The Anti-Inflammation Zone*. 2005
Cox JM *Low Back Pain: Mechanism, Diagnosis & Treatment*. 6th ed. 1999
Cailliet R *Low Back Pain Syndromes*. 5th ed. 1995
Nordhoff LS *Motor Vehicle Collision Injuries*. 2nd ed. 2005
Cailliet R *Neck and Arm Pain*. 3rd ed. 1991
Foreman S *The Whiplash Injuries: Cervical Acceleration, Deceleration Syndrome*. 3rd ed. 2002
The entire Murphy booklist at the Life Chiropractic College West Bookstore.

Reference Text: See "Recommended Texts" above

Materials: None

Method of Instruction: Lecture/discussion supplemented with handouts, class notes and use of overhead projector.

Evaluation:

A 90-100%
B 80-89%

C	70-79%
F	below 70%

Unannounced quizzes can be given at any time. There is no make-up for missed quizzes. Quiz scores will be half of your grade. The most frequent reason for failure of this class is missing quizzes due to being late or absence. It is recommended that student's plan on arriving to school a half hour before class starts to prevent missing the quiz for any reason, and the student can study to improve the quiz score.

There is no final exam. Instead, there is a term paper.

A term paper is required. The term paper score will be half of your grade. It is due on the third to last class meeting. The topic is on the management of a spinal disorder. The format of the term paper is as follows:

- The paper must have 5 peer reviewed article references (no books).
- Any peer-reviewed journal of any year is acceptable.
- A copy of your 5 references must be attached to your paper.
- Late term papers will reduce your grade.

Term Paper: Due: seventh week of the quarter of term unless this date is changed by the instructor. The term paper must be on a spinal disorder. The paper must be typed.

The term paper will be graded on the following basis:

- Name of the disorder, syndrome, or problem (10%; simple syndromes will earn fewer points here)
- Historical perspective on the disorder, syndrome or problem (10%)
- Mechanism, etiology or cause of the disorder, syndrome or problem (10%)
- Presenting complaints (10%)
- Positive physical examination findings (10%), including: orthopedic findings
neurologic findings chiropractic findings
- Positive radiographic findings (10%)
- Positive special diagnostic studies (10%), including CT, MRI, EEG, brain map, SEP, PET, NCV, needle EMG, surface EMG, video fluoroscopy, thermography, discogram, myelogram, blood labs, urinalysis, bone scan, etc.
- Outline of specific treatment plan for the patient as if you were the treating chiropractic (10%)
- Any potential "red flags" that may develop while this patient is under your care, and that may/would require a referral to another health discipline (10%)
- Expected treatment results and any permanent residuals that might be present after reaching maximum chiropractic improvement (10%)

Assignments

Regular homework assignments may be assigned. They must be completed as directed, and handed in BEFORE the next week's class. Failure to turn in homework assignments on time will reduce your grade. Missed homework assignments will result in an incomplete grade.

Four journal article reviews with the article attached are due this quarter. They are to be handed in the 2nd, 4th, 5th, and 8th week of the quarter. The article must come from journals that are found in index medicus. No articles from JMPT or Spine are accepted. No articles from chiropractic journals are accepted. Each article must be published in 2013/2014. Each of your articles must come from a different journal. The topic for each article is on the management of a spinal disorder. Drug and surgery articles are not accepted. Turn in each article with a typed paragraph on the most clinically significant aspect of the article as related to chiropractic healthcare.

Attendance:

College policy applies, plus: If you are late, let me know or it is recorded as being absent. Do not sleep, do homework or other work during my class, or I will ask you to leave. To get credit for my class, you have to be paying attention to what we are doing.

1. Roll is taken during the break between classes, and **YOU** must be sure that you check in and are properly counted.
2. If you are not present for the quiz you will be counted ABSENT for all hours of the class until you check in with Dr. Murphy.
3. If you miss more than 15 minutes of a class you will considered absent..
4. Walking out of the room during class will count as an absence.

Quizzes: Weekly quizzes will be given throughout the quarter. Remakes will not be offered for missed quizzes.

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 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 Objectives:

- Instructor will discuss and explain the integration of the chemical, orthopedic and neurological aspects of spinal disorders
- Instructor will discuss and explain how specific spinal disorders can influence systemic health.
- Instructor will discuss and explain the characteristics and responses of soft tissue lesions, and to learn how the soft tissue lesion affects local neurology, systemic neurology, and systemic health.
- Instructor will discuss and explain the pathology and management of fibromyalgia and thoracic outlet syndrome.

Course Outline

Week 1:

- Learn about the causes and adverseness of inflammation
- Learn the 3 phases for the healing of injury soft tissue.
- Learn the concept of motion with respect to the healing of injured soft tissues.

Week 2:

- Discuss the concept of motion in tissue healing and neurology.
- Discuss the adverseness of immobilization to tissues and neurological function.
- Management of acute to chronic cervical spine soft tissue injuries.
- Management of acute to chronic lumbar spine soft tissue injuries.

Week 3:

- Learn the pathoanatomy of chronic spinal stress and altered spinal posture.
- Discuss spinal biomechanical levers, the tensegrity matrix, and neurological tethering.

Week 4:

- Discuss the anatomical short leg syndrome, its spinal effects, its relationship to scoliosis, and its management.

Week 5:

- Learn the pathoanatomy of lumbar spine IVD syndrome with radiculopathy.
- Management of lumbar spine IVD syndrome with radiculopathy.
- Learn the pathoanatomy of cervical spine IVD syndrome with radiculopathy.
- Management of cervical spine IVD syndrome with radiculopathy
- Learn the pathoanatomy of spinal meniscoid blocks
 - Management of spinal meniscoid locks.

Week 6:

- Discuss the clinical relevance of the neurological receptor, synapses, thalamic summation/integration, cortical representation, and efferent responses.
- Discuss the clinical neuroanatomy of chronic spine pain, including: receptors, synapses, cord pathways, and brain representation.

Week 7:

- Discuss the clinical neuroanatomy of spinal mechanoreception, including: receptors, synapses, cord pathways, and brain representation.
- Integrate the clinical relationships between chronic spine pain and weight bearing spinal mechanoreception, including: constant vs. nonconstant

thalamic summation/integration; ascending inhibitory principles; descending inhibitory principles.

Week 8:

- Discuss the clinical relevance of receptor driven neuroplasticity, synaptogenesis, transneuronal degeneration, receptive field enlargement, and wind-up.

Week 9:

- Discuss the concept of spinal cord laminar reflexes as related to somatic and visceral function.
- Learn the pathoanatomy and management of myofascial pain syndromes.

Week 10

- Discuss the pathology and management of fibromyalgia and thoracic outlet syndrome.

Student Learning Outcomes (SLO): At the completion of the TECH-333 course, a student should be able to:

1. Student will have an understanding of the integration of the chemical, orthopedic and neurological aspects of spinal disorders.
2. Student will understand how specific spinal disorders can influence systemic health.
3. Student will learn the characteristics and responses of soft tissue lesions, and to learn how the soft tissue lesion affects local neurology, systemic neurology, and systemic health.
4. Student will have an understanding of the anatomical short leg syndrome, its spinal effects, its relationship to scoliosis, and its management.
5. Student will have an understanding of the lumbar spine IVD syndrome with radiculopathy.
6. Student will learn the clinical relevance of receptor driven neuroplasticity, synaptogenesis, transneuronal degeneration, receptive field enlargement, and wind-up.
7. Student will have an understanding of pathology and management of fibromyalgia and thoracic outlet syndrome.

The following PLO's are mapped to this course: [1, 2, 6, and 8]

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.