

## SYLLABUS

**Name of Course:** GASTROINTESTINAL PHYSIOPATHOLOGY (PHPA-213)

**Length of Course:** 2units, 33 hours (3 hrs lecture/week)

**Course Description:** Normal gastrointestinal anatomy and physiology is studied. The most significant of the digestive system pathologies are also studied, along with abnormal physiologic states. Clinical considerations are extensively emphasized.

**Prerequisites:** PHYS-122, PATH-120

**Course Offered by:** Department of Basic Sciences

**Required Text:** Note packet in bookstore

**Reference Texts:** Hall, John E. 2016. Guyton and Hall Textbook of Medical Physiology. 13<sup>th</sup> ed. Philadelphia, PA : Saunders/Elsevier  
Vinay Kumar ...[et al]2015. Robins and Cotran Pathologic Basis of Disease. 9<sup>th</sup> ed. Philadelphia, PA : Saunders/Elsevier

**Method of Instruction:** Lecture/discussion, Power point presentation, whiteboard

### **Evaluation/Grading Criteria:**

Midterm	25%	Approx. week 3/4
2 Quizzes	25%	Approx. week 5/6 and 7/8
Cumulative Final	50%	Week 11
Total	100%	

**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:**

The student is expected to understand the Anatomy, Physiology and Pathology involving the gastrointestinal tract and associated organs, and recognize clinical features of abnormal conditions present in the GI tract and associated organs.

**Course Objectives:**

- Week 1:** Overview of digestive tract describing anatomy, motility, and innervation. The oral cavity-anatomy and function of the oral cavity, teeth, and salivary glands. Describe the mechanics of swallowing. Discuss pathologies including Xerostomia, leukoplakia, erythroplakia, and cavities.
- Week 2:** Discuss the anatomy, function and pathologies affecting the esophagus. Pathologies such as atresia, fistula, achalasia, hernias, esophagitis due to GERD or poisoning, Barretts esophagus, scleroderma, Mallory-Weis syndrome, and Plummer-Vinson.
- Week 3:** Describe the anatomy and function of the stomach. Nervous and hormonal control of secretions and motility. What structures produce gastric secretions and their effects on digestion. How much digestion and absorption is accomplished at the stomach.
- Week 4:** Discussion on pathologies involving the stomach. These include gastritis, peptic ulcers, Zollinger-Ellison syndrome, and malignancies.
- Week 5:** Present the anatomy of the small intestine. Describe the movement which occurs in the small intestine, and define what controls this movement. Outline the numerous digestive processes initiated in this region, including the description of

enzymes responsible for this digestion. Describe how and what is absorbed in the small intestine.

- Week 6:** Discuss the anatomy and physiology of the large intestine. Included will be material on digestion and absorption, secretion control, and motility with emphasis on elimination. Investigate the pathologies that are commonly seen affecting the small and large intestines. Included in this discussion are the following conditions: Meckel's diverticulum, Hirschprung's disease, Enterocolitis, Celiac disease, Tropical Sprue, and Whipple's disease.
- Week 7:** Continued discussion of pathologies affecting the gut. Included are Crohn's disease, Ulcerative Colitis, intestinal obstructions, and malignancies. Describe the anatomy of the liver including the functional and structural description.
- Week 8:** Introduce a generalized description of the many functions the liver provides. Explain the pathologies commonly seen in the liver including cirrhosis, portal hypertension, hepatitis A, B, C, D, and E. Alcoholic liver disease, and malignancies will also be introduced. Cholelithiasis of the gallbladder will also be discussed.
- Week 9:** Discussion of the anatomy of the pancreas and its ducts. Cover topics such as enzyme production and hormone production. Discuss which hormones act upon the pancreas and how the nervous system regulates control. Brief review of how the pancreatic juice chemically affects contents in the duodenum.
- Week 10:** Pathologies of the pancreas will be introduced. Discuss the three mechanisms that have been postulated which cause acute pancreatitis. Chronic pancreatitis will also be discussed with the four mechanisms which are similar to describing acute pancreatitis. Tumors will be discussed, both benign and metastatic.
- Week 11:** *Final Exam*

**Learning Outcome:**

The student will identify the anatomical features of the esophagus, stomach, and intestines.

The student will describe normal physiologic processes associated with digestion such as transportation of food through the tract, contractions that help with digestion, absorption, etc.

The student will identify the functions of hormones on digestive action. [PLO 3B]

The student will identify the functions of enzymes involved in digestion. [PLO 3B]

The student will describe common disorders of GI motility, such as achalasia, diarrhea, irritable bowel syndrome, and constipation. [PLO 3B]

The student will evaluate common disorders of GI motility. [PLO 1E]

The student will discuss common pathologies associated with the esophagus, stomach, and intestines. [PLO 3B]

The student will evaluate common pathologies associated with the esophagus, stomach, and intestines. [PLO 1E, 3B]

**Curricular Objectives:** [Council of Chiropractic Education (CCE) and LCCW Mapping]

1. Formulate a diagnosis/es supported by information gathered from the history, examination, and diagnostic studies. [CCE: 1E]
2. Explain health risk factors, leading health indicators and public health issues to patients. [CCE: 3B]

**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.