



TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER™
EL PASO

Paul L. Foster School of Medicine

Syllabus

Scientific Principles of Medicine (SPM)

PSPM 5021 (SPM I)

PSPM 5012 (SPM II)

Academic Year 2026-2027

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Course Room location(s)

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Medical Education Building-MEB 4120 Basic Science Lab

Medical Education Building-MEB 4100 Basic Science Lab

Medical Education Building-MEB 4135 Gross Anatomy Lab

Office hours by appointment for SPM teaching faculty and course coordinators

Course Description

The Scientific Principles of Medicine (SPM) course is designed to help first-year medical students acquire, integrate, and apply foundational biomedical science in ways that support clinical reasoning, critical judgment, and evidence-informed patient care. SPM emphasizes the use of scientific principles to explain normal function, mechanisms of disease, clinical presentations, diagnostic data, and therapeutic interventions.

SPM is organized into integrated, organ system-based units that connect foundational disciplines, including anatomy, physiology, biochemistry, genetics, immunology, microbiology, neuroscience, pathology, pharmacology, behavioral science, nutrition, and histology. Course content is framed around common clinical presentations and supported by diagnostic schemes, process worksheets, case-based learning, laboratory experiences, and faculty-guided application activities. These structures are intended to help students build mechanistic understanding while also developing early habits of clinical reasoning.

Learning in SPM occurs through a combination of preparatory work, synchronous and asynchronous didactic and active learning sessions, laboratory experiences, team-based activities, Clinical Reasoning Case Discussions, formative assessments, and summative assessments. Foundational knowledge and concepts are introduced through preparatory materials, didactic lectures, asynchronous modules, laboratory experiences, and other faculty-designed learning activities, then reinforced through application-focused formative assessments, case-based activities, and other opportunities for integration and clinical reasoning. In-person and applied learning activities emphasize higher-order learning objectives, including interpretation, application, analysis, integration, and clinical problem solving.

Regular formative assessment and feedback are core components of the course design. These activities help students identify knowledge gaps, practice retrieval, monitor progress, and engage in self-directed learning before summative assessments. Summative assessments evaluate whether students can apply and integrate foundational science in the context of clinical presentations and diagnostic reasoning.

Gross anatomy is integrated through prosections, three-dimensional models, radiographs, computed tomography, magnetic resonance imaging, angiograms, ultrasound images, and histological images. In activities such as Clinical Reasoning Case Discussions and Autopsy Grand Rounds, students also practice communication, teamwork, and professional responsibility.

A general overview of the organization of clinical presentation-based units in SPM is provided in the following schematic (figure 1):

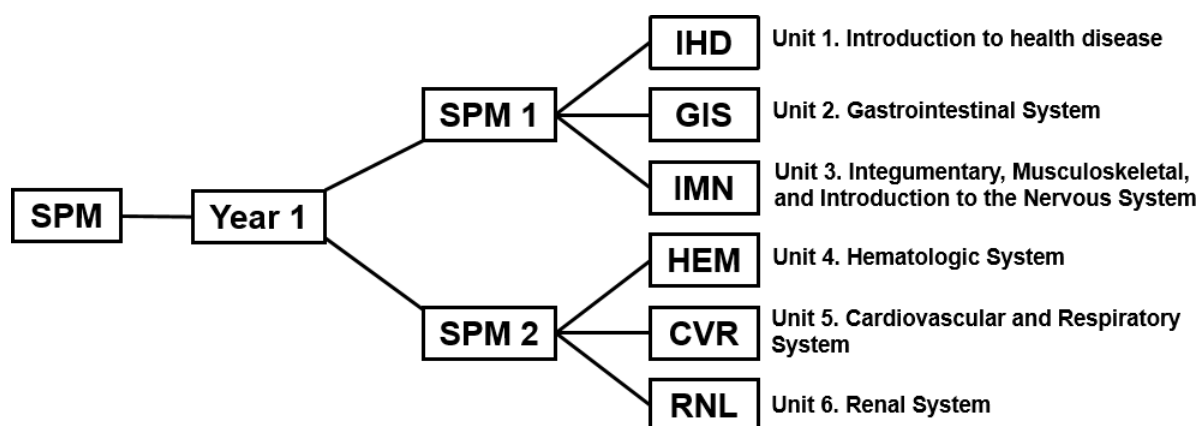


Figure 1: Overview of Year 1 SPM I and II Units.

SPM I (PSPM 5021):

This first-semester course of Year 1 consists of three integrated units: ‘**Introduction to Health and Disease**’ (IHD), ‘**Gastrointestinal System**’ (GIS), and ‘**Integumentary, Musculoskeletal, and Introduction to the Nervous System**’ (IMN). The sequence of clinical presentations within each unit has been structured so that the concepts developed during the study of one topic provide the foundation for subsequent topics. Each week’s clinical scheme presentation sets the stage for the basic science sessions and leads to the Clinical Reasoning Case Discussions where the basic and clinical science information is applied. The scheme presentation also includes a process worksheet (PWS) which details the approach an experienced clinician would utilize to efficiently diagnose and treat the problem. Each clinical presentation includes a set of basic science learning objectives related to the appropriate scientific concepts of anatomy (gross and neuroanatomy, including medical imaging), behavioral science, biochemistry, cell and molecular biology, embryology, genetics, histology, immunology, microbiology, nutrition, pathology, pharmacology, and physiology. Each clinician who presents a clinical presentation also prepares a process worksheet that details how an experienced clinician would think about the problem and how they would manage the differential diagnostic possibilities. These process worksheets also detail appropriate therapy for the different diagnostic possibilities. Discipline experts provide instruction using various teaching methods including lectures, flipped-classroom methods, laboratories, team-based learning (TBL), online learning modules, peer teaching, and small-group discussions. Both basic science and clinical faculty participate in this component of the instructional process.

Unit 1: Introduction to Health and Disease (IHD)

This 5-week unit is comprised of the following clinical presentations that introduce students to the basic foundations of health and disease:

Table 1: IHD Clinical Scheme Presentations

Week	CP	Title
1	1	Periodic Health Exam and Preventative Healthcare

2	2	Well-child exam
3	3	Sore Throat
4	4	Fever
5	5	Wound
Exam Week		

The molecular and cellular mechanisms underlying homeostasis, cell growth and division, quiescence, senescence, and apoptosis will be introduced to provide a foundation for understanding the processes of health and disease. Biochemistry, cell biology, genetics, immunology, microbiology, and pathology are featured prominently in this unit. Highlights include the student's experiences in the anatomy and microbiology laboratories.

Unit 2: Gastrointestinal System (GIS)

This 5-week unit investigates the gastrointestinal system within the context of the following clinical presentations:

Table 2: GIS Clinical Scheme Presentations

Week	CP	Title
1	1	Dysphagia
2	2	Nausea and Vomiting
3	3 4	Abnormal Liver Function Tests and Jaundice Abdominal Distension
4	5	Diarrhea
	6	Constipation
5	7 8	Abdominal Pain Blood from Gastrointestinal Tract
Exam Week		

In this unit, students will be introduced to the processes of motility, secretion, digestion, and absorption, which form the functional basis of the gastrointestinal system. The numerous

functions of the liver will be presented, including those that relate to intermediary metabolism, blood detoxification, plasma protein synthesis, and bile production, forming a foundation for recognizing, understanding, and treating various diseases of the liver and hepato-biliary system. Within each of the clinical presentations, the pathology and etiologies of region-specific diseases are explained as they relate to the underlying basic science. There are anatomy sessions that highlight the anatomical basis for each of the clinical scheme presentations.

Unit 3: Integumentary, Musculoskeletal and Introduction to the Nervous Systems (IMN)

This 7-week unit is an integrated presentation of the major basic science concepts related to the integumentary (i.e., skin, hair, and nails), musculoskeletal, and nervous systems (with a deliberate focus on the peripheral nervous system).

The unit content is organized and explored through a sequence of common and broadly applicable clinical presentations that include orthopedic, rheumatologic, neurologic, and dermatologic issues:

Table 3: IMN Clinical Scheme Presentations

Week	CP	Title
1	1	Skin Lesions: Rash—Non-Blistering
	2	Skin lesions: Rash with Blisters; Hair, Nails, and Ichthyosis
2	3	Skin Lesions: Tumors
3	4	Bone Fractures
4	5	Joint Pain
5	6	Musculoskeletal Lumps and Masses
	7	Deformity and Limp
Thanksgiving Week		
6	8	Pain
	9	Numbness and Tingling
7	10	Weakness and Loss of Motion
Exam Week		

The neuroscience of movement and pain, the regulation of skeletal muscle contraction at the cellular and molecular levels, and the scientific principles of peripheral nervous system diseases are some of the themes explored in this unit.

SPM II (PSPM 5012):

This second-semester course of Year 1 consists of three units: '**Hematologic System**' (HEM), '**Cardiovascular and Respiratory Systems**' (CVR), and '**Renal System**' (RNL).

Unit 4: Hematologic System (HEM)

This 4-week unit investigates the functions of the hematologic system within the context of the following clinical presentations:

Table 4: HEM Clinical Scheme Presentation

Week	CP	Title
1	1	Coagulation Abnormalities
2	2	Abnormal Hemoglobin
3	3	Abnormal White Blood Cells
4	4	Lymphadenopathy
Exam Week		

Students will learn about the structure and function of the formed elements of blood, as well as the components of blood plasma, as they apply to health and hematologic diseases.

Unit 5: Cardiovascular and Respiratory Systems (CVR)

This 7-week unit explores the normal parameters of the cardiovascular and respiratory systems and investigates their dysfunction in the following clinical presentations:

Table 5: CVR Clinical Scheme Presentation

Week	CP	Title
1	1 2	Abnormal Heart Sounds Cardiac Murmurs
2	3	Chest Discomfort

3	4 5	Syncope Palpitations
4	6	Abnormal Blood Pressure: Hypertension and Shock
5	7	Dyspnea
6	8 9	Cough and Wheezing Cyanosis
7	10 11	Hemoptysis Mediastinal Mass
Exam Week		

The faculty of the Department of Medical Education collaborate with cardiologists, pulmonologists, acute care physicians, and other practicing specialists to present the topics using a variety of educational approaches. Several laboratory experiences are included to emphasize critical physiological concepts underlying the function of the cardiovascular and respiratory systems.

Unit 6: Renal System (RNL)

This 4-week unit focuses on fluids, electrolytes, homeostatic mechanisms and the structure and function of the kidney. The following clinical presentations are covered in this unit:

Table 6: RNL Clinical Scheme Presentation

Week	CP	Title
1	1	Abnormalities of Renal Function
2 3	2	Disorders of Serum Sodium
	3	Abnormalities of Hydrogen Ion Concentration
4	4	Intrinsic Renal Disease
Exam Week		

Educational Methods and Learning Experiences

SPM uses a combination of preparatory learning, faculty-guided instruction, applied learning activities, laboratory experiences, formative assessment, and summative assessment to support the progressive development of foundational science knowledge and clinical reasoning. Learning activities may be delivered in person, virtually, or asynchronously, depending on the instructional purpose and course schedule.

Educational methods in SPM may include:

- **Faculty-guided instruction**
 - Clinical scheme presentations
 - Didactic lectures
 - Large-group discussions
 - Small-group discussions
- **Applied and interactive learning activities**
 - Clinical Reasoning Case Discussions
 - Team-based learning
 - Case-based learning
 - Concept mapping
 - Jigsaw activities
 - Laboratory exercises, including anatomy and microbiology experiences
- Peer teaching
- Independent learning
- Self-directed learning
- Interprofessional and clinician-guided learning experiences
- Formative assessments and feedback activities
- End-of-unit summative assessments

Learning experiences are organized around clinical presentations and learning objectives. Foundational content is introduced through preparatory materials, didactic lectures, asynchronous modules, laboratory activities, and other faculty-designed learning resources. These elements provide the knowledge base students need to engage meaningfully with higher-order learning objectives.

Applied and interactive sessions emphasize interpretation, application, analysis, integration, and clinical problem solving. During these sessions, students are expected to use foundational science to analyze clinical findings, interpret diagnostic information, compare mechanisms of disease, justify differential diagnoses, and connect therapeutic interventions to underlying pathophysiology. Clinical Reasoning Case Discussions provide structured opportunities for students to practice clinical reasoning using foundational science knowledge, diagnostic schemes, patient data, and peer discussion. These sessions require preparation, active participation, professional communication, and collaborative problem solving. Students are expected to contribute to team reasoning rather than passively observe the case discussion.

Formative assessments are integrated into the weekly learning cycle and are designed to support application of foundational knowledge, retrieval practice, individualized feedback, and early identification of learning gaps before summative assessment. Rather than serving as simple recall checks, these assessments may require students to apply, interpret, integrate, and reason from course concepts in alignment with the unit learning objectives. Students are expected to use formative feedback to guide further study and self-directed learning.

Laboratory and anatomy experiences support spatial, structural, microscopic, and imaging-based reasoning. These sessions are intended to help students connect anatomical and histologic findings with clinical presentations, diagnostic data, and mechanisms of disease.

Open Learning Studio

Open Learning Studio is a faculty-supported, student-centered learning space designed to provide additional opportunities for clarification, integration, practice, and academic support within SPM. These sessions are intended to help students engage with course material in a flexible and collaborative setting outside of scheduled required learning activities.

Open Learning Studio may include faculty-facilitated question review, clarification of difficult concepts, guided practice with clinical presentations, application of foundational science to problem-solving, discussion of formative assessment feedback, and support for self-directed learning. The format may vary depending on student needs, course timing, and faculty availability.

Open Learning Studio is not intended to replace required preparation, scheduled course sessions, formative assessments, or independent study. Instead, it is designed to supplement those activities by giving students a structured opportunity to ask questions, test their understanding, identify areas of weakness, and strengthen connections across learning objectives. Open Learning Studio sessions are optional and are not graded. Students are encouraged to attend when they would benefit from additional support, practice, or clarification.

Competencies, Program Goals and Objectives, and Outcome Measures

The Paul L. Foster School of Medicine educational program goals and objectives are outcome-based statements that guide instruction and assessment as students develop the knowledge, skills, behaviors, and professional responsibilities expected of a physician. The PLFSOM Medical Education Program Goals and Objectives are maintained by the school and are available through the PLFSOM PGOs hyperlink provided in this syllabus and listed in **Table 7: PLFSOM PGOs**.

SPM contributes to these program goals by helping students apply foundational biomedical science to clinical presentations, diagnostic reasoning, therapeutic decision-making, self-directed learning, teamwork, communication, and professional conduct.

SPM uses a nested objective structure. Course-level objectives, which are aligned with PLFSOM PGOs (shown in parenthesis after each Course objective), describe the broad outcomes students

are expected to demonstrate across SPM I and SPM II. Unit-level objectives define the major integrated outcomes for each organ system or course unit. Session-level learning objectives identify the specific knowledge, reasoning tasks, and applications expected within individual learning activities. Foundational elements support these objectives by building the factual, conceptual, and mechanistic knowledge students need to achieve higher-order learning outcomes. Course and unit objectives are intentionally aligned with instructional activities, formative assessments, and summative assessments. Foundational knowledge may be introduced through preparatory work, lectures, asynchronous modules, laboratory sessions, and other learning materials. Higher-order objectives are reinforced through applied sessions, Clinical Reasoning Case Discussions, formative assessment with feedback, and summative assessment.

Outcome measures in SPM may include institutionally developed written examinations, NBME-style examinations, formative assessments, laboratory assessments, peer assessment, narrative feedback, professionalism reporting, and other course-specific measures. These measures are used to evaluate student progress toward the relevant PLFSOM educational program objectives.

SPM I (PSPM 5021) course level objectives:

1. Apply foundational principles of human anatomy, physiology, biochemistry, genetics, immunology, microbiology, neuroscience, pathology, and pharmacology to explain normal function, mechanisms of disease, and therapeutic strategies across SPM I organ systems (KP-2.1, KP-2.2, KP-2.3, PC-1.2, PBL-3.1).
2. Analyze structural and functional relationships among the integumentary, musculoskeletal, nervous, gastrointestinal, immune, and related body systems, and explain how disruptions in these relationships contribute to clinical disease (KP-2.1, KP-2.2, KP-2.3).
3. Interpret clinical signs, physical examination findings, laboratory data, imaging, histopathology, and other diagnostic information in the context of common SPM I clinical presentations (PC-1.1, PC-1.3, KP-2.3).
4. Correlate molecular, cellular, tissue-level, gross anatomical, and microscopic findings with clinical manifestations of infection, inflammation, tissue injury, organ dysfunction, neoplasia, immune-mediated disease, and impaired homeostasis (KP-2.1, KP-2.2, KP-2.3, PC-1.1).
5. Construct and refine prioritized differential diagnoses for common clinical problems, including rash, abdominal pain, gastrointestinal symptoms, joint pain, neurologic symptoms, wound infections, abnormal laboratory findings, and other SPM I presentations, using integrated foundational and clinical science knowledge (PC-1.3, KP-2.2, KP-2.3).
6. Apply principles of microbiology, immunology, pathology, and host defense to explain the pathogenesis, clinical features, diagnostic findings, and prevention or treatment of infectious and immune-mediated conditions (KP-2.1, KP-2.2, KP-2.3, PC-1.2).
7. Integrate preventive health, health maintenance, social determinants of health, cultural beliefs, health literacy, and patient-centered considerations into explanations of disease risk, care-seeking behavior, treatment adherence, and health outcomes across the lifespan (PC-1.5, KP-2.5).

8. Use laboratory, anatomy, microbiology, pathology, imaging, and other scientific inquiry experiences to support clinical problem-solving and evidence-informed reasoning (PC-1.1, PNL-3.1, PBL-3.4).
9. Demonstrate effective communication, teamwork, peer teaching, and collaborative learning during case-based discussions, small-group sessions, interprofessional activities, and other SPM I learning experiences (ICS-4.2, ICS-4.3, PBL-3.6).
10. Demonstrate professionalism, academic integrity, accountability, cultural sensitivity, and respect for diverse perspectives by meeting course responsibilities, attending required sessions, completing assigned work, engaging constructively with peers and faculty, and adhering to institutional policies and ethical standards (PRO-5.1, PRO-5.6, PRO-5.7).

Unit 1: Introduction to Health and Disease (IHD) objectives

1. Apply principles of health maintenance, disease prevention, and lifespan development to explain normal and abnormal findings in pediatric and adult patient presentations (KP-2.4, KP-2.1, KP-2.2).
2. Analyze molecular, cellular, genetic, biochemical, and tissue-level mechanisms that maintain homeostasis, regulate growth and development, and contribute to disease when disrupted (KP-2.1, KP-2.2).
3. Correlate microbial structure, pathogenicity, host defense mechanisms, and immune responses contribute to infectious disease, inflammation, and associated clinical findings (KP-2.1, KP-2.2, PC-1.1).
4. Interpret clinical signs, laboratory findings, and microbiology laboratory data to support reasoning about infection, inflammation, tissue injury, wound healing, and repair (PC-1.1, KP-2.1, KP-2.2, PBL-3.1).
5. Integrate foundational science concepts to explain the pathophysiology underlying early clinical presentations and use those concepts to support initial diagnostic reasoning (KP-2.1, KP-2.2, KP-2.3).
6. Apply foundational pharmacologic principles, including mechanisms of action, therapeutic uses, and adverse effects, to explain treatment strategies for common clinical conditions introduced in this unit (PC-1.2).

Unit 2: Gastrointestinal System (GIS) objectives

1. Analyze the physiological processes of gastrointestinal motility, secretion, digestion, absorption, and hepatobiliary function to explain common clinical symptoms, including dysphagia, nausea, vomiting, abdominal distension, diarrhea, constipation, abdominal pain, jaundice, and gastrointestinal bleeding (KP-2.1, KP-2.2, KP-2.3).
2. Correlate gastrointestinal and hepatobiliary anatomy with clinical presentations, physical examination findings, imaging findings, and region-specific patterns of disease (KP-2.1, KP-2.2, PC-1.1).
3. Interpret liver function tests, laboratory data, gross pathology, and histopathology to explain the pathophysiology of jaundice, hepatic dysfunction, pancreatic disease, inflammatory bowel disease, peptic ulcer disease, and other common gastrointestinal or hepatobiliary disorders (KP-2.1, KP-2.2, PC-1.1).

4. Differentiate mechanisms of common gastrointestinal presentations, including dysphagia, abdominal pain, abdominal distension, diarrhea, constipation, and gastrointestinal bleeding, by integrating anatomical, neurologic, muscular, epithelial, microbial, immune, and pathologic processes (PC-1.3, KP-2.1, KP-2.2, KP-2.3).
5. Analyze microbiological and immunological mechanisms contributing to gastrointestinal and hepatobiliary diseases, including infectious, inflammatory, viral, and immune-mediated conditions (KP-2.1, KP-2.2).
6. Construct differential diagnoses for common gastrointestinal complaints by integrating basic science mechanisms with clinical findings, physical examination findings, laboratory data, imaging, and pathology (PC-1.1, PC-1.3, KP-2.1, KP-2.2, KP-2.3)
7. Apply pharmacologic principles, including mechanisms of action, therapeutic indications, and adverse effects, to justify treatment strategies for gastrointestinal and hepatobiliary disorders (PC-1.2).

Unit 3: Integumentary, Musculoskeletal, and Introduction to the Nervous Systems (IMN) objectives

1. Correlate the structure and function of skin, hair, nails, bones, joints, skeletal muscle, and peripheral nerves with clinical presentations involving rash, blistering disease, tumors, fractures, joint pain, deformity, limp, pain, numbness, tingling, weakness, and loss of motion (KP-2.1, KP-2.2, PC-1.3).
2. Analyze cellular, molecular, anatomical, and physiological mechanisms underlying skeletal muscle contraction, excitation-contraction coupling, peripheral nerve function, pain perception, and pain modulation (KP-2.1, KP-2.2).
3. Differentiate benign, malignant, inflammatory, infectious, autoimmune, traumatic, and degenerative conditions of the skin, soft tissue, musculoskeletal system, and peripheral nervous system using clinical, gross, histologic, radiologic, and physiologic findings (KP-2.1, KP-2.2, KP-2.3, PC-1.1, PC-1.3).
4. Interpret diagnostic imaging, gross pathology, histopathology, physical examination findings, and clinical history to localize disease processes and support diagnostic reasoning in integumentary, musculoskeletal, and peripheral nervous system conditions (PC-1.1, PC-1.3, KP-2.3).
5. Apply principles of inflammation, immunity, wound healing, tissue repair, fibrosis, and remodeling to predict disease manifestations and recovery patterns in dermatologic, rheumatologic, and musculoskeletal conditions (KP-2.2, KP-2.3, PBL-3.1).
6. **Construct differential diagnoses and justify pharmacologic or therapeutic strategies for common presentations such as rash, joint pain, fracture, deformity, limp, pain, weakness, numbness, and tingling by integrating anatomy, physiology, pathology, imaging, neuroscience, and pharmacology (PC-1.1, PC-1.2, PC-1.3, KP-2.1, KP-2.3).**

SPM II (PSPM 5012) course-level objectives:

1. Apply foundational principles of hematology, cardiovascular physiology, respiratory physiology, renal physiology, anatomy, pathology, immunology, embryology, developmental biology, and pharmacology to analyze normal function, homeostasis, pathophysiologic stress, disease mechanisms, and therapeutic strategies across SPM II organ systems (KP-2.1, KP-2.2, KP-2.3, PC-1.2).
2. Analyze cellular, molecular, structural, and physiologic mechanisms that govern oxygen transport, hemostasis, immune surveillance, cardiac output, blood pressure regulation, gas exchange, ventilation, filtration, secretion, reabsorption, electrolyte balance, acid-base balance, and fluid homeostasis (KP-2.1, KP-2.2, KP-2.3).
3. Correlate abnormal clinical findings with disruptions in anatomy and physiology, including murmurs with valve dysfunction, dyspnea with impaired gas exchange, edema with altered cardiovascular or renal function, anemia with impaired oxygen delivery, and electrolyte disorders with disrupted homeostasis (KP-2.1, KP-2.2, KP-2.3).
4. Interpret and integrate diagnostic data, including CBCs, coagulation studies, ABGs, electrolytes, urinalysis, ECGs, chest imaging, renal ultrasound, histopathology, and flow cytometry, to evaluate hematologic, cardiovascular, respiratory, and renal conditions (PC-1.1, PC-1.3, KP-2.3).
5. Analyze the pathogenesis of common hematologic, cardiovascular, respiratory, and renal diseases, including anemia, leukemias, coagulopathies, heart failure, arrhythmias, ischemic heart disease, asthma, COPD, shock, glomerulonephritis, and fluid, electrolyte, or acid-base disorders (KP-2.2, KP-2.3).
6. Construct and prioritize differential diagnoses for clinical presentations such as fatigue, syncope, chest pain, palpitations, dyspnea, cough, hemoptysis, cyanosis, hematuria, hypertension, shock, edema, and fluid or electrolyte imbalance using integrated foundational and clinical science knowledge (PC-1.3, KP-2.2, PNL-3.1).
7. Synthesize patient history, physical examination findings, laboratory data, imaging, and pathophysiologic mechanisms to justify evidence-informed diagnoses and initial management strategies for hematologic, cardiopulmonary, and renal presentations (PC-1.2, KP-2.3).
8. Analyze interactions among hematologic, cardiovascular, respiratory, renal, endocrine, and immune systems to predict how dysfunction in one system affects oxygen delivery, perfusion, blood pressure, fluid balance, acid-base status, and overall homeostasis (KP-2.1, KP-2.2, KP-2.3).
9. Integrate disease prevention, early diagnosis, coordinated care, social determinants of health, cultural values, health literacy, and patient-centered considerations into reasoning about disease risk, care-seeking behavior, treatment adherence, and health outcomes (PC-1.5, KP-2.4, KP-2.5).
10. Demonstrate professionalism, academic integrity, accountability, communication, collaboration, peer teaching, and respectful patient-centered language during coursework, assessments, case discussions, small-group learning, interprofessional activities, and other SPM II learning experiences (PRO-5.1, PRO-5.6, PRO-5.7, ICS-4.2, ICS-4.3, PBL-3.6).

Unit 4: Hematologic System (HEM) objectives

1. Analyze the development, structure, and function of red blood cells, white blood cells, platelets, bone marrow, plasma proteins, coagulation factors, and immunoglobulins in maintaining hematologic and immune homeostasis (KP-2.1, KP-2.2).
2. Correlate cellular, molecular, genetic, and structural mechanisms with common hematologic disorders, including anemia, sickle cell disease, thalassemias, coagulopathies, leukemias, lymphomas, and disorders of lymphadenopathy (KP-2.1, KP-2.2, KP-2.3).
3. Interpret complete blood counts, peripheral blood smears, coagulation studies, hemoglobin electrophoresis, histopathology, and flow cytometry findings to evaluate hematologic disease processes (PC-1.1, PC-1.3, KP-2.3).
4. Differentiate infectious, inflammatory, immune-mediated, and neoplastic causes of abnormal leukocyte counts, abnormal leukocyte morphology, and lymphadenopathy using clinical and diagnostic data (KP-2.1, KP-2.2, PC-1.1, PC-1.3).
5. Apply mechanisms of hemostasis, coagulation, erythropoiesis, immune surveillance, and bone marrow function to predict clinical manifestations and laboratory patterns in hematologic disease (KP-2.1, KP-2.2, KP-2.3).
6. **Construct differential diagnoses for bleeding, fatigue, pallor, infection, abnormal blood counts, and lymphadenopathy by integrating hematologic physiology, pathology, clinical findings, and diagnostic testing (PC-1.3, KP-2.1, KP-2.3, PBL-3.1).**

Unit 5: Cardiovascular and Respiratory Systems (CVR) objectives

1. Analyze the structure and function of the heart, blood vessels, lungs, airways, systemic circulation, pulmonary circulation, gas exchange surfaces, and respiratory mechanics in normal physiology and disease (KP-2.1, KP-2.2).
2. Correlate auscultatory findings, heart sounds, murmurs, ECG findings, chest imaging, spirometry, blood gas parameters, gross pathology, and histopathology with cardiovascular and respiratory anatomy, physiology, and clinical syndromes (KP-2.1, KP-2.2, KP-2.3, PC-1.1, PC-1.3).
3. Analyze mechanisms underlying chest discomfort, palpitations, syncope, hypertension, shock, dyspnea, cough, wheezing, cyanosis, hemoptysis, and mediastinal masses by integrating cardiac output, perfusion, rhythm, ventilation, gas exchange, oxygen transport, and respiratory mechanics (KP-2.1, KP-2.2, KP-2.3, PC-1.3).
4. Differentiate types of shock, hypoxemia, respiratory dysfunction, ischemic heart disease, heart failure, arrhythmias, asthma, COPD, and interstitial lung disease using clinical findings, hemodynamic profiles, diagnostic data, and underlying pathophysiologic mechanisms (KP-2.2, KP-2.3, PC-1.1, PC-1.3).
5. Integrate cardiovascular and respiratory physiology to predict changes in oxygen content, oxygen delivery, ventilation, perfusion, gas exchange, blood pressure, systemic vascular resistance, cardiac output, and autonomic regulation in health and disease (KP-2.1, KP-2.2, KP-2.3).
6. Apply principles of cardiovascular and respiratory embryology and developmental biology to analyze congenital abnormalities and predict their physiologic consequences (KP-2.1, KP-2.2).

- Construct differential diagnoses and justify pharmacologic or therapeutic strategies for cardiovascular and respiratory presentations by integrating patient history, physical examination, diagnostic data, anatomy, physiology, pathology, and pharmacology, including anti-hypertensives, antiarrhythmics, bronchodilators, and anti-inflammatory medications (PC-1.1, PC-1.2, PC-1.3, KP-2.2, KP-2.3).

Unit 6: Renal System (RNL) objectives

- Correlate renal and urinary tract anatomy with functional roles in glomerular filtration, tubular reabsorption, tubular secretion, urine concentration, and excretion (KP-2.1, KP-2.2).
- Analyze renal mechanisms that regulate sodium, potassium, water, acid-base balance, extracellular fluid volume, blood pressure, and overall fluid and electrolyte homeostasis (KP-2.1, KP-2.2).
- Apply hormonal control mechanisms, including ADH, aldosterone, and the renin-angiotensin-aldosterone system, to predict changes in renal function, volume status, electrolyte balance, and blood pressure (KP-2.1, KP-2.2).
- Interpret serum creatinine, BUN, estimated GFR, urinalysis, electrolyte panels, acid-base data, renal ultrasound, histology, and other relevant diagnostic findings to evaluate renal and electrolyte disorders (PC-1.1, KP-2.1, KP-2.2, KP-2.3).
- Differentiate prerenal, intrinsic renal, and postrenal processes, including glomerulonephritis, acute tubular injury, disorders of sodium and water balance, and abnormalities of hydrogen ion concentration, using clinical, laboratory, imaging, and histologic findings (PC-1.1, PC-1.5, KP-2.1, KP-2.2, KP-2.3).
- Analyze interactions among renal, cardiovascular, respiratory, and endocrine systems to predict effects on fluid balance, electrolyte balance, acid-base status, perfusion, and blood pressure regulation (KP-2.1, KP-2.2).
- Construct differential diagnoses and justify pharmacologic or therapeutic strategies for common renal, fluid, electrolyte, acid-base, and blood pressure presentations by integrating renal physiology, pathophysiology, diagnostic findings, and pharmacology, including diuretics, antihypertensives, and drugs affecting the renin-angiotensin-aldosterone system (PC-1.2, PC-1.3).

TTUHSC EP Paul L. Foster School of Medicine Program Goals and Objectives

Table 7: PLFSOM PGOs

Patient Care		
Educational Program Objectives		Outcome Measures
PC-1.1	Gather essential information about patients and their conditions through history taking, physical examination, and the use of laboratory data, imaging studies, and other tests.	Exam – Institutionally developed, written/computer-based (weekly SPM formative exams; end-of-unit SPM

		summative exams; session-level formative quizzes)
PC-1.2	Make informed decisions about diagnostic and therapeutic interventions based on patient	Exam – Institutionally developed, written/computer-based (weekly SPM formative exams; end-of-unit
	information and preferences, up-to-date scientific evidence, and clinical judgment.	SPM summative exams; session-level formative quizzes)
PC-1.3	For a given clinical presentation, use data derived from the history, physical examination, imaging and/or laboratory investigation to categorize the disease process and generate and prioritize a focused list of diagnostic considerations.	Exam – Institutionally developed, written/computer-based (weekly SPM formative exams; end-of-unit SPM summative exams; session-level formative quizzes)
PC-1.5	Recognize a patient requiring urgent or emergent care, and initiate evaluation and management.	Exam – Institutionally developed, written/computer-based (weekly SPM formative exams; end-of-unit SPM summative exams; session-level formative quizzes)
Knowledge for Practice		
Educational Program Objectives		Outcome Measures
KP-2.1	Compare and contrast normal variation and pathological states in the structure and function of the human body throughout life.	- Exam – Institutionally developed, written/computer-based (weekly SPM formative exams; end-of-unit SPM summative exams; session-level formative quizzes) - Exam – Nationally normed/standardized, subject (NBME)

KP-2.2	Apply established and emerging foundational/basic science principles to health care.	• Exam – Institutionally developed, written/computer-based (weekly SPM formative exams; end-of-unit SPM summative exams; session-level formative quizzes) • Exam – Nationally normed/standardized, subject (NBME)
KP-2.3	Apply evidence-based principles of clinical sciences to diagnostic and therapeutic decision-making and clinical problem solving.	• Exam – Institutionally developed, written/computer-based (weekly SPM formative exams; end-of-unit SPM summative exams; session-level formative quizzes)
		• Exam – Nationally normed/standardized, subject (NBME)
KP-2.4	Apply principles of epidemiological sciences to the identification of health problems, risk factors, treatment strategies, resources, and disease prevention/health promotion efforts for patients and populations.	• Exam – Institutionally developed, written/computer-based (weekly SPM formative exams; end-of-unit SPM summative exams; session-level formative quizzes) • Exam – Nationally normed/standardized, subject (NBME CBSE)
KP-2.5	Apply principles of social-behavioral sciences to patient care including assessment of the impact of psychosocial, cultural, and societal influences on health, disease, care seeking, and adherence and barriers to care.	• Exam – Institutionally developed, written/computer-based (weekly SPM formative exams; end-of-unit SPM summative exams; session-level formative quizzes) • Exam – Nationally normed/standardized, subject (NBME CBSE)
Practice-Based Learning & Improvement		
Educational Program Objectives		Outcome Measures

PBL-3.1	Identify gaps in one's knowledge, skills, and/or attitudes, and perform learning activities to address them.	• Narrative assessment (Formative assessment engagement rubric)
PBL-3.4	Locate, appraise, and assimilate evidence from scientific studies related to patients' health problems.	• Narrative assessment (Formative assessment engagement rubric)
PBL-3.6	Participate in the education of patients, families, students, trainees, peers, and other health professionals.	• Narrative assessment (Formative assessment engagement rubric)
Interpersonal and Communication Skills		
Educational Program Objectives		Outcome Measures
ICS-4.2	Communicate effectively with colleagues and other health care professionals.	• Peer assessment (WCE Peer Assessment rubric)
ICS-4.3	Communicate with sensitivity, honesty, compassion, and empathy.	• Peer assessment (WCE peer assessment rubric)
Professionalism		
Educational Program Objectives		Outcome Measures
PRO-5.1	Demonstrate sensitivity, compassion, and respect for all people.	• Narrative assessment (Professionalism Card) • Peer assessment (WCE peer assessment rubric)
PRO-5.6	Demonstrate honesty and integrity in all professional and academic interactions.	• Narrative assessment (Professionalism Card) • Peer assessment (WCE peer assessment rubric)
PRO-5.7	Meet professional and academic commitments and obligations.	• Narrative assessment (Professionalism Card) • Narrative assessment (Formative assessment engagement rubric)

		• Peer Assessment (WCE peer assessment rubric)
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Grading System

SPM I and SPM II are pass/fail courses. To pass each semester unit, students must demonstrate satisfactory performance in each required SPM unit and meet course expectations for professional responsibility, academic integrity, assessment participation, and engagement in required learning activities.

The grading system evaluates both competency and professional accountability. Competency is assessed primarily through summative assessments that evaluate students' ability to apply and integrate foundational science in the context of clinical presentations, diagnostic reasoning, and therapeutic decision-making. Professional accountability is assessed through timely completion of required course activities, participation in required learning experiences, adherence to assessment procedures, and compliance with institutional standards for academic and professional conduct.

SPM uses both formative and summative assessments. Formative assessments are required activities for durable learning. They provide feedback, support retrieval practice, identify learning gaps, and guide self-directed learning. Summative assessments determine whether students have met the minimum performance standard for the unit or course. Formative assessment scores are diagnostic and do not directly determine the final course grade, but timely completion of required formative assessments may affect eligibility for the unit summative score adjustment described below.

Learning Objectives and Assessment Alignment

SPM assessments are developed to evaluate student achievement of the course and unit learning objectives. Learning objectives define the expected outcomes of instruction and describe what students should be able to apply, analyze, interpret, differentiate, predict, construct, or justify after engaging with the course materials and learning activities.

Summative assessments are blueprinted to represent the learning objectives for the relevant unit. This means assessment items are selected or written to sample the knowledge, mechanisms, reasoning skills, and applications described by the learning objectives. Because no assessment can test every detail of every learning objective, each summative assessment is intended to provide a representative evaluation of student performance across the unit.

Course materials, preparatory resources, laboratory experiences, formative assessments, Clinical Reasoning Case Discussions, and other learning activities are designed to support students in achieving the learning objectives. Assessment items may require students to apply or integrate concepts beyond direct recall of a specific sentence, slide, or handout. Therefore, the fact that an answer is not stated verbatim in a learning resource does not mean the item is outside the scope of the course, provided the item assesses a stated learning objective and the course materials support development of the knowledge and reasoning needed to achieve that objective.

This alignment model applies to both institutionally developed assessment items and selected NBME items used in SPM summative assessments.

Formative and Summative Assessments

SPM uses both formative and summative assessments. Formative assessments are designed to promote student success by supporting learning, providing feedback, and creating opportunities for retrieval practice and self-directed improvement. Summative assessments are used to determine whether students have achieved the minimum performance standard required to pass a unit or course.

Formative Assessments

Regular formative student assessment and feedback are an important part of the educational experience. Formative assessments are designed to allow students to monitor progress, identify areas of weakness, calibrate their understanding, and guide self-directed learning before summative assessment.

Each week, students will complete one formative assessment aligned with the weekly session-level learning objectives. This formative assessment is designed to help students apply and integrate material from the week's learning activities and prepare for the unit summative assessment. Formative assessment items may require students to interpret data, apply mechanisms, integrate concepts across sessions, and reason through clinical or scientific problems aligned with the learning objectives.

Students will also complete a 10-question formative quiz at the beginning of each Clinical Reasoning Case Discussions session. This quiz is intended to promote preparation, reinforce weekly learning objectives, and support readiness for application-based clinical reasoning during the Capstone session. The weekly formative assessment is intended to be an important preparation tool for the Clinical Reasoning quiz.

Performance on each Clinical Reasoning quiz may provide a positive-only adjustment to the final unit grade. The Clinical Reasoning quiz may contribute up to a 0.5 percentage-point adjustment to the final unit grade, based on the student's quiz score. The adjustment for each week is calculated by multiplying the quiz score percentage by 0.5 percentage points. For example, a student who scores 60%, 70%, 90%, and 100% on four weekly Clinical Reasoning Quizzes would receive adjustments of 0.3, 0.35, 0.45, and 0.5 percentage points, for a total final unit grade adjustment of 1.6 percentage points.

Students cannot lose points through the Clinical Reasoning Quiz adjustment. The adjustment can only increase the final unit grade. A low score on a Clinical Reasoning quiz should be used as feedback to identify learning objectives requiring additional review before the unit summative assessment.

Weekly formative assessments are listed on the Elentra calendar view under asynchronous learning and will be made available during the weekly formative testing window. Once each formative assessment is completed within the designated weekly testing window, students will have the opportunity to review their score, the correct answers, and explanations for each question. Students who complete a formative assessment within the designated weekly testing window will also receive individualized feedback identifying the learning objectives linked to questions they missed.

Formative assessment performance reports will be generated at 12:00 AM on Mondays unless otherwise indicated on the Elentra calendar. These reports will be used to calculate class statistics, generate individualized lists of missed learning objectives, and populate formative score tables in each student's e-portfolio. Students who do not complete a formative assessment before the reporting deadline will not receive individualized missed-objective feedback for that assessment and will receive a score of 0 on the corresponding e-portfolio entry.

Formative assessments will be available during the week in which the associated material is delivered. Formative assessments may reopen after the unit summative assessment week for review and future review or preparation. From that point forward, they may remain available for retake and review for the duration of the first year of the pre-clerkship curriculum. Reopened formative assessments are intended for review, retrieval practice, and longitudinal learning.

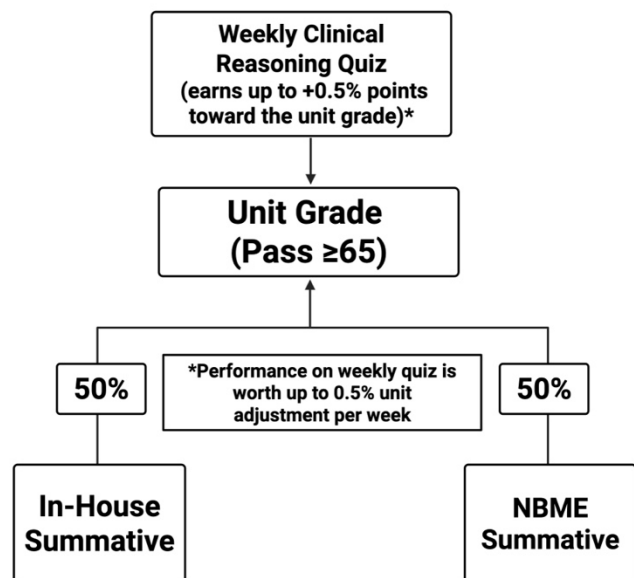
Narrative feedback may be provided regarding students' engagement with the formative assessment program. This feedback is intended to support self-directed learning by helping students reflect on their consistency of participation, use of feedback, preparation for Clinical Reasoning Case Discussions sessions, and engagement with course expectations. Regular engagement with formative assessment is an important learning practice because it provides timely information about strengths, areas for improvement, and learning objectives that may require additional attention before summative assessment.

Summative Assessments

Summative assessments are used to determine whether students have met the minimum performance standard for each SPM unit. The unit grade is determined by a 50:50 weighted average of the in-house summative component and the NBME summative component. Eligible

students may also receive a positive-only adjustment from the Clinical Reasoning Quiz formative, as described below and in the Formative Assessments section. The Clinical Reasoning Quiz is completed individually before the Clinical Reasoning Case Discussions session and is intended to assess preparation and readiness to participate in team-based clinical reasoning. The Application Exercise assesses application of foundational science to clinical reasoning, diagnostic scheme use, integration of patient data, and team-based problem solving during the Clinical Reasoning Case Discussions session.

The SPM unit grade is calculated using the following structure (figure 2):



1. In-house summative component: 50% of the unit grade
2. NBME summative component: 50% of the unit grade
3. End of week clinical reasoning quiz adjustment: up to +0.5 percentage points per week toward the unit grade

Up to 5% of the summative exam may be comprised of cumulative content. The Clinical Reasoning Quiz adjustment is not a separate weighted grading component. It is a positive-only adjustment applied to the unit grade after the in-house and NBME summative components are calculated. Students cannot lose points through the end of week Clinical Reasoning quiz adjustment.

Purpose of Summative Assessment and Use of In-House and NBME Components

Summative assessments in SPM are designed to evaluate student achievement of the course and unit learning objectives. Students should prepare for summative assessment by studying the unit learning objectives, required learning materials, formative assessment feedback, laboratory activities, Clinical Reasoning Case Discussions activities, and other course learning experiences. The in-house and NBME components are not intended to function as two separate tests requiring two separate study strategies. Together, they form a single unit summative assessment of student performance across the unit learning objectives.

The in-house component is an institutionally developed, course-aligned assessment designed to evaluate the specific learning objectives, clinical presentations, laboratory experiences, diagnostic reasoning tasks, and application or integration of foundational science emphasized in SPM. Because these items are developed for the course, they can be intentionally aligned with the instructional design, session-level learning objectives, and expected level of student performance.

The NBME component provides an external standardized item source that supplements the in-house assessment and contributes to broader sampling of relevant foundational science content. Because externally sourced NBME items are selected from available item banks, they may vary in format, style, emphasis, and level of integration from institutionally developed items and from current licensing-examination trends. Performance on this component may help students identify strengths and weaknesses relevant to future board-style assessment preparation, but should be interpreted as one data point and not as a direct prediction or guarantee of future USMLE Step performance.

Because each component serves an important assessment purpose, students should not overvalue or undervalue either component. Both components contribute to the unit grade according to the weighting described above. Equal weighting does not necessarily mean that the in-house and NBME components will contain the same number of questions. Rather, each component is weighted so that it contributes 50% of the unit grade.

Summative assessment items are selected or written to sample the unit learning objectives. This does not mean that the answer to every assessment question will be stated verbatim in a slide, handout, or other learning material. Course materials and learning activities are designed to support students in achieving the learning objectives. Assessment items may require students to apply, integrate, interpret, or reason from those objectives in new or clinically relevant contexts.

Passing Standard

To pass an SPM unit, students must achieve a final unit grade of at least 65%, after applying any eligible formative engagement adjustment described above. The Clinical Reasoning Capsone Quiz adjustment is applied to the final unit grade and not to an individual assessment component.

Tardiness, Absence, and Proctoring Expectations

Tardiness for a summative assessment is disruptive, unprofessional, and strongly discouraged. Students who arrive after the assessment has started will not be permitted to enter the assessment area and will be recorded as absent.

An unexcused absence from a summative assessment will be considered a failure on the first attempt. This will result in an initial grade of Fail for the unit and an associated grade of Deferred for the SPM semester course. Students will be required to remediate during scheduled remediation dates if remediation criteria are met. Requests for excused absences must be submitted through the [PLFSOM pre-clerkship absence management system](#).

Students must follow all directions from proctoring staff. Failure to comply with proctor instructions may result in a Professionalism Card for each infraction. If the chief proctor determines that an infraction is sufficiently severe, the student may be removed from the assessment.

Failure to comply with summative assessment guidelines and instructions may result in a failing grade for the SPM unit at the discretion of the Course Directors. Students who fail to comply with summative assessment guidelines may be referred to their college mentor and/or the Office of Student Affairs. Repeated failure to comply may result in referral to the Grading and Promotions Committee for review of the proctoring report, the Course Directors' recommendation, and any further action deemed appropriate by the committee.

SPM Unit and Semester Grade Determinations

The semester courses SPM I and SPM II must be passed in order to progress to the second year. Student progress within each SPM unit and semester course will be determined by the Course Directors in accordance with the grading structure described below and applicable institutional policies.

Detailed information regarding institutional and school-level grading procedures and transcript notations can be found in the TTUHSC-EP [‘Grading Procedures and Academic Regulations’ \(HSCEP OP 59.05\) policy](#) and subsidiary PLFSOM [‘Grading Procedures and Academic Regulations’ policy, as well as the PLFSOM ‘Grading, Promotion, and Academic Standing \(GPAS\) Policy’](#). SPM assessment and grading guidelines are summarized as follows:

1. SPM Unit Grade

Unit and Course Directors are responsible for determining student progress within each SPM unit. To receive a grade of Pass for an SPM unit, a student must achieve a final unit grade of at least 65%, after applying any Capstone Clinical Reasoning adjustment.

1. In-house summative component: 50% of the unit grade
2. NBME summative component: 50% of the unit grade
3. Clinical Reasoning Case Discussions Quiz adjustment: up to +0.5 percentage points per week toward the unit grade

The End-of-Unit Summative includes an in-house component and an NBME component. The in-house component accounts for 50% of the End-of-Unit Summative score, and the NBME component accounts for 50% of the End-of-Unit Summative score.

Clinical Reasoning Case Discussions activities require preparation, active participation, professional communication, and engagement in team-based clinical reasoning. Students may receive feedback on their preparation, participation, teamwork, and professional conduct through applicable course rubrics, peer assessment, and/or narrative feedback mechanisms.

2. SPM Semester Course Grade

Student progress within SPM I and SPM II will be determined by the Course Directors based on student performance in the units that comprise each semester course. To receive a semester course grade of Pass, students must pass all required SPM units within that semester. A student who does not pass one or more units will receive the appropriate semester course grade status as described in the grading, deferred grade, failure, and remediation procedures below.

1. Grading

A. **Pass (PA):** All Units must be passed.

B. **Deferred (DE):**

- a) *If one or two SPM units are failed in the first semester, the first semester course grade initially will be recorded as “Deferred” (DE) and will be revised to “Pass” (PA) or “Fail” (FA) pending the outcome of unit remediation during the optional January remediation date and/or at the end of the academic year.*
- b) *If one or two SPM units are failed in the second semester, the second semester course grade initially will be recorded as “DE” and will be revised to “PA” or “FA” pending the outcome of unit remediation at the end of the academic year.*
- c) In accordance with the PLFSOM [“Grading, Promotion, and Academic Standing \(GPAS\)” policy](#), a student with “DE” status may be referred to the GPC if it appears they are at substantial risk for academic failure.

C. **Fail (FA):**

- a) *If three SPM units are failed in the first semester, the semester course grade will be recorded as “FA”, and the student will be referred to the GPC.*
- b) *If two SPM units are failed in the first semester, the semester course grade will be listed as ‘DE’ and the student will be given an opportunity to complete unit remediation during the optional January remediation date and/or at the end of the academic year. If an additional unit failure occurs in the second semester the student will receive a grade of ‘FA’ for both semesters and the student will be referred to the GPC. Similarly, if a student fails one unit in the first semester and goes on to fail two units in the second semester, a grade of ‘FA’ will be recorded for both semesters and the student will be referred to the GPC. Note that the above rules apply even if a student remediates a unit failure during the optional January remediation window.*
- c) *If a student fails three SPM units in the second semester, they will receive a grade of ‘FA’ for that semester and the student will be referred to the GPC. The grade for the first semester will remain as ‘PA’.*

2. Remediation

If a grade of “DE” (Deferred) is recorded because one or more SPM units are failed within a semester, students will be required to pass a remediation exam for each failed unit. The SPM unit remediation exam will include both an institutionally developed in-house component and an NBME component. The in-house and NBME components will be weighted equally, with each component accounting for 50% of the remediation exam score. The in-house component will be aligned with the relevant unit learning objectives, and the NBME component will provide an external standardized item source relevant to the unit content. The minimum passing score for an SPM unit remediation exam is 65%.

If the remediation exam for the failed unit is passed, the corresponding semester course grade will be converted from “DE” to “PA” (Pass), consistent with applicable grading and promotion policies. If the student does not successfully remediate the failed unit, the corresponding semester course grade will be converted from “DE” to “FA” (Fail), and the student will be referred to the Grading and Promotions Committee.

See “[Important Dates](#)” below for a list of remediation exam dates.

3. Grade Release

Barring extenuating circumstances, SPM unit grades will be released within 14 calendar days of the summative assessment date. If a student wishes to challenge their unit grade, they must do so by contacting the Course Director as outlined in the “[Grade Appeal and Complaint Policy](#)”.

4. Professionalism and Assessment Security

Formative and summative assessment items are part of a secured assessment pool designed to evaluate whether students are meeting the standards necessary for progression in medical training. The integrity and security of these assessment materials must be protected.

Students are strictly prohibited from copying, reproducing, photographing, recording, transmitting, discussing, posting, storing, or distributing formative or summative assessment items, answer choices, explanations, or related secured assessment content in any format. This prohibition applies before, during, and after assessments, including after formative assessments reopen for review.

Any violation of assessment security, including failure to report a known violation, is a breach of professional and academic conduct and may result in a Professionalism Card, academic warning, probation, referral to the Office of Student Affairs, referral to the Grading and Promotions Committee, failure of an assessment or unit, or dismissal from PLFSOM, consistent with institutional policies as described in the [Institutional Student Handbook](#).

Important Dates

1. Summative Examinations

IHD Summative:	4 September 2026
GIS Summative:	16 October 2026
IMN Summative:	16 December 2026
HEM Summative:	4 February 2027
CVR Summative:	1 April 2027
RNL Summative:	5 May 2027
CEYE:	21-22 May 2027

2. Remediation Exam Dates

Students who are deemed eligible will be permitted to remediate up to two SPM unit exams, two Society Community and Individual (SCI) semester grades (see the SCI syllabus), or a combination of one SPM unit exam and one SCI semester grade, over the course of the academic year. Students are required to schedule their remediation exams via e-mail with the Assessment Coordinator (paulitor@ttep.edu). The Assessment Coordinator requires a minimum of five business days' notice from students regarding their intended remediation exam date.

Students with an excused absence will be permitted to reschedule their remediation exam. Students who have an unexcused absence or arrive late for the remediation exam will receive a score of zero and be referred to the Office of Student Affairs.

Eligible students may select an SPM/SCI/CEYE remediation schedule that best suits their individual needs. Remediation dates and signup deadlines are specified below*:

Remediation Date	Signup Deadline
Monday, January 4, 2027	Friday, December 25, 2026
Thursday, June 3, 2027	Friday, May 28, 2027
Friday, June 4, 2027	Friday, May 28, 2027
Thursday, June 10, 2027	Friday, June 4, 2027
Friday, June 11, 2027	Friday, June 4, 2027
Thursday, June 17, 2027	Friday, June 11, 2027

Note that students needing to remediate the comprehensive end-of-year exam (CEYE) will also need to factor this into the above Spring remediation schedule. CEYE remediation must take place over two consecutive days.

*It is essential that students choose a schedule that allows their individual remediation requirements to be completed by the last available date. Failure to do so will lead to a grade of "FA" for the associated SPM semesters.

Course Policies and Procedures

Attendance/Participation Policies

Students are expected to be present, prepared, and on time. Unless otherwise specified, lectures, labs, and small group activities begin on the hour. The Paul L. Foster School of Medicine curriculum is modeled on the concept of "learning communities" where each individual offers knowledge, skills, and experiences that are unique and beneficial to the community. Several SPM learning activities rely on active student participation and teamwork,

and therefore, a student's absence can be detrimental to the educational experience of their peers. Just as the effective practice of medicine requires physicians to demonstrate punctuality, teamwork, trustworthiness, and beneficence, similar behaviors and attitudes will be expected of our students. As outlined in the PLFSOM ["Pre-clerkship phase attendance policy"](#), failure to

meet the school's overall expectations for attendance and participation can lead to consequences including failure of a course or referral to the GPC for professionalism concerns. Referral to the GPC may lead to dismissal.

Required SPM activities

Attendance and punctuality will be monitored for required SPM activities, including the following:

1. Clinical Reasoning Case Discussions sessions
2. Specified lab-based learning sessions (e.g., Anatomy and Microbiology)

Sessions with required attendance or participation will be labeled on the Elentra calendar view at the beginning of each unit. Accountability and responsibility are important tenets of professionalism which pertain to medical professionals at all stages of education, training and practice. In this regard, medical students are expected to demonstrate punctuality and reliability for required educational activities in the SPM course, including the weekly Clinical Reasoning Case Discussions sessions.

Students will be counted as absent from a required SPM event (such as Clinical Reasoning Case Discussions sessions) if they have not signed in by 10 minutes after the scheduled start time. Students have **10** calendar days after an unexcused absence is recorded to challenge its status as unexcused. If an unexcused absence is not challenged, it will remain unexcused.

Students who sign in within 10 minutes after the scheduled start time will be marked as tardy. Attendance of required sessions will be tracked using a swipe-card system. A student who was recorded as tardy or absent will receive an automatically-generated notification email. The attendance record will become permanent **10** calendar days following the date of the notification email.

- If a student misses a required session (e.g., Anatomy, Microbiology, or Clinical Reasoning Case Discussions), they must contact both the teaching faculty and course director to arrange appropriate make-up work.

Consequences

Non-compliance with the SPM punctuality and attendance/participation policy will have consequences reflected in a student's academic record. These consequences may include: A failing grade on the basis of attendance or punctuality, required remediation or repeating of the course, documentation in the student's academic record and e-Portfolio, and reporting to

the Associate Dean of Student Affairs and the PLFSOM Grading and Promotion Committee. Understanding these consequences is crucial, as they may impact students' eligibility for prestigious awards or opportunities. Professionalism cards are a factor in award considerations, and a repeated lack of professionalism could lead to the GPC recommending dismissal.

Professionalism Card reporting system

Three professionalism objectives from the institutional learning goals and objectives are addressed in the SPM syllabus:

- PRO-5.1 Demonstrate sensitivity, compassion, integrity, and respect for all people.
- PRO-5.6 Demonstrate honesty in all professional and academic interactions.
- PRO-5.7 Meet professional and academic commitments and obligations.

Exemplary Professionalism Recognition Cards

When a student demonstrates exceptional initiative in meeting the SPM curriculum's learning goals and objectives, faculty or staff may complete a Professionalism Card (see Appendix) to formally recognize their efforts. The card will include the student's name, the date of the observed behavior, the reporter's name, the relevant institutional learning goal(s) and objective(s), and a brief description of the exemplary conduct (e.g., "Student was well-prepared and led the team discussion and peer teaching during today's Clinical Reasoning Case Discussions, exceeding expectations in fulfilling their professional and academic responsibilities").

There are a number of situations when this may occur:

1) Clinical Reasoning Case Discussions sessions:

- "During today's Clinical Reasoning Case Discussions, the student arrived thoroughly prepared, actively contributed to the clinical reasoning process, and respectfully engaged peers to deepen group discussion. Their leadership promoted a collaborative and inclusive learning environment."
- "The student demonstrated exemplary professionalism by arriving early, organizing team materials, and facilitating peer understanding of complex immunology concepts. Their initiative greatly enhanced the group's learning experience."

2) Summative examinations:

- "In preparation for the unit summative exam, the student demonstrated outstanding professionalism by organizing a faculty-led review session and sharing high-quality, evidence-based study materials with classmates."
- "The student showed exceptional dedication by proactively seeking faculty feedback on formative assessments and using that input to guide a focused and ethical approach to exam preparation."

3) Scholarly Activity and Research:

- "The student prepared an abstract and poster for a local, regional, or national conference, in collaboration with faculty, demonstrating strong communication skills

and professionalism during interactions with faculty and attendees. They responded to feedback constructively, acknowledged collaborators appropriately, and served as a role model by encouraging peers to submit their own scholarly work.”

- “The student demonstrated exemplary professionalism by contributing significantly to an original research project in collaboration with TTUHSC El Paso faculty. They consistently met deadlines, communicated effectively with the research team, and maintained high ethical standards throughout the project. Their dedication and scholarly rigor resulted in the acceptance of a peer-reviewed original research article, highlighting their commitment to advancing scientific knowledge and representing the institution with distinction.”

4) *Other examples, including Open Learning Studio participation:*

- "The student has maintained perfect attendance throughout the unit, consistently arriving on time and engaging actively in all large- and small-group sessions. Their reliability sets a strong example for peers."
- "The student regularly attends Open Learning Studio sessions and has taken on a leadership role in organizing tutoring groups and supporting classmates academically. Their initiative reflects a strong commitment to academic community-building."
- "This student went above and beyond by preparing a mini-presentation for Open Learning Studio to clarify a difficult concept from the week’s lectures, demonstrating both mastery and a willingness to help others succeed."

Professionalism Concern Cards

When a student fails to meet any of the above listed learning goals and objectives of the SPM curriculum, a professionalism card (see [Appendix](#)) will be filled out by the observing faculty or staff member. This card will contain the student’s name, the date of the incident, the reporter’s name, the associated institutional learning goal(s) and objective(s) related to the incident, and a brief description of the issue.

There are a number of situations when this may occur:

Clinical Reasoning Case Discussions sessions:

- "The student arrived late to the Clinical Reasoning Case Discussions session without prior notice and did not engage in the group discussion or team quiz, impacting the team's ability to complete the activity effectively."
- "The student was unprepared for the Clinical Reasoning Case Discussions session and was unable to contribute meaningfully to the case discussion, missing an opportunity to fulfill their academic responsibilities to the team."

Summative examinations:

- “The student exhibited a lack of preparation, demonstrated by forgetting essential items such as a charging cable, laptop, or student ID.”

- “The student failed to follow proctor instructions, reflecting a disregard for exam protocols and expectations.”
- “The student left an exam without permission from the test proctors.”
- “The student demonstrated disruptive behavior during the session, which negatively impacted the testing environment for others.”

In the case of alleged academic misconduct, a student will also be referred to the Grading and Promotions Committee and/or the Student Conduct Committee. This includes but is not limited to the following scenarios:

- a. Dissemination of test items in any form. This includes written and oral.
- b. Possession of a prohibited item such as a cell phone
- c. Cheating

2) *Unspecified SPM sessions:*

- 4) any faculty may submit a professionalism card (exemplary or unprofessional) when a student fails to meet, or excels at, one or more professionalism institutional learning goals and objectives.

Excused absences

If a student is unable to attend or be punctual for a required session, they may be granted an excused absence in accordance with the criteria set forth in the PLFSOM [Pre-clerkship phase attendance policy](#). Students wishing to obtain an excused absence must submit a request to the [PLFSOM absence management system](#). No credit will be given for any graded exercise missed without a valid excuse.

Narrative Evaluations and Feedback

Examples of evaluation rubrics used for Professionalism Cards, Tankside Grand Rounds and Formatives are provided in the [Appendix](#). In the event that the rubrics undergo modification during the academic year, copies of the revised forms will be provided to students in advance of the associated activity.

Textbooks

Required and recommended reading assignments are listed on the associated session pages in the Elentra calendar. Unless otherwise noted, textbook reading assignments will be available through the TTUHSC-EP electronic library. A curated list of relevant electronic textbooks is also available through the TTUHSC-EP Library at:

<https://elpaso-ttuhsc.libguides.com/PLFSOMtextbooks>

Professionalism, Plagiarism and Copyright Policies

Professionalism is a core competency in Medicine. In SPM, as with all other courses in the Paul L. Foster School of Medicine, we expect students to adhere to the Standards of Professional Conduct and the Medical Student Honor Code as outlined in the PLFSOM Student Handbook and the TTUHSC-EP Institutional Handbook (available on the Office of Student Affairs website). In particular, students must not copy, recreate, post or share SPM exam questions (formative or summative). Students who have delayed testing or remediation must not discuss the content of SPM exams with their peers prior to testing. Students must not submit false claims of attendance for required SPM sessions or attempt to sign-in for another student. Students must not attempt to obtain an excused absence for a required activity or examination through misrepresentation. Students must adhere to published policies related to plagiarism and copyright protection. Depending on the nature of the problem, and as determined by the Course Director(s), failure to act professionally may result in a grade of “FA” (Fail) for SPM regardless of the student’s academic performance, in accordance with the PLFSOM [“Grading, Promotion, and Academic Standing \(GPAS\)” policy](#). A student who witnesses academic misconduct or other unprofessional behavior is obligated to report that violation or risk facing disciplinary action. Violations of professionalism could result in referral to the Grading and Promotions Committee and possible dismissal from PLFSOM.

Student Mistreatment Statement

Texas Tech University Health Sciences Center El Paso affirms the right of its students to a prompt and fair resolution of a complaint or grievance involving allegations of inappropriate behavior by other Texas Tech Health El Paso students or personnel toward students. Texas Tech Health El Paso does not tolerate either retaliation for reports made in good faith nor false reporting. TTUHSC El Paso strives for a positive and supportive learning environment. Any student experiencing mistreatment by faculty, staff, or other students is encouraged to report it

directly to Course Director(s) or use the “Submit Student Mistreatment report link” below to submit a report.

The links to submit a Student Mistreatment Report and to the “Student Mistreatment Policy” and “Student Complaint or Grievance Policies and Procedures” can be found below:

Links about the mistreatment can be found at <https://ttuhscep.edu/student-mistreatment/> To report sexual misconduct or harassment, please follow the link below:

- [TITLE IX REPORTING](#)
- [HSC OPP 51.02 - Non-Discrimination & Anti-Harassment](#)
- [HSC OPP 51.03 Sexual Misconduct](#)

Office of Accessibility Services (OAS)

TTUHSC EP is committed to providing equal access to learning opportunities to students with documented disabilities. To ensure access to this course, and your program, and to engage in a confidential conversation about the process for requesting accommodations in the classroom and clinical setting, please contact the Office of Accessibility Services (OAS) by calling 915-215-4398. Accommodations are not provided retroactively, so students are encouraged to register with OAS as soon as possible. More information can be found on the OAS website:

<https://el Paso.ttuhsc.edu/studentservices/accessibility/>

Statement of Accommodation for Pregnant or Parenting Students:

To support the academic success of pregnant and parenting students and students with pregnancy-related conditions, Texas Tech University Health Sciences Center El Paso offers reasonable modifications based on students’ related needs. Any student who is pregnant, parenting a child up to age 18, and/or has conditions related to pregnancy may contact the Manager of Accessibility and Student Advocacy to discuss available support and resources. Additionally, the Title IX Coordinator and Parenting and Pregnancy Liaison is available to work with students and others, as needed, to ensure equal access to the University’s education programs or activities. For more information regarding supportive measures, please visit the TTUHSC El Paso Pregnant and Parenting Students [website](#). Students may submit a [Pregnancy and Parenting Support Form](#) to request assistance or contact:

Manager of Accessibility and Student Advocacy, Norma Fuentes
at norma.fuentes@ttuhsc.edu or 915.215.4398

TTUHSC Title IX Coordinator and Pregnant and Parenting Student Liaison, Leslie Bean,
at leslie.bean@ttuhsc.edu or 806.743.9861.

Appendix

Faculty Roster: SPM Year 1 Unit Directors

Unit 1 – Introduction to Health and Disease (IHD):

Jessica Chacon, PhD
Ghislaine Mayer, PhD
Brittany Shoemake, MD
Aracely Martinez, PhD
Blanca Garcia, MD (Pediatrics)

Unit 2 – Gastrointestinal System (GIS):

Nathan Holland, PhD
Ghislaine Mayer, PhD
Tamer Fandy, PhD
Marc Zuckerman, MD (Internal
Medicine)

Unit 3 – Integumentary, Musculoskeletal and Nervous Systems (IMN):

Rebecca Campos, MD
Paula Johnson, PhD
Thomas Greiner, PhD
Brittany Shoemake, MD
Karim Elsharkawy (Orthopedic Surgery and Rehabilitation)

Unit 4 – Hematologic System (HEM):

Jessica Chacon, PhD
Tamer Fandy, PhD
Angelica Padilla, MD

Unit 5 – Cardiovascular and Respiratory Systems (CVR):

Nathan Holland, PhD
Aracely Martinez, PhD
Helena Spartz, MD, PhD
Mariela Lane, MD

Unit 6 – Renal System (RNL):

Nathan Holland, PhD

Mariela Lane, MD

Biff Palmer, MD

Fernanda Payan-Schober, MD (Internal Medicine)

Example Rubric for Mid-unit narrative feedback based on weekly formative participation

1. Completed all formatives on time and received a score of 65% or greater:

Consistently completing all formative assessments on time and achieving scores above 65% demonstrates your academic commitment, as well as strong dedication to identifying knowledge gaps and actively working to address them. Keep up the great work!

2. Completed all formatives on time and received a score of less than 65%:

You have shown academic commitment by completing all formatives on time, but there are areas for improvement as indicated by scores below 65%. Let's work together to address knowledge gaps, enhance your understanding, and ensure improved performance on future assessments.

3. Did not complete formatives:

Not completing formatives is concerning, as it indicates a lack of academic commitment and utilizing opportunities to identify potential gaps in your knowledge. It is crucial to actively participate in all assignments to enhance your learning experience and performance in the course. Let's discuss strategies to ensure your full participation moving forward.