



## UNMC CLS Program Clinical Hematology Course Overview

### Clinical Hematology (5 modules)

#### Routine Hematology Tests (4 CEU)

- Specimen requirements, reference ranges, significance of the Complete Blood Count (CBC), differential, reticulocyte count, and erythrocyte sedimentation rate (ESR)
- Pre-analytical errors, quality control
- Correlation of normal and abnormal RBC indices

#### Overview of Hematopoiesis (2 CEU)

- Major site of hematopoiesis, review of stem cell theory, growth factors
- Review of maturation states, differentiation of cells in peripheral blood
- Lifespan, appearance and function of mature blood cells,
- Building blocks of hemoglobin

#### Erythrocyte Disorders (5 CEU)

- Anemias including causes and clinical findings, contrast true and pseudo anemia
- Findings indicative of bone marrow erythropoiesis
- Morphologic and pathophysiologic classifications of anemia
- Evaluation of selected anemias including cause, significant abnormalities and diagnostic test results
- Polycythemia and pseudo anemia, characteristics of normal newborn blood smear

#### Leukocyte Disorders (3 CEU)

- Laboratory tests aiding in the investigation of WBC disorders
- Differentiation between reactive and malignant leukocyte disorders including cause, clinical findings, significant abnormalities and laboratory results
- Etiology of malignant leukocytes disorders
- Leukemias, lymphomas including predominant cell type, origin, clinical symptoms, laboratory findings

#### Overview of Hemostasis, Tests and Disorders (2 CEU)

- Activation of all major hemostatic components following injury
- Role of vascular system and platelets in hemostasis
- Role of regulatory system in maintaining hemostatic balance
- Screening tests performed to detect defects of primary and secondary hemostasis
- Specimen requirements
- Selected hereditary and acquired disorders
- Mode of action, clinical use and laboratory tests used to monitor anti-coagulant therapy