NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
MDL 127 - HEMATOLOGY (3 CR.)

Course Description

Teaches various blood components, how they are obtained and methods of examination. Includes erythrocyte, leukocyte and platelet counts, hemoglobin and hematocrit determinations, normal and abnormal smears. Introduces coagulation screening studies. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week. 3 credits

General Course Purpose

The purpose of the course is to teach the student the basic principles and techniques of hematology and coagulation and their relationship to the diagnosis of disease.

Course Prerequisites/Co-requisites

Students enrolling in this course should have completed MDL 101 and MDL 196 with a grade of "C" or better. Students should be enrolled in the first year of the Medical Laboratory Technology AAS degree program or program approval.

Course Objectives

Upon completing the course, the students will be able to:

- Perform and interpret quality control results and assess all specimens and reagents according to standard laboratory protocols
- Describe the normal life cycle of red cells, white cells and platelets, including site of formation, function, destruction and kinetics
- Recall the reference interval values for all parameters contained within a complete blood count (CBC), including units
- Describe quantitative and qualitative disorders of blood cells including: etiology, expected laboratory results, prognosis and treatment
- Distinguish between blood cell disorders on the basis of laboratory results and patient history
- Identify normal and abnormal cells on peripheral blood smears and correlate abnormalities with their causes
- Suggest laboratory tests which would help identify and distinguish between blood disorders
- Perform routine manual and automated cell counts, hemoglobin/hematocrit, and
- other hematological tests within acceptable limits of time, accuracy and precision as determined by the instructor
- Calculate hematological parameters given the appropriate data; recall formula for RBC indices and use of the hemocytometer
- Diagram the coagulation cascade and correlate specific factor activity with routine coagulation procedure results
- Perform routine coagulation tests and their associated calculations and interpret their results
- Discuss hematology testing methods and cell identification performed on body fluids to include, CSF, Synovial and Serous fluids.

Major Topics to be Included

- Anemias
- RBC morphology
- WBC maturation
- Leukemias
- WBC differential
- Factor analysis
- Coagulation disorders