



STARK STATE COLLEGE

GENERAL SYLLABUS

Course Information

Course Name: Hematology I
Course Number: MLT123

Required Materials

Textbook(s):

Keohane, E. M., Smith, L. J., & Walenga, J. M. (2023). *Rodak's hematology: Clinical principles and applications* (7th ed.). Elsevier.

Rodak, B. F., & Carr, J. H. (2012). *Clinical hematology atlas* (4th ed.). Elsevier Saunders.

Required Readings:

See weekly calendar below. Both references are utilized for lab activities.

Additional Materials:

Personal Protective equipment: nonlatex gloves, disposable fluid resistant lab coat, black markers, scientific calculator and note taking supplies

Course Outline/Calendar

The date of coverage and order of coverage may be modified based on the faculty member and events beyond the control of faculty members that interfere with class times and teaching.

| <u>Week</u> | <u>Topics in lecture</u> | <u>Readings for lecture</u> | <u>Assignments/ assessments</u> | <u>Lab activities</u> |
|-------------|--|--|---------------------------------|---|
| 1 | An Overview of Clinical Laboratory Hematology Care and Use of the Microscope Examination of the Peripheral Blood Smear and Correlation with the Complete Blood Count | Utilize Keohane book for lecture readings: Chapter 1 Chapter 4 Chapter 16 | Syllabus Quiz | Utilize Rodak atlas for all lab activities. Introduction to the microscope |
| 2 | Hematopoiesis | Chapter 7 | Basic Microscopy CDC | Making and staining slides |

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| 3 | Erythrocyte Production and Destruction Erythrocyte Metabolism and Membrane Structure and Function Hemoglobin Metabolism Iron Kinetics and Laboratory Assessment | Chapter 8 Chapter 9 Chapter 110 Chapter 11 | Test # 1 Microscope, Making and Staining slides | Making smears and practicing WBC and Platelet estimates |
| 4 | Manual, Semiautomated, and Point-of-Care Testing in Hematology | Chapter 14 | | Making, staining, and counting Retics. Manual spun hematocrits |
| 5 | Leukocyte Development, Kinetics, and Functions | Chapter 12 | Test # 2 Hematopoiesis thru indices CACMLE WBC DUE | WBC differential 1 st packet |
| 6 | Continue with Leukocyte Development, Kinetics, and Functions (From the beginning of the chapter to the section on basophils) | Chapter 12 | | Intro to Cell-a vision WBC differential |
| 7 | Continue with Leukocyte Development, Kinetics, and Functions (From the beginning of the chapter to the section on basophils) | Chapter 12 | | 1st Diff Packet Due WBC differential |
| 8 | Manual, Semiautomated, and Point-of-Care Testing in Hematology | Chapter 14 | Blackboard Test # 3 WBC thru Plts; | What's the Diff Packet 2nd Cell-A-Vision Case due |
| 9 | Review | | | Introduction to Hemocytometer Body Fluids 3rd Cell A Vision Case due |
| 10 | Normal Hemostasis and Coagulation | Chapter 37 | Test # 4 Hemocytometer thru Absolute & Relative counts | Hemocytometer Body Fluids 4th Cell a Vision Case due |
| 11 | Laboratory Evaluation of Hemostasis | Chapter 42 | | WBC differential |

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| 12 | Manual, Semiautomated, and Point-of-Care Testing in Hematology Automated Blood Cell Analysis | Chapter 14 Chapter 15 | Test # 5 Hemostasis | -WBC differential -ESR -Hemocytometer counts |
| 13 | *Review | | | WBC Differential Packet due at end of lab |
| 14 | *Catch-up | | Test # 6 Automation and ESR | Practice Practical Differential with Instructors |
| 15 | *LAB PRACTICAL *Lab Practical repeat | | Differential with Instructors | WET LAB PRACTICAL |
| 16 | *EXAM WEEK | | Comprehensive Final Exam | |