



Western Technical College

## 10513130 Advanced Hematology

### Course Outcome Summary

#### Course Information

<b>Description</b>	This course explores mechanisms involved in the development of hematological disorders. Emphasis is placed upon laboratory techniques used to diagnose disorders and monitor treatment.
<b>Career Cluster</b>	Health Science
<b>Instructional Level</b>	Associate Degree Courses
<b>Total Credits</b>	2

#### Pre/Corequisites

Prerequisite 10513120 Basic Hematology

#### Textbooks

*Hematology in Practice*. 3rd Edition. Copyright 2018. Ciesla, Betty. Publisher: F. A. Davis Co. **ISBN-13:** 978-0-8036-6824-9. Required.

*Heme Notes: Pocket Atlas of Cell Morphology*. Copyright 2014. Harmening, Denise M. Publisher: F. A. Davis Co. **ISBN-13:** 978-0-8036-1902-9. Required.

*10-513-130: Advanced Hematology Study Guide and Lab Manual*. Western. Publisher: Western. **ISBN-13:** 979-8-822-79218-0. Required.

#### Learner Supplies

Lab Coat - \$20. **Vendor:** Campus Shop. Required.

Safety Glasses. **Vendor:** Campus Shop. Required.

Sharpie Permanent Marker. **Vendor:** Campus Shop. Required.

## Success Abilities

1. Refine Professionalism: Practice Effective Communication

## Program Outcomes

1. Practice laboratory safety and regulatory compliance
2. Monitor and evaluate quality control in the laboratory
3. Apply modern clinical methodologies including problem solving and troubleshooting according to predetermined criteria
4. Correlate laboratory results to diagnosis of clinical conditions and/or diseases

## Course Competencies

### 1. Correlate hematology concepts and procedures with disorders of decreased RBC production

#### Assessment Strategies

- 1.1. Oral, Written and/or Skill Assessment

#### Criteria

- 1.1. you demonstrate a thorough understanding of concepts and procedures of decreased RBC production
- 1.2. you interpret laboratory test results
- 1.3. you detail the decision made.
- 1.4. your report is supported by relevant evidence
- 1.5. your report is well organized
- 1.6. your report evidences correct grammar, punctuation, and spelling

#### Learning Objectives

- 1.a. Define anemia.
- 1.b. Describe clinical symptoms of anemia.
- 1.c. Describe the three morphologic groups of anemias.
- 1.d. Describe the anemias associated with decreased RBC production.
- 1.e. Discuss procedures performed for the detection and diagnosis of anemias due to decreased RBC production.
- 1.f. Describe the peripheral blood findings in anemias due to decreased RBC production.
- 1.g. Relate the results of diagnostic tests to anemias due to decreased RBC production.
- 1.h. Discuss treatment/therapy for anemias due to decreased RBC production.

### 2. Correlate hematology concepts and procedures with increased RBC destruction

#### Assessment Strategies

- 2.1. Oral, Written and/or Skill Assessment

#### Criteria

- 2.1. you demonstrate a thorough understanding of concepts and procedures with increased RBC destruction
- 2.2. you interpret laboratory test results.
- 2.3. you include laboratory test results
- 2.4. your report is supported by relevant evidence
- 2.5. you detail the decision made.
- 2.6. your report is well organized
- 2.7. you support decision with relevant evidence.
- 2.8. your report evidences correct grammar, punctuation, and spelling

### **Learning Objectives**

- 2.a. Define hemolytic anemia.
- 2.b. Describe the categories of hemolytic anemias.
- 2.c. Discuss procedures performed for the detection and diagnosis of hemolytic anemias.
- 2.d. Describe the peripheral blood findings in hemolytic anemias.
- 2.e. Relate the results of diagnostic tests to hemolytic anemias.
- 2.f. Discuss treatment therapy for hemolytic anemias.
- 2.g. Describe erythrocytes inclusions that can be found on blood films.

## **3. Correlate hematology concepts and procedures with non-malignant disorders of leukocytes**

### **Assessment Strategies**

- 3.1. Oral, Written and/or Skill Assessment

### **Criteria**

- 3.1. you demonstrate a thorough understanding of concepts and procedures with non-malignant disorders of leukocytes
- 3.2. you interpret laboratory test results
- 3.3. you detail the decision made.
- 3.4. your report is supported by relevant evidence
- 3.5. you support decision with relevant evidence.
- 3.6. your report is well organized
- 3.7. your report evidences correct grammar, punctuation, and spelling

### **Learning Objectives**

- 3.a. Describe the categories of the various qualitative alterations of leukocytes.
- 3.b. Discuss procedures performed for the detection and diagnosis of qualitative alterations of leukocytes.
- 3.c. Describe the disease states/ conditions seen in qualitative alterations of leukocytes..
- 3.d. Describe the peripheral blood findings seen in qualitative alterations of leukocytes.
- 3.e. Describe the categories of various quantitative alterations of leukocytes.
- 3.f. Define relative and absolute values
- 3.g. Discuss causes of quantitative alterations of leukocytes.
- 3.h. Describe each of the immature leukocytes.
- 3.i. Describe the leukocyte inclusions that can be found in blood films.

## **4. Correlate hematology concepts and procedures with acute leukemias and myelodysplastic syndromes**

### **Assessment Strategies**

- 4.1. Oral, Written and/or Skill Assessment

### **Criteria**

- 4.1. you demonstrate a thorough understanding of concepts and procedures with acute leukemias and myelodysplastic syndromes
- 4.2. you interpret laboratory test results
- 4.3. your report is supported by relevant evidence
- 4.4. you detail the decision made.
- 4.5. you support decision with relevant evidence.
- 4.6. your report is well organized
- 4.7. your report evidences correct grammar, punctuation, and spelling

### **Learning Objectives**

- 4.a. Define acute leukemia and myelodysplastic syndromes.
- 4.b. Describe the categories of acute leukemias.
- 4.c. Describe the clinical picture seen in acute leukemias and myelodysplastic syndromes.
- 4.d. Discuss the causes of acute leukemias and myelodysplastic syndromes.
- 4.e. Describe the peripheral blood findings seen in acute leukemias and myelodysplastic syndromes.
- 4.f. Discuss the morphological characteristics seen in acute leukemias and myelodysplastic syndromes.
- 4.g. Discuss procedures performed for the detection and diagnosis of acute leukemias and myelodysplastic syndromes.
- 4.h. Discuss procedures performed for the detection and diagnosis of acute leukemias and myelodysplastic syndromes.
- 4.i. Discuss treatment/therapy for acute leukemias and myelodysplastic syndromes.

## **5. Correlate hematology concepts and procedures with chronic myeloproliferative disorders**

### **Assessment Strategies**

5.1. Oral, Written and/or Skill Assessment

### **Criteria**

- 5.1. you demonstrate a thorough understanding of concepts and procedures with chronic myeloproliferative disorders
- 5.2. you interpret laboratory test results
- 5.3. you detail the decision made.
- 5.4. your report is supported by relevant evidence
- 5.5. you support decision with relevant evidence.
- 5.6. your report is well organized
- 5.7. your report evidences correct grammar, punctuation, and spelling

### **Learning Objectives**

- 5.a. Define myeloproliferative disorders.
- 5.b. Describe the categories of myeloproliferative disorders.
- 5.c. Describe the clinical picture seen in myeloproliferative disorders.
- 5.d. Discuss the causes of myeloproliferative disorders.
- 5.e. Describe the peripheral blood findings seen in myeloproliferative disorders.
- 5.f. Discuss procedures performed for the detection and diagnosis of myeloproliferative disorders.
- 5.g. Discuss the morphological characteristics seen in myeloproliferative disorders.
- 5.h. Discuss treatment/therapy for myeloproliferative disorders.

## **6. Correlate hematology concepts and procedures with malignant lymphoproliferative disorders**

### **Assessment Strategies**

6.1. Oral, Written and/or Skill Assessment

### **Criteria**

- 6.1. you demonstrate a thorough understanding of concepts and procedures with malignant lymphoproliferative disorders
- 6.2. you interpret laboratory test results
- 6.3. you detail the decision made.
- 6.4. your report is supported by relevant evidence
- 6.5. your report is well organized
- 6.6. you support decision with relevant evidence.
- 6.7. your report evidences correct grammar, punctuation, and spelling

### **Learning Objectives**

- 6.a. Define lymphoproliferative disorder.
- 6.b. Describe the categories of lymphoproliferative disorders.
- 6.c. Describe the clinical picture seen in lymphoproliferative disorders.
- 6.d. Discuss the causes of lymphoproliferative disorders.
- 6.e. Describe the peripheral blood findings seen in chronic lymphocytic leukemia.
- 6.f. Describe the lymph node morphology seen in lymphomas.
- 6.g. Discuss procedures performed for the detection and diagnosis of lymphoproliferative disorders.
- 6.h. Discuss treatment/therapy for lymphoproliferative disorders.