Western Technical College

10513121 Coagulation

Course Outcome Summary

Course Information

Description	This course introduces the theory and principles of coagulation and explores mechanisms involved in coagulation disorders. Emphasis is placed upon laboratory techniques used to diagnose disease and monitor treatment.
Career Cluster	Health Science
Instructional Level	Associate Degree Courses
Total Credits	1
Total Hours	36

Pre/Corequisites

Prerequisite 10513113 QA Lab Math

Textbooks

Clinical Laboratory Hematology. 4th Edition. Copyright 2020. McKenzie, Shirlyn B., Landis-Piwowar, Kristin, and Williams, Lynne. Publisher: Pearson. **ISBN-13:** 978-0-13-470936-9. Required.

Heme Notes: Pocket Atlas of Cell Morphology. Copyright 2013. Harmening, Denise M. Publisher: F. A. Davis Co. **ISBN-13**: 978-0-8036-1902-9. Required.

Learner Supplies

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

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

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

Three-ring binder. **Vendor:** Campus Shop. Required.

Success Abilities

1. Refine Professionalism: Participate Collaboratively

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. Summarize theories and principles of hemostasis.

Assessment Strategies

1.1. by writing a summary of primary and secondary homeostasis
1.2. exam

Criteria

You will know you are successful when:

1.1. you identify platelet structure and function.
1.2. you summarize principles of primary hemostasis.
1.3. you summarize principles of secondary hemostasis.
1.4. you correlate relationship between primary and secondary hemostasis.
1.5. you summarize principles of fibrinolysis.

Learning Objectives

1.a. Identify platelet structures
1.b. Summarize platelet structure functions
1.c. Define the key terms of hemostasis and fibrinolysis.
1.d. Identify primary hemostasis components
1.e. Detail the sequence of events in primary hemostasis
1.f. Identify secondary hemostasis factors
1.g. Detail the sequence of events in secondary hemostasis
1.h. Outline the coagulation cascade (extrinsic, intrinsic, common pathways).
1.i. Identify fibrinolytic system components
1.j. Outline the fibrinolytic system.
1.k. Explain negative and positive feedback mechanisms throughout the coagulation system.

2. Perform basic coagulation procedures .

Assessment Strategies

2.1. Lab Report
2.2. Skill Demonstration

Criteria

You will know you are successful when:

2.1. you select the correct reagents, controls and specimens.
2.2. you evaluate specimen acceptability.
2.3. you perform all critical steps in the correct order.
2.4. you follow infection prevention and safety procedures.
2.5. you provide correct patient identification in your lab report.
2.6. you provide results that are accurate within specified limits in the lab report.
2.7. you provide QC results and interpretation.
2.8. you detail actions taken to validate accuracy of results.
2.9. you summarize principles of coagulation instrumentation.

Learning Objectives

2.a. Identify coagulation specimen integrity criteria.
2.b. Summarize the procedures for appropriate laboratory testing for analysis of the primary hemostasis system.
2.c. Detail the theory of the basic prothrombin time test.
2.d. Detail the theory of the basic Activated Partial Thromboplastin Time (APTT or PTT).
2.e. Practice required lab safety procedures for coagulation testing
2.f. Practice quality control procedures

3. Explain principles and techniques of special coagulation procedures.

Assessment Strategies

3.1. Summary of special coagulation tests by written/oral/graphic presentation

Criteria

You will know you are successful when:

3.1. you select appropriate special procedures to evaluate hemostatic disorders.
3.2. you use correct terminology.

Learning Objectives

3.a. Explain testing to detect specific factor deficiency testing
3.b. Summarize testing to detect circulating inhibitors
3.c. Explain tests for the investigation of the fibrinolytic system
3.d. Summarize tests for the investigation of hypercoagulable states

4. Correlate coagulation results with defects in primary hemostasis and bleeding and thrombotic disorders.

Assessment Strategies

4.1. Explanation of primary hemostatic results by written/oral/graphic presentation

Criteria

You will know you are successful when:

4.1. you correlate pathophysiological disorders to primary hemostasis, bleeding and thrombotic defects.
4.2. you identify primary hemostatic defects.
4.3. you interpret and evaluate results.
4.4. you suggest appropriate treatment for primary hemostatic disorders.

Learning Objectives

4.a. Explain disorders of the primary hemostasis system.
4.b. Summarize symptoms of the disorders of the primary hemostasis system that are of significance to the laboratory.
4.c. Predict expected lab results for disease states of the primary hemostasis system.
4.d. Identify abnormal primary hemostasis lab results
4.e. Provide possible explanations for abnormal primary hemostasis lab results.

5. Correlate defects in secondary hemostasis with bleeding and thrombotic disorders.

Assessment Strategies

5.1. by providing an explanation of coagulation results

Criteria

You will know you are successful when:

5.1. you correlate pathophysiological disorders of secondary hemostasis, bleeding and thrombosis defects.
5.2. you identify secondary hemostatic defects.
5.3. you interpret and evaluate results.
5.4. you suggest appropriate treatment for secondary hemostatic disorders.

Learning Objectives

5.a. Explain disorders of the secondary hemostasis system
5.b. Summarize symptoms of the disorders of the secondary hemostasis system that are of significance to the laboratory.
5.c. Predict expected lab results for disorders of the secondary hemostasis system
5.d. Identify abnormal secondary hemostasis lab results
5.e. Summarize possible explanations for abnormal secondary hemostasis results

6. Correlate defects in the fibrinolytic system with bleeding and thrombotic disorders.

Assessment Strategies

6.1. Explanation of fibrinolytic results by written/oral/graphic presentation

Criteria

You will know you are successful when:

6.1. you correlate pathophysiology disorders of fibrinolytic defects.
6.2. you correlate pathophysiological disorders of fibrinolysis, bleeding and thrombosis defects.
6.3. you identify fibrinolytic hemostatic defects.
6.4. you interpret and evaluate results.
6.5. you use correct terminology.

Learning Objectives

6.a. Explain disorders of the fibrinolytic system
6.b. Summarize symptoms of the disorders of the fibrinolytic system that are of significance to the laboratory.
6.c. Predict expected lab results for disorders of the fibrinolytic system
6.d. Identify abnormal fibrinolytic system results
6.e. Summarize possible explanations for abnormal fibrinolytic system results