COURSE OUTLINE

Course Number: MLT 212
Course Title: CLINICAL HEMATOLOGY
Credits: 4

On-campus and Hybrid

Hours: Lecture 3/Lab 3
Pre-requisite: Permission of the Program Coordinator

Catalog description: Examines hematology and blood coagulation, including blood cell maturation, physiology, and morphology; hemostasis theory and procedures. Laboratory component develops skills used in the performance of hematology and coagulation lab analysis.

Revision Date: 1/2020

Course Coordinator: Lisa M Shave M.S., MLS(ASCP)CM, MLSBBCM
Course Instructor:
Office hours: In-person
    ZOOM virtual meeting: Any day/time by appt. only
Phone:
Email:

Course Materials
Required
3. White lab coat- This must be a knee-length coat with a fitted wristband/cuff; it reduces the potential for splashes up the arm and fire hazards.
4. Gloves - latex or nitrile, not vinyl
5. Pocket calculator
6. Digital timer that indicates time in minutes and seconds.
7. Black or blue ink pen. (NO WORK IN PENCIL ACCEPTED)
8. Sharpie or other permanent marker, fine point, black or blue
9. Notebook/3 ring binder:
    √ Tabs or dividers are needed to identify and separate the following sections: Syllabus - including schedule and unit objectives, lecture PowerPoints, graded materials & other informative material.
10. Laboratory manual:
    √ Print laboratory exercises BEFORE class. Save all procedures, pre-labs, in-lab exercises, case studies and study questions.

Course Format/Delivery
On-campus- This is a face-to-face course whereby students meet two days a week. Didactic course material is presented on-campus with lecture-based instruction in the morning followed by student laboratory sessions in the afternoon. The
course requires a lot of outside proactive work by the student. The instructor will provide guidance as needed. Students will access and print out course materials from the course’s Blackboard shell. Assessment activities are provided as a means of assisting students in determining their level of competence in given areas as well as to assist in reviewing for examinations. Weekly homework assignments will be required to enhance the student’s learning experience. **Hybrid** - This is a web-blended course whereby didactic course material is presented mainly online and student laboratory sessions are held weekly on the college campus. The course requires a lot of outside proactive work by the student. The instructor will provide guidance as needed. Students will access and print out course materials from the course’s Blackboard shell. Lab manuals are available for purchase at the MCCC bookstore. Assessment activities are provided as a means of assisting students in determining their level of competence in given areas as well as to assist in reviewing for examinations. Assignments will be posted to enhance the student’s learning experience. Online discussion boards are mandatory; they are an essential tool for communication between peers and between students and instructors. The student must take all major examinations (midterm and final) at an approved testing center.

**Technology Expectations**
Students must have access to a computer with Internet connection, either at home, the library or MCCC campus. A 56K modem connection is recommended. Mozilla Firefox 3.6 browser is recommended, although Internet Explorer 7 and 8, Google Chrome and Safari 4.3.2 can be used. AOL is NOT supported by Blackboard. Cookies, JavaScript, Active Scripting and Pop-up Windows must be enabled on the browser you use.

**Schedule**

**Lecture Meeting Days** = There are scheduled face-to-face classes.

**Lecture Modes of Instruction**
- Blackboard Learning Management System (see below for access directions)
- Lecture PowerPoints
- Internet resources
  - MediaLab, Inc (click for link)
  - Kahoot
  - Others (Youtube, etc.)

**Laboratory Room/Time** = MS320 on Tuesdays and Thursdays (OC) and Wednesdays (Hybrid). Face-to-face laboratory sessions will take place in the afternoon on meeting days in Room MS320, during the semester and will be mandatory. All laboratory procedures MUST be PRINTED for each laboratory session. Students must abide by all policies contained in the college and program handbook & Lab Safety Manual.

**Time Commitment**
According to Flint’s “Surviving College,” ([https://www.umflint.edu/advising/surviving_college.htm](https://www.umflint.edu/advising/surviving_college.htm)) you should budget your time per week for this four hour credit course as follows:
1. PowerPoints/Readings assigned: 3 to 6 hours
2. Assignments: 3 to 6 hours
3. Time for review and test preparation: 3 hours
4. Total study time per week 9 to 12 hours PER WEEK

**Blackboard On-Line System**
This course will be conducted via the computer on-line Blackboard learning system. Online tutorial sessions are available to help you understand how to use Blackboard. The dates/times can be found on the MCCC website by clicking here. Students may use their home computers OR may access all materials using any public computer or electronic device. Students are strongly advised NOT to use iPads, tablets or cell phones to take course quizzes/examinations.

- **Logging in to Blackboard**
  - To get to Blackboard, use this URL: [Click here](https://www.umflint.edu/advising/surviving_college.htm) or you can log in through your MyMercer Portal. Enter your username, and then enter your password (the password you set up when activating your account). Click Login. Click the name of your course in the My Courses area to enter the course site. If you do not see your course listed, it may be because your instructor has not yet made the site available. If you are sure that you registered for the course, check back later. Contact your instructor via email if the course is not available when the semester begins. You will see course materials as individual documents or in folders in content areas such as Course information,
Course Documents, or Assignments or whatever name the instructor uses. If a document is not immediately displayed on the screen, click on the link to the file to either view it in the browser or save it on your own computer to open with the appropriate program.

**Use of MCCC Email**
All students will be required to use the email address issued by MCCC to access course materials, learning activities, and quizzes on-line. (Students may forward their MCCC email to their personal email accounts, if desired. Directions on forwarding gmail accounts can be found by clicking this link: [Click](#). In addition, all College e-mail communication (events, closings, delayed openings, etc.) to students will be sent solely to the student’s MCCC email account, with the expectation that such communications will be read in a timely fashion.

**College Policies:**
The current college student handbook can be found by clicking [here](#) and contains important documents for understanding your rights and responsibilities as a student in the MCCC classroom (face-to-face or online). Please read your catalog and handbook as they supplement this syllabus, particularly for information regarding:
- Student Conduct Code
- Academic Integrity Code
- Student Grade Appeal Process

**Course Goals & Competencies (CC)**
The student will be able to:

1. Apply principles of OSHA safety regulations for blood-borne pathogens, quality assurance and quality control in Hematology.
2. Evaluate specimen acceptability of hematology specimens and dispose of them in the appropriate biohazard containers
3. Demonstrate an understanding of the components of human blood and characteristics, functions, and abnormalities and disease states of each.
4. Compare and contrast hematology values under normal and abnormal conditions.
5. Demonstrate proficiency in the skills necessary to perform blood cell counts, and evaluation of blood elements within stated limits of accuracy and assess the clinical significance of the results.

**Mercer County Community College Institutional Learning Goals (ILG)**

**Goal 1.** Written and Oral Communication in English: Students will communicate effectively in both speech and writing.

**Goal 2.** Mathematics: Students will use appropriate mathematical and statistical concepts and operations to interpret data and to solve problems.

**Goal 3.** Science: Students will use the scientific method of inquiry, through the acquisition of scientific knowledge.

**Goal 4.** Technology or Information Literacy: Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.

**Goal 5.** Social Science: Students will use social science theories and concepts to analyze human behavior and social and political institutions and to act as responsible citizens.

**Goal 6.** Humanities: Students will analyze works in the fields of art, music, or theater; literature; philosophy and/or religious studies; and/or will gain competence in the use of a foreign language.

**Goal 7.** History: Students will understand historical events and movements in World, Western, nonWestern or American societies and assess their subsequent significance.

**Goal 8.** Diversity and Global Perspective: Students will understand the importance of a global perspective and culturally diverse peoples.

**Goal 9.** Ethical Reasoning and Action: Students will understand ethical frameworks, issues and situations.

**Goal 10.** Information Literacy: Students will recognize when information is needed and have the knowledge and skills to locate, evaluate and effectively use information for college level work.

**Goal 11.** Critical Thinking: Students will use critical thinking skills, understand, analyze, or apply information or solve problems.
**Weeks of study:**

**Week 1 Basic Hematology Practices**

**Learning Objectives**

Learning objectives (Chapters 1-4)

**The student should be able to:**

After completing this week, the student will be able to:

1. Describe safe work practices, personal protective equipment and disposal of biologic hazards in the hematology lab. ILG 1, 3
2. Describe the components of quality assurance in the hematology laboratory. ILG 1, 3
3. Discuss the basic parts of the light microscope and the function and magnification of each objective. ILG 1, 3, 4
4. Describe the organs involved in hematopoiesis throughout fetal and adult life. ILG 1, 3, 10
5. Define factors affecting differentiation of the pluripotent stem cell. ILG 1, 3, 10
6. Define the myeloid: erythroid ratio. ILG 1, 2, 3
7. Understand the bone marrow collection procedure and the technologist’s role in bone marrow analysis. ILG 3
8. List the components of a complete blood count. ILG 1, 3, 10
9. Define and calculate red blood cell indices. ILG 1, 2, 3
10. Recognize normal and critical values in an automated CBC. ILG 3, 10
11. Describe the clinical conditions that may produce polychromatophilic cells and elevate the reticulocyte count. ILG 1, 3
12. Define the morphologic classification of anemias. ILG 1, 3, 10
13. Outline erythropoietic production from origin to maturation of red blood cells. ILG 1, 3, 10
14. Describe immature red blood cells with regard to nucleus: cytoplasm ratio, cytoplasm color, nuclear structure and size. ILG 1, 3
15. Identify the metabolic pathways that provide energy for red blood cells. ILG 3
16. Describe the composition of the red blood cell membrane. ILG 1, 3
17. Understand factors necessary for maintaining a normal red blood cell life span. ILG 3
18. Define anisocytosis, poikilocytosis, microcytic and macrocytic. ILG 1, 3, 10
19. Indicate clinical conditions in which variations in size and hemoglobin content are seen. ILG 3, 10
20. Identify the pathophysiology and the clinical conditions that may lead to target cells, spherocytes, ovalocytes and elliptocytes, sickle cells, and fragmented cells. ILG 3, 10, 11
21. List the most common red blood cell inclusions and the disease states in which they are observed. ILG 1, 3
22. Describe hemoglobin structure and function of normal adult hemoglobin, Hgb A, Hgb A2 and Hgb F. ILG 1, 3
23. Relate the shift from fetal hemoglobin to adult hemoglobin. ILG 1, 3, 10, 11

**Psychomotor Performance Objectives:**

1. Demonstrate safe laboratory practices. ILG 3
2. Show proficiency in making peripheral blood smears. ILG 3
3. Recognize and differentiate between normal and abnormal RBC morphology using staining techniques. ILG 3, 10

**Week 2 Red Cell Disorders**

**Learning Objectives**

Learning objectives (Chapters 5-8)

**The student learner should be able to:**

1. Describe red blood cell indices related to microcytic anemias. ILG 1, 3, 10
2. Describe iron transport from ingestion to incorporation in hemoglobin. ILG 1, 3, 11
3. Identify the laboratory tests used in the diagnosis of iron deficiency anemia. ILG 3, 4
4. Define the pathophysiology, diagnosis and clinical management of patients with hereditary hemochromatosis. ILG 1, 3, 10
5. Describe the basic pathophysiologic defect in the thalassemia syndromes. ILG 1, 3
6. Correlate the morphologic changes in the red blood cell with the defect in the alpha and beta thalassemias. ILG 3
7. Describe the criteria that define a macrocytic anemia as megaloblastic. ILG 1, 3, 10
8. Compare and contrast the morphologic characteristics of megaloblasts and normoblasts in the bone marrow. ILG 1, 3, 11
9. Describe the pathway of vitamin B12 and folic acid from ingestion through incorporation into the red blood cell. ILG 1, 3, 11
10. Define pernicious anemia and its clinical and laboratory findings. ILG 1, 3, 10
11. Describe laboratory tests used in the diagnosis of megaloblastic anemia. ILG 1, 3
12. Differentiate the anemias that are macrocytic but are not megaloblastic. ILG 3, 10
13. Review the functions of the spleen as they relate to red blood cells. ILG 3
14. Describe the clinical findings in patients with hereditary spherocytosis. ILG 1, 3
15. Describe the osmotic fragility test and its clinical usefulness. ILG 1, 4
16. Identify the red blood cell membrane defects and peripheral smear findings in hereditary stomatocytosis, elliptocytosis, and poikilocytosis. ILG 3, 10
17. Define the pathophysiology of the red blood cell biochemical disorders including glucose-6-phosphate dehydrogenase deficiency. ILG 1, 3, 10
18. Describe Heinz bodies with respect to their appearance in supravital and Wright’s stain. ILG 1, 3
19. Define the defect in the rare membrane disorders of hereditary xerocytosis and Southeast Asian ovalocytosis. ILG 1, 3, 10
20. Discuss the characteristics of aplastic anemia, paroxysmal nocturnal hemoglobinuria, paroxysmal cold hemoglobinuria, Fanconi’s anemia, and Diamond-Blackfan syndrome. ILG 1, 3
21. Identify the amino acid substitution in sickle cell disorders and Hgb C disease. ILG 1, 3, 10
22. List the clinical and laboratory features of sickle cell anemia, sickle cell trait, Hgb C disease, Hgb C trait and Hgb SC disease. ILG 1, 3, 10
23. Recognize normal and abnormal hemoglobin patterns on hemoglobin electrophoresis at pH 8.6 and 6.2. ILG 3, 10
24. Differentiate the clinical and laboratory features of other abnormal hemoglobins, such as Hgb E, Hgb OArab, Hgb DPunjab, and Hgb GPhila. ILG 3
25. Calculate the white blood cell correction formula when nucleated red blood cells are noted in the peripheral smear. ILG 2, 3

Psychomotor Performance Objectives:
1. Understand the principles used in automated RBC counts. ILG 3
2. Be able to define and calculate RBC indices. ILG 1, 2
3. Show proficiency in performing a microhematocrit, sedimentation rate (ESR) and reticulocyte count. ILG 3
4. Demonstrate proficiency in performing assays with the Sickle Cell test kit. ILG 3
5. Describe the use of the Unopette system in hematology testing. ILG 1, 3
6. Show proficiency in using the Unopette system and hemocytometer in performing manual cell counts. ILG 3

Week 3 White Cell Disorders

Learning Objectives
Learning objectives (Chapters 9-11)

The student learner should be able to:
1. Describe leukopoiesis from immature forms to full maturation. ILG 1, 3
2. Identify morphologic features used in differentiating cells of the granulocytic series. ILG 1, 3
3. Describe features that differentiate the granules of the neutrophilic, eosinophilic, and basophilic cell lines. ILG 1, 3, 10
4. Describe the lymphatic system and its relationship to lymphocyte production. ILG 1, 3, 10
5. Identify conditions that cause a quantitative increase or decrease in a particular white blood cell line. ILG 3
6. Identify conditions that lead to hyposegmentation or hypersegmentation of neutrophils. ILG 1, 3
7. Describe the effects of HIV on the CBC and the peripheral smear. ILG 1, 3
8. Describe the process of reactive lymphocytosis in infections with Epstein-Barr virus and cytomegalovirus. ILG 1, 3, 10
9. Define white blood cell-related terms such as leukocytosis, left shift, leukemoid reaction and leukoerythroblastic reaction. ILG 1, 3, 10
10. Describe briefly lipid storage diseases, such as Gaucher’s disease, Niemann-Pick disease, and Tay-Sachs disease. ILG 1, 3, 10
11. Compare and contrast acute versus chronic leukemia with respect to age of onset and presenting symptoms. ILG 1, 3, 11
12. Describe acute leukemia with emphasis on symptoms, peripheral blood and bone marrow findings. ILG 1, 3, 11
13. Classify acute leukemias according to the French-American-British (FAB) classification system. ILG 1, 3, 10
14. Briefly describe the World Health Organization (WHO) classification for acute myeloid leukemias and related myeloid proliferations. ILG 1, 3
15. Describe how cytochemical staining can aid in the diagnosis of acute leukemias. ILG 1, 3
16. List the most pertinent CD markers for various acute leukemias. ILG 1, 3
17. Explain the WHO classification of acute lymphoblastic leukemia/lymphoma. ILG 1, 3
18. Describe acute lymphoblastic leukemia with emphasis on age of onset, symptoms at presentation, prognosis, and laboratory findings. ILG 1, 3, 11
19. Demonstrate proficiency in using the Unopette system and hemocytometer in performing manual cell counts. ILG 3

Psychomotor Performance Objectives:
1. Show proficiency in making peripheral smears for manual WBC differentials. ILG 3
2. Be able to differentiate and count the various white blood cell lines. ILG 3
3. Differentiate the different WBCs on a slide: segmented neutrophils (segs), band neutrophils (bands), lymphocytes (lymphs), monocytes (monos), basophils (basos), and eosinophils (eos). ILG 3

Week 4 White Cell Disorders (Continued)

Learning Objectives
Learning objectives (Chapters 12-14)
The student learner should be able to:
1. Discuss the classification and pathogenesis of myeloproliferative disorders. ILG 1, 3,
2. Understand the clinical features associated with chronic myeloproliferative disorders. ILG 3
3. Demonstrate proficiency in making peripheral smears for manual WBC differentials. ILG 3
4. Define the common features of the chronic lymphoproliferative disorders. ILG 1, 3
5. Describe the peripheral smear morphology of individuals with chronic lymphocytic leukemia. ILG 1, 3
6. Describe features of hairy cell leukemia on peripheral smear and with cytochemical stains. ILG 1, 3
7. Define the clinical features of Sézary syndrome. ILG 1, 3
8. List the morphologic features of the plasma cell and the basic immunoglobulin unit. ILG 1, 3
9. List the laboratory criteria used to diagnose the monoclonal gammopathies. ILG 1, 3
10. Differentiate the clinical and laboratory features that distinguish multiple myeloma and Waldenström’s Macroglobulinemia. ILG 1, 3, 11
11. List the CD markers used to differentiate B- cell and T- cell disorders. ILG 1, 3
12. Describe how molecular diagnostics aids in the diagnosis of lymphoid malignancies. ILG 1, 3, 11
13. Define the myelodysplastic syndromes and discuss the major cellular abnormalities of MDSs. ILG 1, 3, 10
14. Classify MDSs according to the criteria of the World Health Organization. ILG 1, 3

Psychomotor Performance Objectives:
1. Be able to describe (in words) the appearance/characteristics of the different WBCs (segs, bands, lymphs, monos, basos, eos). ILG 1, 3
2. Define the requirements of a WBC differential. ILG 1, 3
3. Perform a normal and abnormal WBC differentials on unknown slides and match the instructor within a given margin of error. ILG 3
4. Understand and describe the principles of WBC automation and Flow Cytometry. ILG 1, 3, 4

Week 5/6 Hemostasis and Disorders of Coagulation

Learning Objectives
Learning objectives (Chapters 15-19)
The student learner should be able to:
1. Explain the systems involved in hemostasis. ILG 1, 3
2. Describe the interaction of the vascular system and platelets as it relates to activation, adhesion, and vasoconstriction. ILG 1, 3, 10
3. Identify the process involved in the coagulation cascade, from activation to stable clot formation. ILG 3
4. Describe the role of platelets in hemostasis. ILG 1, 3
5. Define the difference between primary and secondary hemostasis. ILG 1, 3
6. Outline the intrinsic and extrinsic pathways, the factors involved in each, and their role in the coagulation system. ILG 1, 3, 10
7. List the coagulation factors, their common names, and function. ILG 1, 3
8. Explain the interaction between prothrombin time, activated partial thromboplastin time, and factor assays. ILG 1, 3
9. Identify the relationship of the kinin and complement systems to coagulation. ILG 3
10. Identify the inhibitors of the coagulation and the fibrinolytic systems and their role in hemostasis. ILG 3
11. Identify the types of bleeding that are seen in platelet disorders. ILG 3
12. List laboratory tests that are helpful in evaluating platelet disorders. ILG 1, 3, 4
13. State how preanalytic variables may affect the platelet count. ILG 3
14. Describe three characteristics of the qualitative platelet disorders von Willebrand’s disease, Bernard-Soulier syndrome, and Glanzmann’s thrombasthenia. ILG 1, 3, 10
15. Identify drugs that are implicated in immune thrombocytopenia. ILG 3
16. Evaluate conditions that may cause thrombocytosis. ILG 3
17. Compare and contrast acute versus chronic idiopathic thrombocytopenic purpura. ILG 3, 10
18. Define hemolytic uremic syndrome and thrombotic thrombocytopenic purpura in terms of pathophysiology and clinical features. ILG 1, 3
19. Describe platelet abnormalities caused by acquired defects—drug-induced, nonimmune, or vascular. ILG 1, 3
20. Outline the genetics, symptoms and lab tests used for individuals with hemophilia A and B. ILG 3
21. Identify the components of the fibrinolytic system. ILG 3
22. Describe plasmin in terms of activation and inhibition. ILG 1, 3
23. Differentiate the role of thrombin in the coagulation and fibrinolytic systems. ILG 3
24. Outline the inherited disorders of fibrinogen. ILG 3
25. Describe the laboratory tests for fibrinolytic disorders. ILG 1, 3, 4
26. Define conditions that may precipitate disseminated intravascular coagulation (DIC) states. ILG 1, 3
27. Describe the laboratory testing and management of patients with DIC. ILG 1, 3, 4
28. Define thrombophilia and thrombosis. ILG 1, 3
29. Describe antithrombin, protein C, and protein S with regard to properties, mode of action, factors affected, and complications associated with their deficiencies. ILG 3
30. Describe heparin-induced thrombocytopenia with regard to the cause, patient’s clinical manifestations, and pathophysiology of the disease. ILG 1, 3, 11
31. Discuss the laboratory tests and results used for the diagnosis of factor V Leiden and heparin induced thrombocytopenia. ILG 1, 3, 4
32. List the types of anticoagulant drugs used for the treatment of thrombotic disorders. ILG 1, 3
33. Discuss the laboratory test used for monitoring of heparin and Coumadin therapy. ILG 1, 3, 4
34. Define the anti-factor Xa assay and its clinical application. ILG 1, 3, 4

Psychomotor Performance Objectives:
1. Independently read 3-5 slide differentials, matching the technologist within stated percentage. ILG 3

Laboratory Competency Skills
During the laboratories, measures are in place to assess the student’s cognitive, affective and psychomotor domains. Specifically, the student’s mastery of procedural theory and entry-level laboratory techniques will be evaluated using pre-labs, in-lab assignments, timed laboratory practicals, and case studies. The affective domain will be evaluated weekly and is based on the student’s ability to meet specific professional behavior criteria.

Affective Objectives
Affective objectives are behavioral standards that will be implemented during the professional phase of the Medical Laboratory Technology Program. Students’ professional performances will be evaluated during the laboratory course and will be returned to the student with their all laboratory worksheets submitted. This has a direct effect on the final letter grade earned. See below for a detailed list of the criteria. Unsatisfactory performance in any area of the behavioral standards will
**PROFESSIONAL PERFORMANCE EVALUATION**

1. **DEPENDABILITY**
The student arrives in the laboratory with adequate time to start lab session as scheduled. The student comes with appropriate manual and supplies, and wearing required laboratory attire. The student shows evidence of having reviewed the assigned topic before coming to the laboratory. The student completes assignments (lab reports, homework assignments, etc) on time.

2. **ATTENTIVENESS**
The student is attentive to the instructor, takes complete notes and proceeds with laboratory work without repeated instructions. The student follows verbal and written instructions, asks pertinent questions when necessary, and seeks the instructor’s assistance when needed. The student neither distracts others nor allows distractions to affect completion of laboratory exercises.

3. **ORGANIZATION**
The student demonstrates the ability to organize work to be done within the available laboratory time. The student is able to perform multiple tasks without jeopardizing accuracy and precision.

4. **INDEPENDENCE**
The student demonstrates the ability to work independently by exercising independent judgement and thinking logically in using the protocols and instructions given. The student draws on previously gained information to solve problems without prompting from instructor. The student seeks activities to expand knowledge, ability and performance.

5. **RECORD KEEPING**
The student demonstrates the importance or proper record keeping by accurately and legibly labeling/recording laboratory work and reports (i.e. sample containers, reagents and worksheets).

6. **MANAGEMENT AND ECONOMY**
The student conserves reagents and supplies. The student maintains an adequate supply of common use items at their appropriate workstation. The student takes proper care of equipment.

7. **SAFETY**
The student works in an orderly and safe manner, enabling others to safely work in the same general area. The student adheres to the guidelines of the Laboratory Safety Regulations (e.g. wearing eye protection, keeping long hair tied back, and properly storing hazardous materials).

8. **INTERPERSONAL SKILLS**
The student communicates in a professional, positive, tactful manner with peers and instructors. The student consistently shows common courtesy (e.g. restocks supplies) and contributes towards achieving an environment conducive to work and learning for self and others.

9. **COMPOURSE**
The student maintains composure and work quality under stressful conditions and adapts quickly to new situations. The student recognizes his/her own personal strengths and weaknesses and works positively within that framework. The student accepts evaluation of performance as constructive when offered by instructors and follows through with suggestions made.

10. **INTEGRITY**
The student accepts accountability for work performed. The student readily admits errors, follows procedures (including quality control) as written, and maintains confidentiality of patient results, if applicable. Student exhibits perseverance to obtain accurate results.

**Scoring:** Total number of possible points= # of weeks x # of categories X 4 (Greatest achievable score) =n Achieved points = student scores: Total of numbers each week (#4s + #3s+ #2s+#1s)

**Cut off values:** Upper cut-off value=0.675n; lower cut-off value= 0.425n

**How your Final Grade can be Affected**

If a>0.675n, then the course grade is increased one step (e.g., from C to C+)

If a is between 0.425n and 0.675n, then the course grade is unaffected (e.g. C remains C)

If a<0.425(n), then the course grade is decreased one step (e.g. C to C-).

If course grade remains within range: student will receive full credit for affective score
**Grading**
To receive a passing grade, students must earn a 77 or higher. A final grade of 77 or higher is required in each Medical Laboratory Technology course in order to progress to the next MLT course and to graduate. No make-up exams are to be given unless there are extenuating circumstances.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100%</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
</tr>
<tr>
<td>C</td>
<td>70-76</td>
</tr>
<tr>
<td>D</td>
<td>60-69</td>
</tr>
<tr>
<td>F</td>
<td>0-59%</td>
</tr>
</tbody>
</table>

**Lecture**
Quizzes 10%
Homework/MediaLab 10%
Midterm 15%
Final 15%

**Laboratory**
Lab Assignments 10%
Competencies (2) 5%
Midterm 15%
Final (Comprehensive) 20%

**Extra credit** work will not generally be recognized in evaluating student performance; however, individual instructors have limited flexibility in recognizing additional effort by an individual student. For this course, there is NO EXTRA CREDIT opportunities.

**Late work**
- 5 points will be deducted for each day the assignment is late, up to 5 days. Assignments submitted 6 or more days late will be graded and returned to the student, but the grade awarded will be “0”.
- **THERE ARE NO MAKEUP EXAMS** (including online and in-person). Except in extreme cases of sickness (contagion or hospitalization, etc.) or death of an immediate family member (father, mother, grandparent, sibling, spouse, or child). Students must provide supporting documentation before the make-up will be administered. It is the responsibility of the student to contact the instructor for make-up exams/ and to provide the documentation.

**Progression in the MLT Professional Courses**
As noted in the MLT Program handbook, a final grade of a C+ or better in each Medical Laboratory Technology course is necessary to progress to the next professional phase course.

**Unsatisfactory Performance**
Unsatisfactory performance in any area (cognitive, psychomotor or affective), failure to follow directions or procedures, unsafe or unethical behavior, or failure to keep a grade of 77 or above in the course will require a consultation with the faculty and/or the MLT Program coordinator. The reason for the consultation will be clearly stated, counsel will be given and an action plan will be implemented. The student will be given the opportunity to give a written response. The consultation form will be kept in the student’s file and progress must be made by following the plan of action.

**Discussions**
Although not explicitly graded, you will be evaluated on the QUALITY of your contributions and insights. Quality comments possess one or more of the following properties:
- Offers a different and unique, but relevant, perspective;
- Contributes to moving the discussion and analysis forward;
- Builds on other comments;
- Transcends the “I feel” syndrome. That is, it includes some evidence, argumentation, or recognition of inherent tradeoffs. In other words, the comment demonstrates some reflective thinking.
• Follow proper online discussion etiquette: Online Discussion Etiquette Guide

Discussion Rubric
You must post an initial thread in response to the Discussion topic and comment on at least 2 other students to receive full credit. See below for the rubric image. The most amount of points awarded for each discussion is 3 points. 3 pts=100%

You must post an initial thread in response to the Discussion topic and comment on at least 2 other students to receive full credit. See below for the rubric image. The most amount of points awarded for each discussion is 3 points. 3 pts=100%

Note: Please use the following FORMAT as the SUBJECT LINE FOR YOUR INITIAL DISCUSSION which must be posted by WEDNESDAY of each week. “LASTNAME.WEEK__DISCUSSION”

Example= SHAVE.WEEK 1 DISCUSSION
SHAVE.WEEK 2 DISCUSSION

Thank you for your cooperation. Failure to comply with this may limit the Professor’s ability to grade you fairly.

Communication between Student and Instructor
Instructor role:
• Blackboard Announcements will be posted by the instructor in the Announcement Page of the course. This announcement will forever appear on this page. A copy of the message is also sent to your MercerMail.

• Email Communication: As previously mentioned, all communication will be sent to your MercerMail account.

Student role:
• Students are expected to check their Mercermail at least once daily M-F and once during the weekend for important course related messages (announcements and emails from the instructor).

• Blackboard Announcements: students should be sure to check their email as well as the Blackboard section each time they sign on to the course.

• Immediate, specific, personal questions for the instructor: Students can send a message through Blackboard using the Course Messages link on the tab to the left in the course or write an email using your MercerMail.

Turnaround Time (Instructor to Student)
• Questions (Non-assignments):
   You can expect all correspondence sent via email using your MercerMail to your instructor to be responded to within 24 hours Monday through Friday. The instructor will notify the class if there will be longer periods of time where responses may be delayed.

• Assignments/Exams/Grades

10
Turnaround times for papers, journals, essays, short-answer questions and other manually graded written assignments will be graded within one week after the due date. Grades will be posted to BlackBoard LMS.

Attendance
Attendance and participation at all classes is consistent with academic success. In addition, today’s health care employer puts great emphasis on attendance and often times request to see a referral from this program concerning your attendance record.

- **Face-to-Face Lecture Policy**
  - Students are expected to attend all lecture sessions. If an extenuating absence is anticipated, please e-mail shavel@mccc.edu or call/leave a message at my office 609-570-3387. Please leave a message if your call forwards to voicemail. Absence from class, even if called in, must be for a legitimate reason; otherwise the absence will be counted as unexcused. The student is responsible for any material missed. For any missed labs, the student will receive a zero as a participation and any assignments that were due that or handed out on that day.
  - **Excessive absence**- If a student misses more than 10% of the meeting days, they must report to a mandatory consultation with the instructor to develop a corrective action plan.
    - A student must follow this plan. If the student continues to miss more than 20% of a course’s meeting days or does not follow the action plan, the student will be dismissed from the course with a W or receive a grade of F if the course is past the college’s withdrawal period.
  - **Lateness/Exits**- Students are allowed two (2) unexcused lateness's or exits from class. Each additional lateness or exit will result in a half a letter grade deduction. Lateness is defined as appearing for class 10 minutes or more after the start of the scheduled Session. Exit is defined as leaving a class for 10 minutes or more while it is in progress and returning, or leaving early from a class that is in progress.

- **Face-to-Face Laboratory**: Students MUST attend all Weekly Laboratory classes. There are NO makeups.
  - **Excessive absence**- If a student misses more than 10% of the meeting days, they must report to a mandatory consultation with the instructor to develop a corrective action plan.
    - A student must follow this plan. If the student continues to miss more than 20% of a course’s meeting days or does not follow the action plan, the student will be dismissed from the course with a W or receive a grade of F if the course is past the college’s withdrawal period.
  - **Lateness/Exits**- Students are allowed two (2) unexcused lateness’s or exits from class. Each additional lateness or exit will result in a half a letter grade deduction. Lateness is defined as appearing for class 10 minutes or more after the start of the scheduled Session. Exit is defined as leaving a class for 10 minutes or more while it is in progress and returning, or leaving early from a class that is in progress.
  - **Withdrawn Immediately**
    - If you miss a full week of laboratory sessions, you may be withdrawn from the course with a W or receive a grade of F if the course is past the college’s withdrawal period.

The Department reserves the right to require written verification for absences. Students absent or late without notifying the Department are considered unexcused and are subject to the policies stated above.

Student complaints & Grade disputes:
The student has a right to appeal the decision of the instructor or the Academic Integrity Committee. Judicial procedures governing violations of Academic Integrity are contained in the Student Handbook. Approved by the MCCC Board of Trustees March 18, 2004

Academic Integrity Violations for On-Campus and Hybrid Students
The college recognizes the following general categories of violations of academic integrity, with representative examples of each. Academic integrity is violated whenever a student:

A. Uses or obtains unauthorized assistance in any academic work.
• copying from another student’s exam
• using notes, books, electronic devices or other aids of any kind during an exam when prohibited.
• stealing an exam or possessing a stolen copy of an exam

B. **Gives fraudulent assistance to another student.**
• completing a graded academic activity or taking an exam for someone else
• giving answers to or sharing answers with another student before, during or after an exam or other graded academic activity.
• sharing answers during an exam by using a system of signals

C. **Knowingly represents the work of others as his/her own, or represents previously completed academic work as current.**
• submitting a paper or other academic work for credit which includes words, ideas, data or creative work of others without acknowledging the source.
• using another author’s words without enclosing them in quotation marks, without paraphrasing them or without citing the source appropriately.
• presenting another individual’s work as one’s own.
• submitting the same paper or academic assignment to another class without the permission of the instructor.

D. **Fabricates data in support of an academic assignment.**
• falsifying bibliographic entries
• submitting any academic assignment which contains falsified or fabricated data or results

E. **Inappropriately or unethically uses technological means to gain academic advantage**
• inappropriately or unethically acquiring material via the Internet or by any other means.
• using any electronic or hidden devices for communication during an exam.

Each instructor and Academic Student Resources area is authorized to establish specific guidelines consistent with this policy.

“Online students are held to the same level of accountability as students in a traditional classroom. As such, all online students should become familiar with and strictly adhere to MCCC’s Academic Integrity policies, which can be found at [www.mccc.edu/academic_policies_integrity](http://www.mccc.edu/academic_policies_integrity).

Furthermore, MercerOnline at Mercer County Community College provides each student with a unique username and password whereby students may access their online courses and complete work assigned therein. It is the responsibility of each student to keep these login credentials confidential. Sharing of login credentials with any individuals other than the course instructor or members of the MercerOnline staff is a grave violation of academic integrity policies and poses a risk to the security of their online course. Students who fail to maintain the confidentiality of their login credentials and thus compromise the security of the online course environment will be subject to disciplinary action.”

**Consequences for Violations of Academic Integrity**
For a single violation, the faculty member will determine the course of action to be followed. This may include assigning a lower grade on the assignment, assigning a lower final course grade, failing the student in the course, or other penalty appropriate to the violation. In all cases, the instructor shall notify the Chair of the Academic Integrity Committee of the violation and the penalty imposed. When two (or more) violations of academic integrity are reported on a student, the Academic Integrity Committee (AIC) may impose disciplinary penalties beyond those imposed by the course instructors. The student shall have the right to a hearing before the AIC or a designated AIC subcommittee.

**MediaLab, Inc.**
All students have a free subscription to MediaLab, Inc. which will be utilized for the purpose of enhancing concepts and skills learned each week. Students have already been granted access and should keep their username and password private. All assigned MediaLab courses must be completed by the deadline. A **passing grade of 70% is required in order for the course to be deemed successful. Students may attempt a course twice. Please reach out to the instructor if you’d like to reattempt so that permission can be granted.**

**Cellular Telephones, Personal Telephone Calls, and Electronic Devices**
Students are NOT to receive or place telephone calls or text messages during class, labs, or clinical hours. Cellular telephones and other electronic devices are to be silenced before entering the classroom, student laboratory, or the clinical site. Inappropriate use of any electronic device may result in disciplinary action. Students wishing to take pictures or record a Professor’s instruction must be granted approval to do so.

**Reasonable Accommodations for Students with Documented Disabilities**
Mercer County Community College is in compliance with both the ADA and Section 504 of the Rehabilitation Act. If you have, or believe you have, a differing ability that is protected under the law please see Arlene Stinson in LB216, (609) 570-3525,
stinsona@mccc.edu for information regarding support services. These accommodations must be made PRIOR to the start of the course.

**Equal Opportunity Policy**
Mercer County Community College is committed to equal opportunity and affirmative action. Discrimination on the basis of race, creed, color, national origin, ancestry, age, gender, affectional or sexual orientation, marital status, familial status, liability for service in the Armed Forces of the United States, nationality, political views, religion, disability unrelated to job or program requirements or any other characteristic protected by law is prohibited. Questions regarding the equal opportunity policy and compliance statement may be directed to the Affirmative Action Officer, West Windsor Campus, (609) 586-4800, ext. 3270
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lecture</th>
<th>Lab</th>
<th>MEDIALAB &amp; OTHER ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tues July 2nd</td>
<td><strong>UNIT 1: Basic Hematology Principles</strong>&lt;br&gt;Chapter 1: Intro to Hematology &amp; Laboratory Practice&lt;br&gt;Chapter 2: Hematopoiesis to the Complete Blood Count</td>
<td>Sed rate&lt;br&gt;Intro to smears and stain</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Tues July 9th</td>
<td><strong>UNIT 1: Basic Hematology Principles Cont’d</strong>&lt;br&gt;Chapter 3: RBC Production, Function &amp; Morphology&lt;br&gt;Chapt. 4: Hemoglobin Function &amp; Principles of Hemolysis</td>
<td>RBC Morphology and Indices</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Thurs July 11th</td>
<td><strong>QUIZ ON CHAPTER 1-4</strong>&lt;br&gt;<strong>UNIT 2: Red Cell Disorders</strong>&lt;br&gt;Chapter 5: The Microcytic Anemias&lt;br&gt;Chapter 6: The Macrocytic Anemias</td>
<td>Retic Counts&lt;br&gt;Sickle Cell Screen Test</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Tues July 16th</td>
<td><strong>UNIT 2: Red Cell Disorders Cont’d</strong>&lt;br&gt;Chapter 7: Normochromic Anemias: Biochemical, Membrane, and Miscellaneous Red Blood Cell Disorders and Miscellaneous Red Cell Disorders&lt;br&gt;Chapter 8: The Normochromic Anemias due to Hemoglobinopathies</td>
<td><strong>COMPETENCY QUIZ</strong>&lt;br&gt;Intro to WBC morphology</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Thurs July 18th</td>
<td><strong>QUIZ ON CHAPTERS 5-8</strong>&lt;br&gt;<strong>UNIT 3: White Blood Cell Disorders</strong>&lt;br&gt;Chapter 9: Leukopoiesis and Leukopoietic Function&lt;br&gt;Chapter 10: Abnormalities of White Blood Cells: Quantitative, Qualitative, and the Lipid Storage Diseases&lt;br&gt;Chapter 11: Acute Leukemias</td>
<td>Normal Differentials</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Tues July 23rd</td>
<td><strong>MIDTERM (Chapters 1-11)</strong>&lt;br&gt;<strong>UNIT 3: White Blood Cell Disorders</strong>&lt;br&gt;Chapter 14: The Myelodysplastic Syndromes</td>
<td>MIDTERM</td>
<td>1. RBC Morphology (2hr)&lt;br&gt;2. RBC Disorders (2hrs)&lt;br&gt;3. RBC Indices &amp; RDW (1hr)&lt;br&gt;4. Erythrocyte inclusions (2 hrs)&lt;br&gt;5. Hemoglobinopathies: Hemoglobin S Disorders (1.5hr)&lt;br&gt;6. Normal Peripheral Blood Cells (3 hrs)</td>
</tr>
<tr>
<td>5</td>
<td>Thurs July 25th</td>
<td><strong>UNIT 3: White Blood Cell Disorders Cont’d</strong>&lt;br&gt;Chapter 12: Chronic Myeloproliferative Disorders&lt;br&gt;Chapter 13: Lymphoproliferative Disorders and Related Plasma Cell Disorders</td>
<td>Normal Differentials&lt;br&gt;WBC/PLTEstimates</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Tues July 30th</td>
<td><strong>QUIZ ON CHAPTERS 12-13</strong>&lt;br&gt;<strong>UNIT 3: White Blood Cell Disorders</strong>&lt;br&gt;Chapter 14: The Myelodysplastic Syndromes</td>
<td>Normal Differentials&lt;br&gt;and Automation</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Tues Aug 6th</td>
<td><strong>QUIZ ON CHAPTERS 15-16</strong>&lt;br&gt;<strong>UNIT 4: Hemostasis and Disorders of Coagulation</strong>&lt;br&gt;Chapter 17: Defects of Plasma Clotting Factors&lt;br&gt;Chapter 18: Fibrinogen, Thrombin &amp; Fibrinolytic System</td>
<td><strong>CELL ID Competency</strong>&lt;br&gt;Normal and Abnormal Diffs</td>
<td>1. Body Fluid Differential (2 hr)&lt;br&gt;2. CSF (3 hrs)&lt;br&gt;3. Semen Analysis (1.5 hr)</td>
</tr>
<tr>
<td>6</td>
<td>Thurs Aug 8th</td>
<td><strong>UNIT 4: Hemostasis and Disorders of Coagulation</strong>&lt;br&gt;Chapter 19: Introduction to Thrombosis and Anticoagulant Therapy&lt;br&gt;REVIEW SESSION FOR FINAL</td>
<td><strong>D Dimer Final Review</strong></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Tues Aug 14th</td>
<td><strong>FINAL EXAM</strong>&lt;br&gt;<strong>UNIT 4: Hemostasis and Disorders of Coagulation</strong>&lt;br&gt;Chapter 19: Introduction to Thrombosis and Anticoagulant Therapy</td>
<td><strong>FINAL</strong>&lt;br&gt;REVIEW SESSION FOR FINAL</td>
<td>1. Myeloproliferative Neoplasms (1 hr)&lt;br&gt;2. Fundamentals of Hemostasis&lt;br&gt;3. Antiplatelet and Anticoagulant&lt;br&gt;4. Detecting and Evaluating Coagulation Inhibitors and Factor Deficiencies</td>
</tr>
<tr>
<td>WEEK</td>
<td>Date</td>
<td>Lecture</td>
<td>Lab</td>
<td>MEDIALAB &amp; OTHER ASSIGNMENTS</td>
</tr>
<tr>
<td>------</td>
<td>--------------</td>
<td>-------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Sun 6/30-Sat 7/6</td>
<td>UNIT 1: Basic Hematology Principles</td>
<td>Wednesday</td>
<td>BLACKBOARD - Discussions - Assignments (MediaLab)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 1: Intro to Hematology &amp; Laboratory Practice</td>
<td>July 3rd</td>
<td>1. RBC Morphology (2hr)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 2: Hematoipoiesis to the Complete Blood Count</td>
<td></td>
<td>2. RBC Disorders (2hrs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 3: RBC Production, Function &amp; Morphology</td>
<td></td>
<td>3. RBC Indices &amp; RDW (1hr)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapt. 4: Hemoglobin Function &amp; Principles of Hemolysis</td>
<td></td>
<td>Weekly Quiz</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wednesday</td>
<td>BLACKBOARD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>July 9th</td>
<td>- Discussions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Assignments (MediaLab)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1. Erythrocyte inclusions (2 hrs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2. Hemoglobinopathies: Hemoglobin S Disorders (1.5hr)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3. Normal Peripheral Blood Cells (3 hrs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Weekly Quiz</td>
</tr>
<tr>
<td></td>
<td>Sun 7/7-Sat 7/13</td>
<td>UNIT 2: Red Cell Disorders</td>
<td>Wednesday</td>
<td>BLACKBOARD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 5: The Microcytic Anemias</td>
<td>July 10th</td>
<td>- Discussions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 6: The Macrocytic Anemias</td>
<td></td>
<td>- Assignments (MediaLab)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3. Myeloproliferative Neoplasms (1 hr)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Weekly Quiz</td>
</tr>
<tr>
<td></td>
<td>Sun 7/14-Sat 7/20</td>
<td>UNIT 3: White Blood Cell Disorders</td>
<td>Wednesday</td>
<td>BLACKBOARD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 9: Leukopoiesis and Leukopoietic Function</td>
<td>July 17th</td>
<td>- Discussions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 10: Abnormalities of White Blood Cells: Quantitative, Qualitative, and the Lipid Storage Diseases</td>
<td>- Assignments (MediaLab)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 11: Acute Leukemias</td>
<td></td>
<td>1. Body Fluid Differential (2 hr)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2. CSF (3 hrs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3. Semen Analysis (1.5 hr)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Weekly Quiz</td>
</tr>
<tr>
<td></td>
<td>Sun 7/21-Sat 7/27</td>
<td>UNIT 3: White Blood Cell Disorders Cont’d</td>
<td>Wednesday</td>
<td>BLACKBOARD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 12: Chronic Myeloproliferative Disorders</td>
<td>July 24th</td>
<td>- Discussions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 13: Lymphoproliferative Disorders and Related Plasma Cell Disorders</td>
<td>- Assignments (MediaLab)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 14: The Myelodysplastic Syndromes</td>
<td></td>
<td>1. Body Fluid Differential (2 hr)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2. CSF (3 hrs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Weekly Quiz</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Weekly Quiz</td>
</tr>
<tr>
<td>Day</td>
<td>5th Week Dates</td>
<td>UNIT 4: Hemostasis and Disorders of Coagulation</td>
<td>6th Week Dates</td>
<td>UNIT 4: Hemostasis and Disorders of Coagulation Cont.</td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>-----------------------------------------------</td>
<td>----------------</td>
<td>-----------------------------------------------</td>
</tr>
</tbody>
</table>
|     | Sun 7/28- Sat 8/3 | Chapt. 15: Overview of Hemostasis & Platelet Physiology  
Chapter 16: Quantitative & Qualitative Platelet Disorders  
Chapter 17: Defects of Plasma clotting Factors | Wednesday | July 31st  
8:30a-9a  
Recitation  
9:00a-11:45am  
Abnormal Diffs  
Body Fluids- CSF + Semen (DEMO)  
11:45-12:30p break  
12:30p-3pm  
CELL ID Competency  
Abnormal Differentials | BLACKBOARD  
-Discussions  
-Assignments (MediaLab)  
1. Fundamentals of Hemostasis  
2. Antiplatelet and Anticoagulant...  
3. Detecting and Evaluating Coagulation Inhibitors and Factor Deficiencies  
-Weekly Quiz |     |     |     |
|     | Sun 8/4- Sat 8/10 | Chapt. 18: Fibrinogen, Thrombin & Fibrinolytic System  
Chapter 19: Introduction to Thrombosis and Anticoagulant Therapy | Wednesday | Aug 7th  
8:30a-9a  
Recitation  
9:00a-11:00am  
D-Dimer  
11:00a-12p  
Final Review | BLACKBOARD  
-Discussions  
-Assignments (MediaLab)  
1. Fundamentals of Hemostasis  
2. Antiplatelet and Anticoagulant...  
3. Detecting and Evaluating Coagulation Inhibitors and Factor Deficiencies  
-Weekly Quiz |     |     |     |
|     |     |     | 6/7 | FINAL (Chapters 1-19)  
TAKE BETWEEN SATURDAY 8/10-WEDNESDAY 8/14 |     |     |     |
|     |     |     | 7th | Sun 8/10- Sat 8/14 | Wednesday | Aug 14th  
FINAL  
8a-12p |     |     |     |