

## CASPER COLLEGE COURSE SYLLABUS MLTK 2971 Clinical Practicum: Hematology

Semester/Year: Fall 2015

Lecture Hours: 0

Clinical Lab Hours: 160

Credit Hours: 2

Class Time: TBA

Days: TBA

Room: May be located off campus at  
clinical affiliate.

Instructor's Name: Dr. Audrey Hentzen

Instructor's Contact  
Information:

Office Phone: 268-2632  
Cell: 258-9109

Email: [ahentzen@caspercollege.edu](mailto:ahentzen@caspercollege.edu)

Office Hours: By appointment and T, TH 11:00- 1:00 and W 1:00-2:00. Out of town travel may affect office hours please call (307) 258-9109. Office hours also available by appointment and through teleconferencing.

### Course Description:

This is an advanced course and clinical laboratory experience in the principles and procedures of hematology. It is an on-line supported, off-campus clinical laboratory experience taught by clinical faculty. Emphasis is on the application of knowledge and technical skills to clinical testing, methodology, instrumentation, quality control, correlation of laboratory data with pathophysiology, OSHA practices and medical laboratory technician professionalism.

### Statement of Prerequisites:

MLTK 1500, 1600, 1700, 2500, 2600, 2650 and 2700

Access to computer technology and internet services.

### Goal:

Students will have an increased understanding and working comprehension of the technical and procedural aspects of clinical laboratory testing. Students will demonstrate professional entry-level skills and competencies necessary for successful completion of the AS degree program and candidacy for certification examination.

### Outcomes:

1. Evaluate patient specimen as acceptability for analyses.
2. Report patient results according to established department protocol.
3. Correlate patient results with patient's condition.
4. Perform and interpret various laboratory procedures.
5. Operate clinical instruments, evaluate results, identify errors and resolve malfunctions.
6. Monitor and evaluate quality assurance data, identify errors and formulate plan for corrective action.
7. Critique patient results and select appropriate follow-up tests.
8. Professionally communicate laboratory information to patients, physicians and other

authorized sources utilizing a variety of formats which may include, laboratory information systems computer technologies, telecommunications and direct patient conversation.

9. Develop and demonstrate professional attitudes, behaviors and practice.
10. Student will follow OSHA safety precautions while performing laboratory duties.

Casper College General Education Outcomes

11. Demonstrate effective oral and written communication (#1).
12. Solve problems using critical thinking and creativity (#3 )
13. Demonstrate knowledge of diverse cultures and historical perspectives (#4).
14. Describe the value of personal, civic, and social responsibilities (#7).
15. Use quantitative analytical skills to evaluate and process numerical data (#8).

#### **Methodology:**

This course will be primarily delivered on-line, to those students who are completing their medical laboratory technician training at clinical affiliates. Students will interact through online discussions and exams, emails and written assignments that are submitted electronically. Students will spend 2-4 weeks in each department of the clinical laboratory, performing the duties and tasks associated with that discipline. Students will be in a laboratory setting, working one-on-one with an assigned clinical instructor. A Casper College clinical supervisor will oversee and coordinate the activities of the student during their training at the clinical affiliate through a clinical liaison. Communications will be maintained with both the student (on-line through Moodle) and the clinical liaison to monitor student progress and promote success.

#### **Evaluation Criteria:**

##### ***REQUIRED STUDENT TASK/ASSIGNMENTS***

##### Post-Tests/Final

Post-tests will cover materials listed in defined learning segments or units outlined on the clinical rotation schedule. Post-tests will be completed at the end of each clinical rotation. Questions may cover materials presented in assigned readings, technical manuals or procedures. There will be a comprehensive, mock certification final. Post-tests and final must be completed by specified dates through out the semester, and the final must be completed by the end of the course.

##### Laboratory Experience

Students will receive one on one bench-side tutorials from Clinical Adjunct Faculty while participating in the clinical laboratory experience. Students will be expected to perform a number of clinical laboratory procedures using patient samples, quality control materials, instrumentation and laboratory information system. Clinical laboratory performance will be evaluated by monitoring the number of completed tasks and progress made via on-line communications through Moodle and evaluation on a check list for the department.

##### Practical exam

Students will be given patient samples to be analyzed and the student will be expected to select the appropriate tests, evaluate patient results and assign a diagnosis.

##### Professional evaluation

Students will be graded on attendance, punctuality, interpersonal relationships and their adherence to laboratory safety codes.

### Pre-Lab and Lab Assignments

Each rotation, the student will be assigned study questions that must be completed as scheduled.

#### GRADING:

A = 92-100%	Final grades:	Post-Test/Final
B = 82-91%		Laboratory Experience
C = 70-81%		Practical Exam
D = 60-69%		Professionalism Evaluation
F = <60%		Pre-Lab and Lab Assign.

#### Required Text

Henry's Clinical Management and Diagnosis by Laboratory Methods, 21st edition, Saunders, ISBN 13-978-1-4160-0287-1.

Student must have access to computer technology and internet services.

Class Policies: Last Date to Change to Audit Status or to Withdraw with a W Grade is the Casper College deadlines.

Exams must be completed without the use of textbooks, notes or assistance from classmates.

Once a deadline has passed, students will not be able to access exams or student assignments and student work will not be accepted.

Student Rights and Responsibilities: Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

Chain of Command: If you have any problems with this class, you should first contact the instructor in order to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take your problem through the appropriate chain of command starting with the Department Head/Program Director, the Dean, and lastly the Interim Vice President for Academic Affairs.

Student complaints should be addressed through the following chain of command:

- 1) The instructor of your course.
- 2) MLT Program Director (Dr. Hentzen)
- 3) Dean of Health Sciences (Dr. Tammy Frankland)
- 4) The Interim Vice President for Academic Affairs (Dr. Shawn Powell)

Academic Dishonesty : (Cheating & Plagiarism) Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the course in which the offense was committed or expulsion from school. See the Casper College Student Code of Conduct for more information on this topic.

Official Means of Communication: Casper College faculty and staff will employ the student's assigned Casper College email account as a primary method of communication. Students are responsible to check their account regularly.

ADA Accommodations Policy: If you need academic accommodations because of a disability, please inform me as soon as possible. See me privately after class, or during my office hours. To request academic accommodations, students must first consult with the college's Disability Services Counselor located in the Gateway Building, Room 344, (307) 268-2557, [bheuer@caspercollege.edu](mailto:bheuer@caspercollege.edu). The Disability Services Counselor is responsible for reviewing documentation provided by students requesting accommodations, determining eligibility for accommodations, and helping students request and use appropriate accommodations.

Calendar or schedule is individualized and will be given to each student who enters the 18 week clinical practicum courses. Please see course instructor for your personal schedule. Hematology clinical practicum is four weeks of the 18 weeks clinical practicum.

**Course Content:**

**Hematology/Hemostasis**

Sample Collection And Processing

- A. Safety Techniques
- B. LIS
- C. Preparation Of Blood Smears

Quality Assurance

- A. Evaluation
- B. Corrective Actions

Hematology And Coagulation Instruments

- A. Semi-Automated/Automated
- B. WBC, RBC and cell indices
- C. RBC morphology

Differentials

- A. Manual Blood Smears
- B. Evaluation Of Cell Histograms

Routine Operation

- B. Daily, Weekly And Monthly Routine Maintenance
- C. Troubleshooting
- D. Reagents
- E. Resulting Out

Special Hematology Testing

- A. Red Blood Cell Pathophysiology
  - 1. Osmotic Fragility
  - 2. G-6-Pd
  - 3. Sickle Cell Preps
  - 4. Tests For Abnormal Hemoglobins
- B. Cytochemical Stains
- C. Sedimentation Rates
- D. Reticulocyte Counting
  - 1. Principle
  - 2. Expected Patient Values
  - 3. Automated Reticulocyte Counts
- E. Bone Marrow Aspirates

Coagulation Tests

- A. Prothrombin Time
- B. APTT
- C. TT
- D. Quantitative Fibrinogen
- E. Fibrin-Split Products
- F. D-Dimer
- G. Factor Assays
- H. Platelet Aggregation
- I. Lupus Anticoagulant
- A. Chromatogenic Assays