



**MLAB 2338 HYB**

**ADVANCED TOPICS IN CLINICAL LABORATORY SCIENCE**

**Fall 2016**

## TABLE OF CONTENTS

|                                                                                             | <b><u>Page</u></b> |
|---------------------------------------------------------------------------------------------|--------------------|
| <b>COURSE SECTION .....</b>                                                                 | <b>3</b>           |
| Course Information.....                                                                     | 3                  |
| Professor Information.....                                                                  | 3                  |
| Prerequisites .....                                                                         | 3                  |
| Course Description.....                                                                     | 3                  |
| Integration of Scans Competencies.....                                                      | 3                  |
| Integration of Scans Competencies with Course Goals, Objectives,<br>and/or Activities ..... | 4                  |
| Course Objectives.....                                                                      | 7                  |
| Goals.....                                                                                  | 7                  |
| Textbook .....                                                                              | 7                  |
| Required Assignments & Academic Calendar .....                                              | 8                  |
| Methods of Evaluation.....                                                                  | 9                  |
| Grading .....                                                                               | 9                  |
| Method of Instruction.....                                                                  | 9                  |
| Course Requirements .....                                                                   | 10                 |
| Instructor Policies.....                                                                    | 10                 |
| Class Attendance .....                                                                      | 12                 |
| Student Conduct.....                                                                        | 12                 |

## **COURSE INFORMATION:**

MLAB 2338 – Advanced Topics in Clinical Laboratory Science  
Placement: Fall semester of Sophomore year

## **PROFESSOR INFORMATION:**

Instructor Name: Aimee Flynn (903) 463-8684  
Email: [flynna@grayson.edu](mailto:flynna@grayson.edu)  
Office Location: STC 204  
Office Hours: See GC Portal Instructor Info.

Instructor Name: Alan Jackson (903) 463-8779  
Email: [jacksona@grayson.edu](mailto:jacksona@grayson.edu)  
Office Location: STC 202  
Office Hours: See GC Portal Instructor Info.

## **PREREQUISITES:**

Completion of, or concurrent enrollment in, all subjects covered in the MLT curriculum is required to take this course.

## **COURSE DESCRIPTION:**

MLAB 2338HYB. Advanced Topics in Clinical Laboratory Science. A comprehensive survey of all topics covered in clinical laboratory science. This extensive review will include the following subjects: lab math, instrumentation, immunology, serology, hematology, coagulation, parasitology, mycology, urinalysis, immunohematology, clinical chemistry and clinical microbiology. Completion of, or concurrent enrollment in, all subjects covered in the MLT curriculum is required to take this course. A grade of "C" or better, and successful completion of a comprehensive exam, is required for graduation.

## **INTEGRATION OF SCANS COMPETENCIES:**

- \* Indicates Course Goals, Objectives, and/or Activities designed to achieve SCANS Competencies.

**INTEGRATION OF SCANS COMPETENCIES  
WITH COURSE GOALS, OBJECTIVES, AND ACTIVITIES**

**COURSE NUMBER** MLAB 2338

**COURSE NAME** Advanced Topics in Clinical Laboratory Science

| <b>SCANS COMPETENCIES AND<br/>FOUNDATION SKILLS</b> | <b>COURSE GOALS, OBJECTIVES, AND<br/>ACTIVITIES</b>                                                                                                                                                                                                          |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RESOURCES</b>                                    |                                                                                                                                                                                                                                                              |
| ALLOCATES TIME                                      | Arrives for lecture sessions at assigned time                                                                                                                                                                                                                |
| ALLOCATES MONEY                                     |                                                                                                                                                                                                                                                              |
| ALLOCATES MATERIAL AND<br>FACILITY RESOURCES        | Uses laboratory equipment safely and<br>accurately<br>Demonstrates increasing dexterity in performing<br>manual procedures                                                                                                                                   |
| ALLOCATES HUMAN<br>RESOURCES                        | Volunteers to be the "patient" in campus lab                                                                                                                                                                                                                 |
| <b>INFORMATION</b>                                  |                                                                                                                                                                                                                                                              |
| ACQUIRES & EVALUATES<br>INFORMATION                 | Arrives for campus lab sessions at assigned<br>time                                                                                                                                                                                                          |
| ORGANIZES & MAINTAINS<br>INFORMATION                |                                                                                                                                                                                                                                                              |
| INTERPRETS &<br>COMMUNICATES INFORMATION            | Uses laboratory equipment safely and<br>accurately<br>Demonstrates increasing dexterity in performing<br>manual procedures                                                                                                                                   |
| USES COMPUTERS TO<br>PROCESS INFORMATION            | Volunteers to be the "patient" in campus lab                                                                                                                                                                                                                 |
| <b>INTERPERSONAL</b>                                |                                                                                                                                                                                                                                                              |
| PARTICIPATES AS A MEMBER<br>OF A TEAM               | Collects samples<br>Demonstrates interpersonal communication<br>skills with patients, laboratory personnel, other<br>health professionals, and with the public<br>Cooperates with instructor and fellow students<br>to maintain campus lab in good condition |
| TEACHES OTHERS                                      | Participates in communications activities<br>Elicits and gives information                                                                                                                                                                                   |
| SERVES CLIENTS/CUSTOMERS                            | Demonstrates communication skills<br>Reduces anxiety and develops trust                                                                                                                                                                                      |
| EXERCISES LEADERSHIP                                | Accepts other person's point of view                                                                                                                                                                                                                         |
| NEGOTIATES TO ARRIVE AT                             | Accepts other person's point of view                                                                                                                                                                                                                         |

|                                      |                                                                                                                                                                                                                              |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DECISION                             | Respects others' ideas                                                                                                                                                                                                       |
| WORKS WITH CULTURAL DIVERSITY        | Collects samples<br>Demonstrates communication skills<br>Cooperates in campus lab                                                                                                                                            |
| <b>SYSTEMS</b>                       |                                                                                                                                                                                                                              |
| UNDERSTANDS SYSTEMS                  | Identifies personnel and departments in a clinical laboratory<br>Uses laboratory equipment<br>Observes Universal Precautions<br>Follows written and verbal instructions<br>Discusses importance of a quality control program |
| MONITORS & CORRECTS PERFORMANCE      | Obtains results within limits set                                                                                                                                                                                            |
| IMPROVES & DESIGNS SYSTEMS           | Demonstrates increasing dexterity in performance of manual procedures<br>Demonstrates progressive accuracy, precision, and speed                                                                                             |
| <b>TECHNOLOGY</b>                    |                                                                                                                                                                                                                              |
| SELECTS TECHNOLOGY                   | Identifies equipment used to obtain blood specimens<br>Identifies other types of samples required for testing<br>Identifies equipment such as centrifuge, microscope, spectrophotometer required for testing                 |
| APPLIES TECHNOLOGY TO TASK           | Uses equipment to obtain blood specimens<br>Uses centrifuge, microscope, and other equipment as required for testing<br>Follows written and verbal instructions                                                              |
| MAINTAINS & TROUBLESHOOTS TECHNOLOGY | Cares for and cleans microscope<br>Operates centrifuges in a safe manner<br>Follows written and verbal instructions                                                                                                          |
| <b>BASIC SKILLS</b>                  |                                                                                                                                                                                                                              |
| READING                              | Follows written instructions<br>Recognizes basic medical prefixes, suffixes, and stems relevant to the clinical laboratory<br>Identifies selected medical abbreviations                                                      |
| WRITING                              | Prepares and transmits records                                                                                                                                                                                               |

|                                 |                                                                                                                                                                                                                                  |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | Explains how prefixes, stems, and suffixes are used to form medical terms                                                                                                                                                        |
| ARITHMETIC                      |                                                                                                                                                                                                                                  |
| MATHEMATICS                     | Demonstrates adequate knowledge of metric system<br>Performs simple laboratory calculations                                                                                                                                      |
| LISTENING                       | Recognizes types and examples of non-verbal communication<br>Describes characteristics of effective listening<br>Describes steps utilized in effective listening                                                                 |
| SPEAKING                        | Describes non-assertive, assertive, and aggressive communication styles<br>Explains rules applicable to proper pronunciation of medical terms                                                                                    |
| <b>THINKING SKILLS</b>          |                                                                                                                                                                                                                                  |
| CREATIVE THINKING               | Shares and transmits thought and feelings                                                                                                                                                                                        |
| DECISION MAKING                 | Distinguishes situations that necessitate independent action from those that require referral to a supervisor                                                                                                                    |
| PROBLEM SOLVING                 | Applies problem solving approach to make decisions                                                                                                                                                                               |
| SEEING THINGS IN THE MIND'S EYE | Recognizes results which do not correlate and reports them to instructor<br>Associates unusual test results with indicated conditions or diseases                                                                                |
| KNOWING HOW TO LEARN            | Follows written and verbal instructions                                                                                                                                                                                          |
| REASONING                       | Distinguishes situations that necessitate independent action from those that require referral to a supervisor                                                                                                                    |
| <b>PERSONAL QUALITIES</b>       |                                                                                                                                                                                                                                  |
| RESPONSIBILITY                  | Arrives for campus lab sessions at assigned time<br>Observes safety rules and regulations<br>Keeps class records current<br>Cooperates with instructor and other students to maintain campus lab and equipment in good condition |

|                   |                                                                                                                                                                                                      |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SELF-ESTEEM       | Acts in a professional manner                                                                                                                                                                        |
| SOCIABILITY       | Demonstrates interpersonal communication skills with instructors and other students                                                                                                                  |
| SELF-MANAGEMENT   | Displays a professional manner<br>Arrives for class on time<br>Cooperates with instructor and other students<br>Observes Universal Precautions when collecting and handling all laboratory specimens |
| INTEGRITY/HONESTY | Explains why professionalism is important<br>Records results exactly as determined<br>Defines ethics as applied to the laboratory professional                                                       |

### \*COURSE OBJECTIVES

#### TPO:

Upon completion of the assignments and participation in class discussion, the student must be able to correctly answer at least 70% of the questions given on the multiple choice examinations covering all topics in Clinical Laboratory Sciences.

#### Specific Objectives

Objectives for the course are the same ones used for all MLT class to this point. A list of objectives can be found online in Canvas.

### \* GOALS

Upon completion of this course the graduate should be prepared to function as a member of the health care team with the following duties and/or responsibilities:

1. To display the required knowledge necessary to pass a mock certification exam over all topics covered in the Medical Laboratory Technology program.
2. To display a professional attitude toward colleagues.
3. Participate in continuing education.
4. Project an image of professionalism in appearance and conduct at all times.

### **TEXTBOOK:**

(Required):

1. Graeter, L. J. (2015) Medical laboratory Science Examination Review (1<sup>st</sup> ed.). St. Louis, Missouri: Elsevier Saunders

## REQUIRED ASSIGNMENTS & ACADEMIC CALENDAR:

| Week # | Day | Date   | Topics Covered                     | Instructor |
|--------|-----|--------|------------------------------------|------------|
| 1      | W   | 8/24*  | Review Syllabus / Review UA Module | A. Jackson |
|        |     |        |                                    |            |
| 2      | W   | 8/31*  | Review UA Module                   | A. Jackson |
|        |     |        |                                    |            |
| 3      | W   | 9/7*   | Review Hema/Coag Module            | A. Flynn   |
|        |     |        |                                    |            |
| 4      | W   | 9/14*  | Review Hema/Coag Module            | A. Flynn   |
|        |     |        |                                    |            |
| 5      | W   | 9/21*  | <b>Exam #1</b>                     | A. Jackson |
|        |     |        |                                    | A. Jackson |
| 6      | W   | 9/28*  | Review BB Module                   |            |
|        |     |        |                                    | A. Flynn   |
| 7      | W   | 10/5*  | Review BB Module                   |            |
|        |     |        |                                    | A. Flynn   |
| 8      | W   | 10/12* | Review ImmSer Module               |            |
|        |     |        |                                    | A. Flynn   |
| 9      | W   | 10/19* | Intro Module<br>1                  |            |
|        |     |        |                                    | A. Flynn   |
| 10     | W   | 10/26* | <b>Exam #2</b>                     |            |
|        |     |        |                                    | A. Flynn   |
| 11     | W   | 11/2*  | Review Chemistry Module            |            |
|        |     |        |                                    | A. Jackson |
| 12     | W   | 11/9*  | Review Chemistry Module            |            |
|        |     |        |                                    | A. Jackson |
| 13     | W   | 11/16* | <b>Exam #3</b>                     |            |
|        |     |        |                                    | A. Jackson |
| 14     | W   | 11/23* | Review Micro Module                |            |
|        |     |        |                                    | A. Flynn   |
| 15     | W   | 11/30* | Review Micro Module                |            |
|        |     |        |                                    | A. Flynn   |
| 16     | TBA | TBA*   | <b>Exam #4</b>                     |            |

\*denotes required attendance

Final Examinations will be administered in the classroom according to the schedule provided in the Grayson College Schedule of Classes booklet and is subject to change with fair notice. Any changes to the Final Exam schedule will be posted as an Announcement in Canvas and given verbally in class.

*In the case of inclement weather, emergency closings, or other unforeseen disruptions to scheduled classes, students must log onto Canvas Announcements for directions on where or how to continue their coursework.*

### **METHODS OF EVALUATION:**

LECTURE: Evaluation will be performed utilizing written examinations. Comprehensive exams covering all topics in Clinical Laboratory Science will be taken on specified dates throughout the course. *A cumulative exam average of 70% AND an overall course grade of 70% is required to pass this course and to advance to clinicals.*

### **GRADING:**

Course grade will be determined by an accumulation of points earned through a series of four cumulative exams.

### **NUMERICAL VALUE OF GRADES:**

|   |   |           |
|---|---|-----------|
| A | = | 360 – 400 |
| B | = | 320 – 359 |
| C | = | 280 – 319 |
| D | = | 240 – 279 |
| F | = | 0 – 239   |

### **METHODS AND PROCEDURES OF INSTRUCTION:**

In-class and online lecture/discussion and laboratory sessions will be correlated so that the total lecture and laboratory hours per week will be utilized to the best advantage. Visual aids will be used to reinforce the presented material. Campus laboratory experience, demonstrations, textbooks, and periodicals will be utilized. Workshops may be utilized. The student may be required to do some independent research.

## **COURSE REQUIREMENTS:**

In order to achieve a passing grade, the following requirements must be met:

1. Regular attendance for the course is strongly encouraged in order to achieve successful completion of the course. More than two (2) absences are considered to be excessive and may result in poor performance on the exams.
2. A student may utilize the approved Student Grievance Procedure of Grayson County College as detailed in the GCC Policy and Procedure Manual (see the Program Assistant to review the policy) for the disposition of a grievance or complaint, without fear of recrimination or retaliation as a result of filing a grievance.
3. Any student caught cheating on examinations will be subject to disciplinary action, including an academic penalty and possible withdrawal from the program.
4. A grade of "C" or better is required for graduation.

## **INSTRUCTOR POLICIES:**

### Attendance/Participation

The class is hybrid structured to utilize review material to prepare for cumulative exams. These may include: subject modules of review questions, required reading, and in-class Q&A review sessions. The material used to answer these questions may be review material provided by the instructor, the required text of the course, and other supplementary items. Participation in the in-class review sessions and out-of-class studying is strongly encouraged for successful completion of the course.

### Exams

Tests will consist of multiple choice questions to be answered in either online or Scantron format. Students must provide their own Scantron forms as the instructor will have no extras. A paper test cannot be taken without a Scantron form - no exceptions! All test questions will be taken from material previously covered in MLT courses.

Random seating will be assigned for exams. Any texting activity during an exam will be considered cheating and the test taken up for a zero. All materials will be cleared from the desktops during exams. Cell phones should be put on silent during tests - no exceptions! Students may not leave the room during an exam. Should a student choose to leave the room, they are to turn in their exam to the instructor for grading as is and are not allowed to complete the exam. Calculators will be provided by the instructor.

In the event of a missed exam, it must be made up in the testing center by the next day with a 30 percent deduction. Regular class time should not be used to take make-up exams. If a missed test is not made up by the next class period, the test grade becomes a zero.

### Dress Code Adherence

Students are expected to adhere to the program dress code for all scheduled class days. Students not following the dress code, as determined by the instructor and program policy, will be dismissed from class for the day. This will apply to exam days as well.

### Electronic Devices

Cell phones must be placed on silent for all class sessions & exams. If a student must leave the room to answer a call during a non-testing class, they should leave and return as quietly as possible with minimum distraction to instructor and fellow students. If cell phone usage becomes excessive, further disciplinary action will be taken by the instructor.

Laptop computers and iPads may be brought to class with permission from the instructor and are to be used for review purposes only. The student may be removed from class if the policy is abused. Social networking websites may be accessed during class breaks.

### Study Strategies for Students

Students who demonstrate a thorough knowledge of the learning objectives found in each unit of instruction should score well on exams.

It is highly recommended that students attend all class sessions, come to class prepared to review the covered information, pay close attention to instructions, and participate to the fullest extent.

Students should not wait until the night before an exam to study. Studies have shown that students who study a certain amount each day are more likely to be successful. It is recommended that students read the text, define unknown terms, and prepare questions to ask the instructor during the next class period.

Tutoring is available to all students for all MLT courses. It is the student's responsibility to file a request for a tutor in the Testing Center, and an appropriate tutor will be located. It is imperative that students request tutoring as soon as the need develops. Do not wait until the last minute to begin needed work. Tutoring will be scheduled outside of regular class meetings.

### **CLASS ATTENDANCE:**

Academic success is closely associated with regular classroom attendance and course participation. All successful students, whether on campus or online, are expected to be highly self-motivated. All students are required to participate in courses regularly and are obliged to participate in class activities and complete and submit assignments following their professors' instructions. Students taking courses during compressed semester time frames such as mini-mester, summer sessions, and mid-semester should plan to spend significantly more time per week on the course.

Responsibility for work missed because of illness or school business is placed upon the student. More than two (2) absences are considered to be excessive. In addition, students' eligibility to receive financial aid or live in a College dormitory can be affected by withdrawal from courses. When withdrawal occurs, any tuition refund would be made in accordance with state regulations.

### **STUDENT CONDUCT:**

Students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular attendance and an attitude that seeks to take full advantage of the educational opportunity.

### **TITLE IX:**

GC policy prohibits discrimination on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex, sexual orientation, spousal affiliation and protected veterans status.

Furthermore, Title IX prohibits sex discrimination to include sexual misconduct: sexual violence (sexual assault, rape), sexual harassment and retaliation.

For more information on Title IX, please contact:

Dr. Regina Organ, Title IX Coordinator (903-463-8714)

Dr. Dava Washburn, Title IX Coordinator (903-463-8634)

Dr. Kim Williams, Title IX Deputy Coordinator- South Campus (903) 415-2506

Mr. Mike McBrayer, Title IX Deputy Coordinator (903) 463-8753

Ms. Marilyn Power, Title IX Deputy Coordinator (903) 463-8625

Website: <http://www.grayson.edu/campus-life/campus-police/title-ix-policies.html>

GC Police Department: (903) 463-8777- Main Campus) (903) 415-2501 - South Campus)

GC Counseling Center: (903) 463-8730

For Any On-campus Emergencies: 911

**Grayson County College is not responsible for illness/injury that occurs during the normal course of classroom/lab/clinical experiences.**

**These descriptions and timelines are subject to change at the discretion of the Professor.**

**Grayson College campus-wide student policies may be found in each Canvas course shell under the menu item "Student Services".**

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|                       |                        |
|-----------------------|------------------------|
| <i>Revised by:</i>    | <i>Alan Jackson</i>    |
| <i>Last Revision:</i> | <i>August 23, 2016</i> |