

## COURSE CHANGE FORM

Complete 1a – 1f & 2a – 2c. Fill out the remainder of the form as applicable for items being changed.

<b>1. General Information.</b>	
a. Submitted by the College of:	College of Health Sciences Today's Date: 9/20/10
b. Department/Division:	Department of Clinical Sciences/Clinical Laboratory Sciences
c. Is there a change in "ownership" of the course?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
If YES, what college/department will offer the course instead? _____	
d. What type of change is being proposed?	<input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor <sup>1</sup> (place cursor here for minor change definition)
e. Contact Person Name:	Michelle Butina Email: mbu228@uky.edu Phone: 218-0852
f. Requested Effective Date:	<input type="checkbox"/> Semester Following Approval OR <input checked="" type="checkbox"/> Specific Term <sup>2</sup> : Fall 2011
<b>2. Designation and Description of Proposed Course.</b>	
a. Current Prefix and Number:	CLS 882 Proposed Prefix & Number: MLS 482
b. Full Title:	Practicum in Clinical Chemistry Proposed Title: Clinical Chemisry Practicum
c. Current Transcript Title (if full title is more than 40 characters):	_____
c. Proposed Transcript Title (if full title is more than 40 characters):	_____
d. Current Cross-listing:	<input checked="" type="checkbox"/> N/A OR Currently <sup>3</sup> Cross-listed with (Prefix & Number): _____
Proposed – <input type="checkbox"/> ADD <sup>3</sup> Cross-listing (Prefix & Number): _____	
Proposed – <input type="checkbox"/> REMOVE <sup>3,4</sup> Cross-listing (Prefix & Number): _____	
<b>e. Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours<sup>5</sup> for each meeting pattern type.</b>	
Current:	<input type="checkbox"/> Lecture <input type="checkbox"/> Laboratory <sup>5</sup> <input type="checkbox"/> Recitation <input type="checkbox"/> Discussion <input type="checkbox"/> Indep. Study
	<input type="checkbox"/> Clinical <input type="checkbox"/> Colloquium <input type="checkbox"/> 1-5 Practicum <input type="checkbox"/> Research <input type="checkbox"/> Residency
	<input type="checkbox"/> Seminar <input type="checkbox"/> Studio <input type="checkbox"/> Other – Please explain: _____
Proposed:	<input type="checkbox"/> Lecture <input type="checkbox"/> Laboratory <input type="checkbox"/> Recitation <input type="checkbox"/> Discussion <input type="checkbox"/> Indep. Study
	<input type="checkbox"/> Clinical <input type="checkbox"/> Colloquium <input type="checkbox"/> 1-4 Practicum <input type="checkbox"/> Research <input type="checkbox"/> Residency
	<input type="checkbox"/> Seminar <input type="checkbox"/> Studio <input type="checkbox"/> Other – Please explain: _____
f. Current Grading System:	<input type="checkbox"/> Letter (A, B, C, etc.) <input checked="" type="checkbox"/> Pass/Fail
Proposed Grading System:	<input type="checkbox"/> Letter (A, B, C, etc.) <input checked="" type="checkbox"/> Pass/Fail
g. Current number of credit hours:	1-5 Proposed number of credit hours: 1-4
h. Currently, is this course repeatable for additional credit?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>

**Comment [OSC1]:** Excerpt from SR 3.3.0.G.2 Definition. A request may be considered a minor change if it meets one of the following criteria:  
a. change in number within the same hundred series\*;  
b. editorial change in the course title or description which does not imply change in content or emphasis;  
c. a change in prerequisite(s) which does not imply change in content or emphasis, or which is made necessary by the elimination or significant alteration of the prerequisite(s); d. a cross-listing of a course under conditions set forth in SR 3.3.0.E;  
e. correction of typographical errors.

\*...for the specific purposes of the minor exception rule, the 600-799 courses are the same "hundred series," as long as the other minor change requirements are complied with. [RC.1/15/09]

<sup>1</sup> See comment description regarding minor course change. *Minor changes are sent directly from dean's office to Senate Council Chair.* If Chair deems the change as "not minor," the form will be sent to appropriate academic Council for normal processing and contact person is informed.  
<sup>2</sup> Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.  
<sup>3</sup> Signature of the chair of the cross-listing department is required on the Signature Routing Log.  
<sup>4</sup> Removing a cross-listing does not drop the other course – it merely unlinks the two courses.  
<sup>5</sup> Generally, undergrad courses are developed such that one semester hr of credit represents 1 hr of classroom meeting per wk for a semester, exclusive of any lab meeting. Lab meeting generally represents at least two hrs per wk for a semester for 1 credit hour. (See SR 5.2.1.)

## COURSE CHANGE FORM

Proposed to be repeatable for additional credit?		YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
If YES:	Maximum number of credit hours:		
If YES:	Will this course allow multiple registrations during the same semester?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
<b>i. Current Course Description for Bulletin:</b>	A supervised practicum in which the student integrates theory and practice of clinical chemistry in a health care setting. Offered on a Pass/Fail basis only. Laboratory, 35-40 hours per week. The number of credits will depend on the student's prior experience.		
Proposed Course Description for Bulletin:	This course consists of a supervised practicum in which students will integrate practice and theory of clinical chemistry in a health care setting and expose them to the scope of work, variety of tests, and automation found within the hematology department. Laboratory, 35-40 hours per week. The number of credits will depend on the student's prior experience.		
<b>j. Current Prerequisites, if any:</b>	Admission into the Clinical Laboratory Sciences Program and CLS 844 (may be taken concurrently).		
Proposed Prerequisites, if any:	Successful completion of <u>MLS 462 and MLS 462L</u> .		
<b>k. Current Distance Learning (DL) Status:</b>	<input type="checkbox"/> N/A	<input type="checkbox"/> Already approved for DL*	<input checked="" type="checkbox"/> Please Add <sup>6</sup>
			<input type="checkbox"/> Please Drop
*If already approved for DL, the Distance Learning Form must also be submitted unless the department affirms (by checking this box <input type="checkbox"/> ) that the proposed changes do not affect DL delivery.			
<b>l. Current Supplementary Teaching Component, if any:</b>	<input type="checkbox"/> Community-Based Experience	<input type="checkbox"/> Service Learning	<input type="checkbox"/> Both
Proposed Supplementary Teaching Component:	<input type="checkbox"/> Community-Based Experience	<input type="checkbox"/> Service Learning	<input type="checkbox"/> Both
<b>3. Currently, is this course taught off campus?</b>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
Proposed to be taught off campus?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
<b>4. Are significant changes in content/teaching objectives of the course being proposed?</b>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
If YES, explain and offer brief rationale:			
<b>5. Course Relationship to Program(s).</b>			
<b>a. Are there other depts and/or pgms that could be affected by the proposed change?</b>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
If YES, identify the depts. and/or pgms: _____			
<b>b. Will modifying this course result in a new requirement<sup>7</sup> for ANY program?</b>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
If YES <sup>7</sup> , list the program(s) here: <u>Medical Laboratory Science</u>			
<b>6. Information to be Placed on Syllabus.</b>			
<b>a.</b>	<input type="checkbox"/> Check box if changed to 400G or 500.	If changed to 400G- or 500-level course you must send in a syllabus and you must include the differentiation between undergraduate and graduate students by: (i) requiring additional assignments by the graduate students; and/or (ii) establishing different grading criteria in the course for graduate students. (See SR 3.1.4.)	

<sup>6</sup> You must also submit the Distance Learning Form in order for the course to be considered for DL delivery.

<sup>7</sup> In order to change a program, a program change form must also be submitted.

## COURSE CHANGE FORM

### Signature Routing Log

**General Information:**

Course Prefix and Number: CLS 882 (Proposed MLS 482)

Proposal Contact Person Name: Michelle Butina Phone: 218-0852 Email: mbu228@uky.edu

**INSTRUCTIONS:**

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

**Internal College Approvals and Course Cross-listing Approvals:**

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
CLS Faculty	9/20/10	Dr. Michelle Butina / 218-0852 / mbu228@uky.edu	<i>Michelle Butina</i>
Clinical Sciences Department	9/29/10	Dr. Karen Skaff / 218-0585 / karenskaff@uky.edu	<i>[Signature]</i>
CHS Associate Dean for Academic Affairs	10/26/10	Dr. Sharon Stewart / 218-0570 / srstew01@email.uky.edu	<i>Sharon Stewart</i>
		/ /	
		/ /	

**External-to-College Approvals:**

Council	Date Approved	Signature	Approval of Revision <sup>8</sup>
Undergraduate Council	3/1/2011		
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

<sup>8</sup> Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

**University of Kentucky  
College of Health Sciences  
Department of Clinical Sciences  
Clinical Laboratory Sciences**

**Course Number/Title/Section:** MLS 482 Clinical Chemistry Practicum, Section TBD

**Course Credit:** 1-4 credits

**Course Time /Place:** Time: Schedule set by clinical affiliate  
Place: Assigned clinical affiliate

**Course Faculty:** (1) Linda Gorman, PhD, MLS(ASCP)  
Clinical Coordinator  
126G CTW Bldg. 900 S. Limestone  
Lexington, KY 40536-0200  
Email (preferred for contacting instructor):  
[lsgorm0@uky.edu](mailto:lsgorm0@uky.edu)  
Office phone: (859) 218-0855

(2) Clinical faculty located at clinical affiliate

(3) Michelle Butina, PhD, MLS(ASCP)  
Program Director  
124D CTW Bldg. 900 S. Limestone  
Lexington, KY 40536-0200  
Email (preferred for contacting instructor):  
[Michelle.Butina@uky.edu](mailto:Michelle.Butina@uky.edu)  
Office phone: (859) 218-0852

## **COURSE DESCRIPTION**

**Bulletin Description:**

This course consists of a supervised practicum in which students will integrate practice and theory of clinical chemistry in a health care setting and expose them to the scope of work, variety of tests, and automation found within the chemistry department. Laboratory, 35-40 hours per week. The number of credits will depend on the student's prior experience. Prereq: Successful completion of MLS 462 and MLS 462L.

**Overview:**

The clinical practicum for Clinical Chemistry is 5 weeks in length. The practicum has a standardized checklist that must be completed by every student. Practicum times will vary depending on the affiliate, but should be about 8 hours per day in length. This will allow the student time to review and correlate didactic material with the clinical experience on a daily

basis.

### **Student Learning Outcomes:**

Upon completing this practicum, students will be able to demonstrate the following learning outcomes:

1. Evaluate patient specimens for acceptability of testing.
2. Correlate laboratory tests with disease states.
3. Interpret patient test results and identify any inconsistent values.
4. Perform testing using the methods provided by the clinical affiliate.
5. Demonstrate proper use of chemistry instrumentation and/or automation.
6. Discuss scientific principles and test methodologies of any chemistry laboratory testing performed.
7. Monitor and evaluate quality control data.
8. Follow lab safety precautions/protocols established by the clinical affiliate.
9. Use medical terminology and abbreviations in the proper context.
10. Professionally communicate with fellow health care professionals.
11. Develop and demonstrate professional attitudes, behaviors, and practice.

### **Objectives:**

The objective of this practicum is to impart to students:

1. The ability to interpret clinical results and apply trouble-shooting skills while practicing self-validation of their findings.
2. The ability to effectively communicate their findings with peers and other healthcare professionals, underscoring this with respect for patient confidentiality at all times.
3. A thorough understanding of quality control and quality assurance relative to all test results and interpretation of findings.

### **Course Materials:**

For Clinical Chemistry Practicum the student will be required to print the Affective Performance evaluation form, Technical Performance evaluation form and Student Checklist as needed throughout the clinical rotations. Copies of these forms are available on Blackboard.

### **Evaluation Criteria:**

Evaluation is based upon:

1. Affective Performance: Clinical faculty will evaluate affective performance. See the Affective Performance Evaluation in the MLS Student Handbook.
2. Technical Performance: Clinical faculty will evaluate technical performance. See the Technical Performance Evaluation in the MLS Student Handbook.
3. Knowledge: By the end of the practicum for each discipline, the student will be able to demonstrate completion of the objectives that are listed for the practicum. Students will be evaluated by clinical faculty and the clinical coordinator. See Clinical Chemistry student checklist below. (Also located in the MLS Student Handbook.)
4. Attendance: See course policy below.
5. Writing Assignments: Students are required to complete 3 written assignments by the end of the Clinical Chemistry practicum.

## **Assignments**

During the Clinical Chemistry Practicum the student is required to write a 1-3 page paper on each of the following:

1. Piece of automated equipment used in that lab (including daily QC and monthly QC)
2. Something that you found interesting about your rotation; or identify a problem area and suggest ways to prevent the problem
3. A write-up of a specific case that occurred during your rotation

Assignments, with detailed instructions, will be available on Blackboard. All assignments are to be accessed and submitted via Blackboard. These assignments will be due to the clinical coordinator no later than the last scheduled day of practicum.

## **Grading:**

MLS 482 is evaluated as **Pass or Fail:**

**Pass:** Student must successfully complete all of the following:

1. A minimum of 70% of Affective Performance items (**starred items must be demonstrated at all times**).
2. A minimum of 70% of Technical Performance items.
3. At least 95% successful completion of all required checklist items. Checklists must be delivered to the clinical coordinator no later than the Friday immediately following the final day of the practicum.
4. Satisfactory attendance record (present for 95% of scheduled rotation days with completion of all required make-up days for absences.)
5. Completion of 3 reports for each practicum which must be submitted no later than the final rotation day of Clinical Chemistry.

## **Fail:**

1. Student completes less than 70% of affective or technical performance items; or fails to complete a starred affective performance item.
2. Failure to adhere to attendance guidelines (more than 2 unexcused absences).
3. Any student who is asked to leave a clinical site prior to completion of the assigned rotation time will automatically receive a failing (F) grade.

## **Incomplete:**

1. An "Incomplete" (I) grade will be recorded for any student with **excused** absences who is unable to complete make-up days before grading deadlines.
2. An "Incomplete" (I) grade will be recorded for any student who fails to submit checklists by the end of the practicum rotation.
3. An "Incomplete" (I) grade will be recorded for any student who fails to successfully complete 95% of checklist items by the end of the practicum rotation.
4. An "Incomplete" (I) grade will be recorded for any student who fails to submit the 3 completed reports for this practicum by the due date.

## **COURSE POLICIES**

### **Attendance**

In general, practicums are offered Monday through Friday during day shift hours. Exact day shift hours are assigned by each clinical affiliate. Most clinical days start between the hours of 6:30 am – 8:00 am. Some clinical affiliates may request the student come in at different hours so that students will experience special procedures or have an increased chance to participate in clinical procedures. Students may expect to spend 36-40 hours per week at the clinical site. Students must remain in the clinical site for the assigned period, except for scheduled morning, lunch, and afternoon breaks. Students are expected to seek out opportunities to learn, to gain experience, and to assist technologists when appropriate. When checklists are completed, students must continue to make the most of their educational experience throughout the required schedule for each rotation.

The student is expected to adhere to the absence (and tardiness) policy that is in place at the assigned clinical affiliate. To successfully pass the practicum, the student must have been in attendance at the clinical site at least 95% of the time, or 24 of the 25 days of practicum. In the event of a necessary absence, such as illness, the student must notify the clinical supervisor at the clinical site a minimum of 30 minutes prior to the scheduled starting time and the clinical coordinator no later than 8:00 am via email or telephone. (Messages may be left on voicemail.) Lack of notification will automatically result in an unexcused absence. Any student with more than 2 unexcused absences may be dropped from the clinical rotation. A few make-up days have been scheduled to allow for absences. The student must make-up all time missed, beyond the one-day limit, during the scheduled make-up days or at the convenience of the clinical affiliate. In the event that time cannot be made up by the end of the semester, the student will receive an “Incomplete” and will be responsible for making up the days during the following semester or at the convenience of the clinical site. Reasons for excused absences include personal illness, participation in academic functions, major religious holiday, illness of an immediate family member, and death in the immediate family. (Clinical site supervisor and clinical coordinator must be notified of any planned excused absence.)

The student is expected to report to his/her assigned department and be ready to work by the scheduled time. Tardiness is defined as greater than 7 minutes past the scheduled starting time or as leaving prior to being dismissed from the site. Three unexcused tardy incidents will be counted as an unexcused absence, and a make-up day may be required. Failure to notify appropriate personnel or failure to make-up missed clinical days may result in failure to satisfactorily complete the course.

### **Severe weather policy and “Plan B”**

Plan B is the University’s emergency severe weather plan implemented when classes must be cancelled or delayed, or offices closed. Plan B requires employees, whose job functions are considered essential, to report to work despite delays and cancellations. During adverse weather conditions, MLS students are expected to report to their clinical site at the scheduled time as long as it is possible and safe to do so. This policy remains in effect regardless of U.K. announced delays and cancellation of classes. Clinical site supervisors must be contacted prior to the rotation start time to discuss any safety issues that may prevent a student’s ability to report to

his/her assigned practicum.

### **Dress Code and Safety Regulations**

See the section 5 of the MLS Student Handbook for the program policies concerning dress code and safety regulations. Policies of the clinical affiliate will be provided to the student. The student is required to adhere to the most stringent policy provided.

### **Beepers, cell phones, personal calls and video/music players**

Students are not to receive or place phone calls during class hours or clinical hours without the consent of the instructor and then only in the case of emergency. Cell phones must be turned off during clinical rotations. Students may use the telephone number of the staff associate in the MLS division as an emergency number. The number is: 859-323-1100, ext 80512. The staff associate will get the message to you as soon as possible. In addition, video/music players such as an MP3 player are not permitted during the clinical rotations.

### **Ethics**

Students will maintain patient confidentiality, adhere to clinical affiliate policy regarding confidentiality, and adhere to risk management guidelines at all times.

## **DISTANCE LEARNING STUDENTS (Center for Rural Health Students)**

Distance Learning: Formal educational process in which the majority of instruction in a course occurs when students and instructors are not in the same place.

### **Instructor Information:**

Virtual Office Hours: TBD

Preferred method of contact: Email (email address given at top of syllabus)

Maximum timeframe for responding to student communications: 24 hours

### **Technological Requirements:**

- Access to a computer with Internet capabilities (DSL or Cable modems are highly recommended.)
- System Requirements for Blackboard see <http://wiki.uky.edu/blackboard/Wiki%20Pages/FAQS.aspx>

### **Technology Support:**

- Contact information for Teaching and Learning Services Center (TASC):  
Website: <http://www.uky.edu/TASC/>  
Phone: 859-257-8272
- Contact information for Information Technology Customer Service Center (ITSC):  
Website: <http://www.uky.edu/UKIT/>



Phone: 859-218-HELP

- Procedure for resolving technical complaints: Contact TASC or ITSC first, then contact instructor

Distance Learning Library Services:

- Contact information for Distance Learning Library Services:

Website: <http://www.uky.edu/Libraries/DLLS>

DL Librarian: Carla Cantagallo

Email: [dllservice@email.uky.edu](mailto:dllservice@email.uky.edu)

Phone: 859 257-0500, ext. 2171; (800) 828-0439 (option #6)

DL Interlibrary Loan Service:

[http://www.uky.edu/Libraries/libpage.php?lweb\\_id=253&llib\\_id=16](http://www.uky.edu/Libraries/libpage.php?lweb_id=253&llib_id=16)

**MLS 482 CHECKLIST - CLINICAL CHEMISTRY PRACTICUM**

Student \_\_\_\_\_ Semester \_\_\_\_\_

Rotation Site \_\_\_\_\_

\*Evaluator: In the column that describes the student's performance; please record if the student Observed (O) Performed under Supervision (S), and/or Performed independently (I) at your facility for each checklist item; please initial the comment box at the end of each line.

Rotations: 1= first 3 weeks, Basic Level; 2 = second 3 weeks, Advanced Level; SD = special day at UK

	*Student Performance (O, S, I)	Rotation	Supervisor Initials & Comments
<b>1. General / Specimen Processing (Lab Central Receiving Area @ UK.)</b>			
a. Review of MSDS sheets		1	
b. Demonstrate safe laboratory practices – universal precautions (independently)		1	
c. Process specimens for analysis accurately (25 specimens minimum) 1. Recognize specimens which are unacceptable for analysis 2. Take necessary remedial action for unacceptable specimens		1	
d. Utilize a computerized laboratory information system (spec. accession, label generation, result entry, data retrieval, etc) (under supervision)		1	
e. Process specimens for shipping to commercial reference laboratories		1	
<b>2. Use an automated discrete analyzer (25 specimens minimum)</b>			
a. Initiate daily start-up (organize work)		1	
b. Calibrate instrument under supervision		1	
c. Perform routine preventive maintenance with reagent replenishment		1	
d. Obtain and verify quality control data		1	
e. Program requested tests and patient demographics (when applicable)		1	
f. Perform test analysis		1	
g. Demonstrate knowledge of instrument principle		1	
h. Recognize abnormal / critical results and take appropriate action according to laboratory policy		1	
i. Perform sample dilutions (under supervision)		1	
j. Perform trouble-shooting when necessary (under supervision)		1	

	*Student Performance (O, S, I)	Rotation	Supervisor Initials & Comments
<b>3. Perform manual Chemistry tests</b>			
a. Osmometry (Osmolality of serum, or urine)		1	
b. Ketone (tablet test with controls)		1	
c. pHF (fluids pH strip test)		1	
<b>4. Use an ion specific electrode/ electrolyte measuring device (15 minimum)</b>			
a. Initiate daily start-up (organize work)		1	
b. Calibrate instrument under supervision		1	
c. Perform routine preventive maintenance with reagent replenishment		1	
d. Obtain and verify quality control results		1	
e. Program requested tests and patient demographics (if applicable)		1	
f. Perform test analysis		1	
g. Demonstrate knowledge of instrument principle		1	
h. Recognize abnormal /critical results and take appropriate action according to laboratory policy		1	
i. Perform trouble-shooting when necessary		1	
<b>5. Use a Blood Gas Analyzer (10 specimens minimum)</b>			
a. Check specimen acceptability for analysis		1	
b. Initiate daily start-up (organize work)		1	
c. Calibrate instrument under supervision		1	
d. Perform routine preventive maintenance with reagent replenishment		1	
e. Obtain and verify quality control results		1	
f. Program requested tests and patient demographics (if applicable)		1	
g. Perform test analysis			
h. Demonstrate knowledge of instrument principle		1	
i. Recognize abnormal / critical results and take proper steps according to laboratory policy		1	
j. Perform trouble-shooting when necessary (under supervision)		1	

	*Student Performance (O, S, I)	Rotation	Supervisor Initials & Comments
<b>6. Quality Assurance</b>			
a. Review quality control records for one month with instructor		1	
b. Review statistical analysis of method comparison or quality control lot comparison with instructor		1	
c. Review quality assurance plan with instructor		1	
d. Interpret statistical analysis of proficiency testing results		1	
e. Review point of care testing protocol & quality assurance plan with instructor		1	
<b>7. Perform glycohemoglobin analysis (if available)</b>			
a. Initiate daily start-up (organize work)		1 or 2	
b. Calibrate instrument under supervision		1 or 2	
c. Perform routine preventive maintenance including reagent replenishment		1 or 2	
d. Obtain and verify quality control data		1 or 2	
e. Program requested tests and patient demographics (if applicable)		1 or 2	
f. Perform tests analysis		1 or 2	
g. Demonstrate knowledge of instrument principle		1 or 2	
h. Recognize abnormal / critical results and take proper steps according to laboratory policy		1 or 2	
<b>8. Use an automated immunoassay instrument (15 specimens minimum)</b>			
a. Initiate daily start-up (organize work)		2	
b. Calibrate instrument under supervision		2	
c. Perform routine preventive maintenance including reagent replenishment		2	
d. Demonstrate appropriate safety measures with reagents		2	
e. Obtain and verify quality control results		2	
f. Program requested tests and patient demographics (if applicable)		2	
g. Perform test analysis		2	
h. Demonstrate knowledge of immunoassay instrument principles, including competitive binding protein, two site "sandwich" type assay, and enzyme-linked immunoassay		2	
i. Recognize abnormal / critical results and take proper steps according to laboratory policy		2	
j. Perform trouble-shooting when necessary (under supervision)		2	

	*Student Performance (O, S, I)	Rotation	Supervisor Initials & Comments
<b>9. Therapeutic Drug Monitoring (observed or under supervision)</b>			
a. Demonstrate an understanding of basic pharmacokinetic principles applied to TDM		2	
b. Demonstrate an understanding of the principle of analysis of a TDM instrument		2	
c. Utilize an automated instrument for TDM analysis (if available)		2	
<b>10. Special Chemistry Procedures (observed or under supervision)</b>			
a. Demonstrate an understanding of analytical procedures for diagnosing fetal lung maturity		2 (SD)	
b. Demonstrate an understanding of analytical procedures for diagnosing cystic fibrosis.		2 (SD)	
c. Demonstrate an understanding of analytical procedures for immunodiffusion		2 (SD)	
d. Demonstrate an understanding of assay principles for measuring hormone levels (thyroid, reproductive hormones, adrenal hormones)		2 (SD)	
<b>11. Toxicology (observed or under supervision)</b>			
a. Characterize the difference between clinical drug screening and drugs of abuse screening		2 (SD)	
b. Perform analysis, identification and quantitation of serum alcohols by gas chromatography		2 (SD)	
c. Observe/perform (as available) urine drug screen analysis		2 (SD)	
d. Observe confirmation of analytes by gas chromatography/mass spectrometry		2 (SD)	
e. Demonstrate an understanding of principles and procedures of HPLC		2 (SD)	

12. Perform Electrophoresis (if available)			
a. Perform routine preventive maintenance including reagent replenishment	2 (SD)		
b. Initiate start-up procedures/organize workload for instrument	2 (SD)		
c. Perform test analysis	2 (SD)		
d. Obtain and verify quality control results	2 (SD)		
e. Recognize abnormal results and take proper steps according to laboratory policy	2 (SD)		
f. Demonstrate knowledge of assay principles	2 (SD)		
g. Perform trouble-shooting when necessary	2 (SD)		

