AUBURN UNIVERSITY MONTGOMERY
Medical Laboratory Science
ONLINE Option
Clinical Experience Checklist
Clinical Chemistry

STUDENT: _____

CLINICAL SITE: _____

The following pages contain the concepts/basic skills and tasks/test procedures which are to be completed during the Clinical Chemistry Clinical Experience. These concepts/basic skills and tasks/test procedures have been designated as those in which the student must demonstrate competence to perform as an entry-level medical technologist/clinical laboratory scientist at the completion of clinical experience. Each of these concepts/basic skills and tasks/test procedures is numbered and is correlated with the curriculum objectives for this area. Any additional concepts/skills/tasks/test procedures performed by the student at your clinical site which are not contained in this checklist can be recorded on the blank form at the end of the checklist.

As the student demonstrates the required level of competency in the various concepts/skills/tasks/ test procedures, please verify this by recording the date and your initials in the appropriate space. **IT IS THE STUDENT'S RESPONSIBILITY TO KEEP THIS FORM AND TO HAVE IT AVAILABLE FOR THE SIGNATURE AND DATE AT THE APPROPRIATE TIME.** Upon completion of the clinical experience, the student is to return this form to the AUM MLS Program Director.

The Concepts/Basic Skills section contains the concepts and skills that need to be reinforced and used throughout the clinical chemistry clinical experience. These require ongoing evaluation during the time spent in the Clinical Chemistry Department. Competency will be determined at the end of the clinical experience when, in the professional opinion/judgement of the clinical instructor(s), the concepts and basic skills on this checklist have been completed at an 85% level. An 85% competency level is defined as explaining **each** concept or performing **each** basic skill at an 85% accuracy level. The AUM MLS Faculty considers 85% as that level necessary to perform as an entry-level MLS.

The Tasks/Test Procedure section contains specific functions which the program considers to be the minimal essential functions for an entry-level MLS. The number beside each task/test procedure is the number of times the specific task/test procedure must be completed. The "Required Level of Competency" is the level of accuracy that must be attained with **each** repetition. The student is considered competent when the indicated number of test(s) have been completed at the indicated level of accuracy.

The Clinical Chemistry content area consist of a three semester series of courses. Therefore, this checklist must be completed by the end of the semester in which the last course in this series is taken by the student. Failure to complete any one concept/basic skill/task/test procedure at the required competency level will result in failure of this course and dismissal from the program. In the event that competency could not be obtained for a particular concept/basic skill/task/test procedure through no fault of the clinical site or the student, indication of this should be noted on the checklist along with a brief explanation. If this situation arises, failure to complete the required competency will not be counted against the student.

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Clinical Chemistry Clinical Experience Checklist
Concepts/Basic Skills

	Clinical Chemistry Concepts/Basic Skills	Required Level of Competency (%)	Competent
1.1	Complies with safety rules and regulations of the clinical facility**.**	**85**	
1.2 **1.3**	Prepares proper dilutions of stock standards, reagents, and patient samples**.**	**85**	
1.4 **2.7**	Utilizes knowledge of linear regression analysis in instrument calibration and linearity studies.	**85**	
1.6 **1.7**	Recognizes normal reference ranges for common clinical chemistry analytes and understands the limitations of these ranges.	**85**	
1.11	Recognizes the relationship between the daily routine operation of the clinical chemistry laboratory quality control program and the quality assurance program of the laboratory at large.	**85**	
1.14	Correctly records quality control data in terms of clinical chemistry department protocols.	**85**	
1.15	Evaluates quality control records and takes appropriate corrective actions should quality control results fall outside established limits.	**85**	
1.16	Using established laboratory criteria, identify and evaluate patient specimens as acceptable or unacceptable for chemical analysis.	**85**	
1.17	Record patient chemistry results according to established clinical chemistry department protocol.	**85**	
17.1	Identify the types of analyses each clinical chemistry instrument introduced during clinical experience is used to perform.	**85**	
17.2	Identify the primary operating components of each clinical chemistry instrument introduced during clinical experience and explain the function of each component.	**85**	
17.3	Correctly operate each clinical chemistry instrument utilized during clinical experience.	**85**	
17.4a	Describe the function of the reagent(s) for each chemistry analyzer utilized during clinical experience.	**85**	

Clinical Chemistry Concepts/Basic Skills		Required Level of Competency (%)	Competent
17.4b	Demonstrate the preparation of the reagent(s) for each chemistry analyzer utilized during clinical experience.	**85**	
17.4c	Demonstrate reagent handling for each chemistry analyzer utilized during clinical experience.	**85**	
17.4d	Describe/Demonstrate sample identification and processing for each chemistry analyzer utilized during clinical experience.	**85**	
17.4e	Describe/Demonstrate sample/reagent mixing and reaction for each chemistry analyzer utilized during clinical experience.	**85**	
17.4f	Describe/Demonstrate methods of analysis for each chemistry analyzer utilized during clinical experience.	**85**	
17.4g	Demonstrate programming/calibrating of each chemistry analyzer utilized during clinical experience.	**85**	
17.4h	Demonstrate the production of valid patient results for each chemistry analyzer utilized during clinical experience.	**85**	
17.4i	Describe/Demonstrate the reporting of patient results for each chemistry analyzer utilized during clinical experience.	**85**	
17.5a	Demonstrate competency of daily maintenance and troubleshooting by correctly identifying a functioning, ill-functioning, or non-functioning instrument.	**85**	
17.5b	Demonstrate competency of daily maintenance and troubleshooting by successfully troubleshooting instrument problems.	**85**	
17.6	Correctly report patient results.	**85**	
17.7	Demonstrate competency with laboratory information systems.	**85**	
17.8	Identify discrepant results and, with proper supervision, initiate steps to address the discrepancy.	**85**	

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Tasks/Test Procedures

Clinical Chemistry Tasks/Test Procedures		Required Level of Competency (%)	Competent
3.10 **No.**	Demonstrate proficiency utilizing EMIT and/or fluorescent polarization immunoassays for therapeutic drug monitoring. **10**	**85**	
4.4 **4.7** **4.9** **No.**	Demonstrate proficiency in performing automated/manual methods of glucose, ketones, glycated hemoglobin, lactate, C-peptide, and tolerance test analyses and in evaluating the results in health and disease. **10**	**85**	
5.8 **No.**	Calculate LDL-Cholesterol using the Friedewald equation. **1**	**100**	
5.9 **5.10** **No.**	Demonstrate proficiency in performing automated/manual methods of lipid profiles and in evaluating the results in health and disease. **10**	**85**	
7.3 **7.5** **No.**	Demonstrate proficiency in performing automated/manual methods of iron studies and in evaluating the results in health and disease. **10**	**85**	
9.6 **9.8** **No.**	Demonstrate proficiency in performing automated/manual methods of bilirubin analyses and in evaluating the results in health and disease. **10**	**85**	
10.4 **10.9** **No.**	Demonstrate proficiency in performing automated/manual methods of protein analyses in serum, urine and spinal fluid and in evaluating the results in health and disease. **10**	**85**	
11.4 **11.10** **No.**	Demonstrate proficiency in performing automated/manual methods of non-protein nitrogenous analytes in serum and urine and in evaluating the results in health and disease. **10**	**85**	
11.8 **No.**	Calculate 24-hour excretion rates. **1**	**100**	
11.8 **No.**	Calculate estimated serum osmolality. **1**	**100**	

Clinical Chemistry Tasks/Test Procedures		Required Level of Competency (%)	Competent
11.8 **No.**	Calculate osmolal gap. **1**	**100**	
11.8 **No.**	Calculate creatinine clearance. **1**	**100**	
11.8 **No.**	Calculate BUN/Creatinine ratio. **1**	**100**	
12.5 **12.8** **2.25** **No.**	Demonstrate proficiency in performing automated methods of electrolyte analyses and in evaluating the results in health and disease. **10**	**85**	
14.4 **14.6** **No.**	Demonstrate proficiency in performing automated/manual methods of calcium and phosphorus analyses and in evaluating the results in health and disease. **10**	**85**	
15.6 **15.7** **15.8** **No.**	Identify enzymes considered clinically significant for the diagnosis and prognosis of cardiac disease; demonstrate proficiency in performing automated/manual methods of these enzymes and in evaluating the results in health and disease. **10**	**85**	
15.9 **15.10** **15.11** **No.**	Identify enzymes considered clinically significant for the diagnosis and prognosis of skeletal muscle disease; demonstrate proficiency in performing automated/ manual methods of these enzymes and in evaluating the results in health and disease. **10**	**85**	
15.12 **15.13** **15.14** **No.**	Identify enzymes considered clinically significant for the diagnosis and prognosis of hepatic disease; demonstrate proficiency in performing automated/manual methods of these enzymes and in evaluating the results in health and disease. **10**	**85**	
15.15 **15.16** **15.17** **No.**	Identify enzymes considered clinically significant for the diagnosis and prognosis of biliary tract disease; demonstrate proficiency in performing automated/manual methods of these enzymes and in evaluating the results in health and disease. **10**	**85**	
15.9 **No.**	Calculate an amylase:creatinine clearance ratio. **1**	**100**	
15.18 **15.20** **15.21** **No.**	Identify enzymes considered clinically significant for the diagnosis and prognosis of pancreatic disease; demonstrate proficiency in performing automated/manual methods of these enzymes and in evaluating the results in health and disease. **10**	**85**	

Clinical Chemistry Tasks/Test Procedures		Required Level of Competency (%)	Competent
15.25 **15.26** **No.**	Demonstrate proficiency in performing automated/manual methods of enzymes associated with prostatic disease and in evaluating the results in health and disease. **10**	**85**	
16.7 **16.9** **No.**	Demonstrate proficiency in performing automated/manual methods of cortisol in serum and urine and in evaluating the results in health and disease. **10**	**85**	
16.17 **16.18** **No.**	Demonstrate proficiency in performing automated/manual methods of human chorionic gonadotropin in serum and urine and in evaluating the results in pregnancy. **10**	**85**	
16.25 **16.26** **No.**	Demonstrate proficiency in performing automated/manual methods of thyroid and related hormone assays and in evaluating the results in health and disease. **10**	**85**	

Additional Clinical Chemistry Skills/Tasks/Test Procedures

Skill/Task/Test Procedure	*Required Level of Competency (%)	Competent

* **As these additional procedures are specific to the individual clinical affiliate, the level of competency required is left to the discretion of the clinical instructor(s).**

Comments/Notes:

Each teaching technologist should sign and initial below.

Signature	Initials

Checklist Review

Hospital Representative: _____ Date: _____

AUM Representative: _____ Date: _____