Instructional Program Review Medical Laboratory Technology Review

This document addresses the following SACSCOC requirements: CR 2.5, CS 3.3.1, CS 3.5, and FR 4.1.

Purpose

Amarillo College instructional programs consistently review data and strive for improvement.

The purpose of this review is to demonstrate how AC instructional areas support AC's mission by "enriching the lives of our students and our community."

On an annual basis the Program Review process will capture a holistic view of a department's/program's strengths, weaknesses, and improvement plans based on institutional data and assessment information.

The information collected on this form will also serve to help your division complete the information required by SACSCOC for Amarillo College's continued reaffirmation efforts.

Response Length Suggestion: Most responses should be 2-3 sentences.

If available, you may also provide a link/reference to other documentation that answers each question.

I: Identification

1. Department or Program Title(s) (Department Chairs List Dept.; Coordinators List Program): Medical Laboratory Technology (MLAB.AAS)

2. Department and/or Program(s) Purpose Statement:

"The Medical Laboratory Technology program at Amarillo College is dedicated to providing students with the academic knowledge, the technical training, and the professional skills to enable them to serve as vital members of the healthcare team, within the framework of the Medical Laboratory Technician, in order to enhance the guality of life for individuals in and beyond our service area."

3. Program Review Year (i.e. Most Recent Academic Year)

2014-2015

4. Date of Submission:

05/26/2015

5. Lead Person Responsible for this Program Review:

<u>Name</u>: Janet M. Bohachef Martin <u>Title</u>: Professor/Program Director <u>E-mail</u>: jmmartin@actx.edu <u>Phone Number</u>: 806-354-6059

6. Additional Individuals (Name and Title) Responsible for Completing this Program Review:
None



II: Program Enrollment and Success Data

Use baseline data that will enable you to determine the status of your program (compare the most recent data to previous year data, compare your program to any existing state standards, or consider any other relevant factors). <u>Please use Firefox or Chrome browser to open links.</u>

1. Based on the most recent reported data, please evaluate your program(s).

A .Overall Program Data (Complete this section <u>if</u> your dept. produces any certificate and/or terminal degree.) (Place an 'X' in each text box that corresponds to your evaluation.)

Student Data Reported/Collected	Needs	Meets	Exceeds	Not
	Improvement	Standards	Standards	Applicable
a. Employment Rates/Wages			X	
(EMSI, College Measures, CREWS, Perkins)			PDF	
			Degree Profil Texas.pdf	
			Texas.put	
			w	
			Gainful	
			Employment.d	осх
b. <u>Completion</u>			X	
			PDF	
			Completers.p	df
				-
			w	
			Graduation a Attrition.do	nd
			Attition.do	LX
c. <u>Licensure Pass Rates</u>		Х		
		w		
		Certification F		
		Rates.docx		
		PDF		
		ASCP BOC Clas		
		ASCP BOC Clas 2014.pdf		
d. Retention (<u>FA-SP</u>) and (<u>FA-FA</u>)			Х	
			PDF	
			\checkmark	
			Fall2Spring Retention.p	
			Retention.p	



		Fall2Fall Retention.p	
e. <u>Grades A-C</u>		X F A-C Pass Rates	
f. <u>Annual Enrollment</u>	X F Headcount.p		
g. <u>Survey, Focus Group, & Related Data</u>		X MLT_Advisory_I d_Minutes_4_1 MAACLS Site V Report.pdf	

Based on the data in Part A, respond to the following two questions:

- i. Identify one area in which your program(s) excel.
 Completion rates-Our completion rates far exceed the 70% target
- ii. Identify one area in which your program(s) need to most focus for the next few years.

 Annual Enrollment-We would like to begin with a full cohort (20 students) every year
- *B. Course-Specific Data* (Complete this section to evaluate the courses that fall under your dept./program.) (Place an 'X' in each text box that corresponds to your evaluation.)

Student Data Reported/Collected	Needs	Meets	Exceeds
	Improvement	Standards	Standards
a. Grades A-C (IDS - Race/Ethnicity)		X POF Student Success By Ethnicity.pdf	

	Data Sheet 2012-2013 By Ethnic Data Sheet
	2013-2014 By Ethnic
b. Grades A-C (IDS – Age)	X FFF Student Success By Age.pdf Data Sheet 2012-2013 By Age.xl:
	Data Sheet 2013-2014 By Age.xl:
c. Grades A-C (IDS – Gender)	X PFF Student Success By Gender.pdf
	Data Sheet 2012-2013 By Gende
d Crodoc A C (IDS _ First Consection)	Data Sheet 2013-2014 By Gende
d. Grades A-C (IDS – First Generation)	X PFF Student Success By First Gen.pdf
	Data Sheet 2012-2013 By First G
	Data Sheet 2013-2014 By First G
e. Grades A-C (IDS – Pell)	Student Success By Pell.pdf



	Data Sheet 2012-2013 By Pell.xls Data Sheet 2013-2014 By Pell.xls	
f. Grades A-C (IDS – Full/Part-Time)	X FullTime_PartTime.pc Data Sheet 2012-2013 By FullTin Data Sheet 2013-2014 By FullTin	
g. Course-level Enrollment (IDS)	X Figure 2 Student Success By Course.pdf Data Sheet 2012-2013 By Course Data Sheet 2013-2014 By Course	
h. Survey, Focus Group, & Related Data	NAACLS Site Visit Report.pdf MLT_Advisory_Boar d_Minutes_4_17_14.	

Based on the data in Part B, respond to the following two questions:

i. Identify two courses that are doing well.

MLAB 1201 and MLAB 1331 are doing well, and students consistently pass these courses

ii. Identify two courses in which your dept./program(s) needs to most focus for the next few years.



MLAB 1415 and MLAB 1227 will be the focus for the next few years. They are the initial, "difficult" courses that student take during their first semester in the program, and the courses most often responsible for initial program attrition.

III: Institutional Initiatives

PART A – No Excuses:

Each department/program is expected to support student success initiatives.

List 1 or more ways your program(s) <u>most</u> focus on any of the <u>No Excuses goals/initiatives</u> and how you have helped AC fulfill its No Excuses goal.

- A. Completion of courses with a "C" or better and Persistence from term to term and year to year
 - a. Students will successfully complete all courses in the Medical Laboratory Technology curriculum with a grade of "C" or better, within three years of program admission. In addition, students will communicate any challenges or obstacles and work with program faculty and Student Services in order to overcome barriers to their success in earning their degree and attaining gainful employment. 70% of students admitted to the Medical Laboratory Technology program will persist from term to term and year to year, earning no less than a grade of "C" or better in all program specific courses, science courses and math courses, and graduate with an AAS degree within a three year time frame, as noted on their final transcript. Upon graduation, 90% of the students will enroll in a college or university to continue their studies and/or seek gainful employment. This information is gathered from a graduate survey sent out, via email, to program graduates approximately nine months to one year after graduation

B. Attainment of credentials

- a. Students will recall, identify, and relate knowledge gained in all areas of clinical laboratory science and critically evaluate information and case studies presented, inorder to select the correct answers on a comprehensive capstone exam. 100% of graduating Sophomore students will meet or exceed a score of 70% on at least one of three final, comprehensive capstone exams, administered during the final semester of the Medical Laboratory Technology program. The exams are composed of questions covering all of the major and minor disciplines in clinical laboratory science. The questions utilize three taxonomic levels (recall, interpretation, and problem solving), and they are derived from certification-type questions from various nationally recognized Medical Lab certification exam review texts. The student preparation for the capstone exams is designed to also prepare students for their credentialing examination.
- b. Students will select and perform appropriate quality control, troubleshooting, and laboratory test procedures; critically evaluate and interpret data generated, based on knowledge gained in all areas of clinical laboratory science; and report the information in the appropriate manner to the specified medical professional. 100% of the students will achieve a score of 70% or better on the Task List student evaluation instruments in all Practicum I and II rotations, during the Sophomore year of the Medical Laboratory Technology program. This instrument provides an evaluation of the essential entry- level cognitive and psychomotor aspects of Medical Laboratory Technology in a professional, medical setting. The task list includes the entry level skills required for a student



to be successful in passing their credentialing exam, and ultimately, in attaining employment.

c. Graduates will assess the suitability of patient specimens; perform lab procedures using the prescribed instruments and test methodologies; relate patient test results to reference ranges and correlate test results to disease processes; follow directions and assume responsibility for his/her work; discriminate between normal and abnormal structures in clinical specimens; perform instrument checks, maintenance and troubleshooting; practice universal safety procedures: effectively problem-solve based on clinical situations; exhibit discretion with personal, professional, and medical information; employ organizational and time-management skills; work independently in a dependable manner; communicate effectively with other healthcare professionals, patients, and the public at large; present him-/herself in a professional manner in regard to demeanor and attire; participate in professional development activities; and maintain local, state, and/or national licensure/certification. 100% of all program graduates will receive an average score of 3.5 or greater, on a Likert scale of 1-5, on Employer Satisfaction Surveys. The surveys are mailed out to employers approximately 9 months to one year post graduation. The surveys include questions that encompass all three taxonomic domains. Specifically, technical work performance and professional skills and attitudes are addressed and evaluated. The Employer Satisfaction Survey is an excellent source of feedback from medical facilities regarding graduate competency in the areas of knowledge and professional skills and behavior. In addition, it pinpoints specific areas of concern that need to be addressed in the program's curriculum.

PART B – Strategic Planning:

Each department/program is expected to support <u>AC's Strategic Planning</u> initiatives.

1. Identify at least one strategy or task from the Strategic Plan your area(s) currently addresses/evaluates.

Α.	First-time, full-time students will demonstrate successful college-going student
	characteristics by remaining enrolled at least two long semesters after initial
	enrollment. (Amarillo College Strategic Plan through 2015: Strategy 1.1.1.6.4)
В.	Student services, academic support, and program faculty will personally assist each
	student regarding available college and career opportunities. (Amarillo College
	Strategic Plan through 2015: Strategy 1.1.4)
C.	CTE faculty and academic advisors will mentor students about preparing for job
	searches. (Amarillo College Strategic Plan through 2015: Strategy 1.5.1.2.2)
D.	Align AC learning outcomes with THECB outcomes which emphasize 21st century
	skills. (Amarillo College Strategic Plan through 2015: Strategy 1.4)
Ε.	Faculty will assess the aggregate performance of graduates for mastery of
	competencies immediately prior to the award of a credential (Amarillo College
	Strategic Plan through 2015: Strategy 1.5.3)
F.	Instructional leadership will assess the quality of each degree and certificate
	program. (Amarillo College Strategic Plan through 2015: Strategy 1.3.1)
G.	Assess required competencies in credit CTE course/programs, linked CE courses,
	and CE certification programs. (Amarillo College Strategic Plan through 2015:
	Strategy 1.5)



2. (If applicable) What additional item(s) should AC's Strategic Plan address?

Non-applicable

PART C- General Education Objectives

SACSCOC requires that the College prove attainment of general education competencies by all students. AC has adopted the below objectives for our core curriculum assessment, but you may add additional objectives you teach. Additionally, AC expects that learning objectives are present and are being evaluated in all courses.

1. Provide a listing of which courses in your department/program(s) teach these general education objectives. For assistance in identifying educational objectives in non-core courses, refer to the <u>ACGM/WECM</u>.

(List individual course prefix, state "all courses", state "N/A" for an objective, etc.):

Objective	Course(s)
Communication Skills	"All courses"
Critical Thinking Skills	"All courses"
Empirical & Quantitative Skills	"All courses"
Teamwork	"All courses"
Personal Responsibility	"All courses"
Social Responsibility	"All courses"
Organization	"All courses"
Character	"All courses"

- 2. Briefly explain how your department/program(s) have recently (i.e. past year) identified and ensured that these general education objectives are taught throughout each course section.
 - A. Critical thinking skills are an inherent part of Medical Laboratory Technology. Students are presented with case studies and/or evaluation of results obtained from the performance of laboratory procedures in all program courses. Assessment of critical thinking skills is via lecture and laboratory assignments, study questions, quizzes, lecture exams, laboratory practicals, and clinical/practicum evaluations.
 - B. Empirical and quantitative skills are also addressed in all program courses. Students are required to calculate and analyze laboratory data and derive reference ranges via statistical analysis, perform dilutions and calculate final laboratory results, and perform algebraic calculations to derive laboratory test results from quantitative lab procedures. Assessment of empirical and quantitative skills is accomplished via lecture and laboratory assignments, study questions, quizzes, lecture exams, laboratory practicals, and clinical/practicum evaluations.
 - C. Communication skills, teamwork, personal and social responsibility, organization and character are evaluated on a daily basis in every program course. The Medical Laboratory Technology Program has adopted a Work ethics program, based on the program created by the Technical College System for the State of Georgia. Each semester, in one course, the work ethics are discussed in detail and an assignment is given via verbal discussion, online discussion boards, or written assignment. Each assignment is worth a total of 10 points. In the remaining courses, these same work ethics are evaluated each and every lecture or laboratory session. Students begin





3. What method(s) are your faculty using to assess the required objectives in your courses?

(List individual course prefix, state "all courses", state "N/A" for each method, etc.):

Method	Course(s)
Capstone Project/Exam	MLAB 2472
Embedded Questions	"All Courses"
Licensure Exam	"All Courses"
Portfolios	MLAB 1201; MLAB 1415; MLAB 1227; MLAB 1211;
	MLAB 1235; MLAB 2431; MLAB 1223; MLAB 2501;
	and MLAB 1331
Projects/Essays	MLAB 1201 and MLAB 2472
Testing (i.e. course-based testing; finals)	"All Courses"
Discussion Boards	MLAB 2501; MLAB 1331; and MLAB 2472
Laboratory Assignments and Practicals	MLAB 1415; MLAB 1227; PLAB 1223; MLAB 2534;
	MLAB 2501 and MLAB 1331

4. Briefly address any improvements made in your department/program(s) based on your data findings.

Incorporation of more case studies and "hands-on" activities; clicker technology to assess student knowledge "on-the-fly"; reviews written that include all of the "have to know" information required for the students to be successful on their certification exams. These reviews are included in their capstone course (MLAB 2472).

5. In which course(s) have you implemented critical reading and thinking strategies? What strategies did you use? How would you evaluate your success in implementing these strategies? Are there strategies you discovered that you would like to share with your colleagues? Do you feel that your department/program could benefit from more professional development in this area?

Critical thinking skills are an inherent part of Medical Laboratory Technology, and are incorporated into all program courses, to a major or minor extent, depending on the level of the course, the student's knowledge base, and the course content. Students are presented with case studies and/or evaluation of results obtained from the performance of laboratory procedures in all program courses. Assessment of critical thinking skills is via lecture and/or laboratory assignments, study questions, quizzes, lecture exams, laboratory practicals, and/or clinical/practicum evaluations.

The program faculty has been quite successful in implementing critical thinking strategies, particularly with the increased availability of case studies on the internet and digital



resources. I do not believe, however, that we are doing anything out of the ordinary, and that all of our Health Sciences colleagues are doing an equally wonderful job with incorporating critical thinking into their specific areas in a manner appropriate to their area of expertise.

I believe that additional professional development in this area would be helpful, but only as long as it was specific to a given area, such as health sciences.

PART D: Curriculum Assessment - Program Outcomes:

SACSCOC requires each program to provide quality student, customer, and/or client services. Each program not directly responsible for core curriculum courses must still annually identify at least one direct outcome within their program, provide results, analysis, and improvement plans related to that outcome.

1. For this review year, what were each program's most important goal(s)

(i.e. broad goals you wanted to accomplish)?

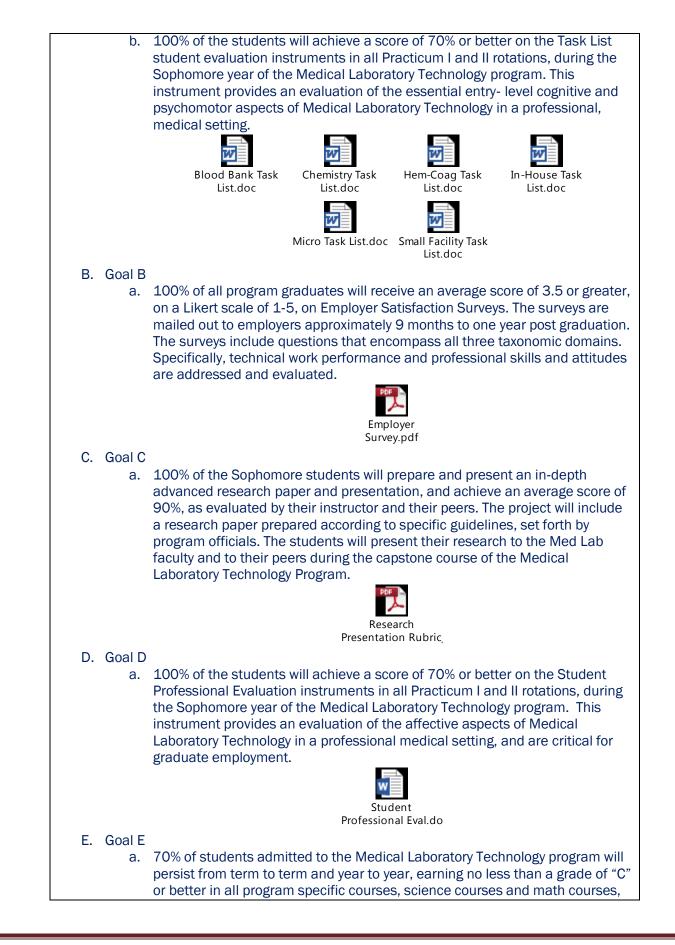
Α.	Students will be equipped with the cognitive knowledge and psychomotor skills for
	analysis and clinical decision-making, information management, regulatory
	compliance, education, and quality assurance/improvement wherever laboratory
	testing is researched, developed, or performed.

- B. Students will demonstrate graduate/entry level technician knowledge and performance of routine and special clinical laboratory tests as the primary analyst, making specimen oriented decisions based on predetermined criteria, including a working knowledge of critical values.
- C. Students will display possession of knowledge and communication skills that extend to collaborative, consultative, and educational interactions with laboratory professionals, other healthcare professionals, patients, and the general public.
- D. Students will exhibit the capacity for calm and reasoned judgment, take responsibility for their own actions, show a strong commitment to patient welfare, and display positive ethical and moral attitudes and principles that are necessary for gaining and maintaining the confidence of patients, professional associates, and the community at large.
- E. Students will be able to identify obstacles and challenges in their life, and utilize tools and resources available to them, via Amarillo College and city/county/state/federal agencies, in order to ultimately achieve their dream of success in earning their degree and in attaining gainful employment.
- 2. For this review year, what is/were each program's <u>most important</u> measurable outcome(s) that helped you achieve your goals (referenced above)? Provide examples of 1-3 <u>outcome</u> <u>statements</u>. (An outcome provides observable, objective evidence that your student's or client's knowledge, skill, ability, attitude, or behavior has changed as a result of your efforts.)

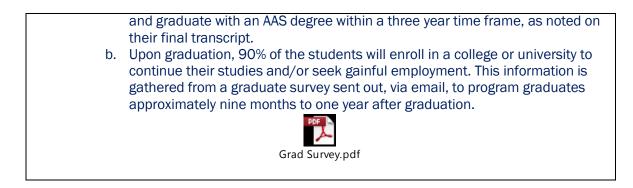
A. Goal A

a. 100% of graduating Sophomore students will meet or exceed a score of 70% on at least one of three final, comprehensive capstone exams, administered during the final semester of the Medical Laboratory Technology program.





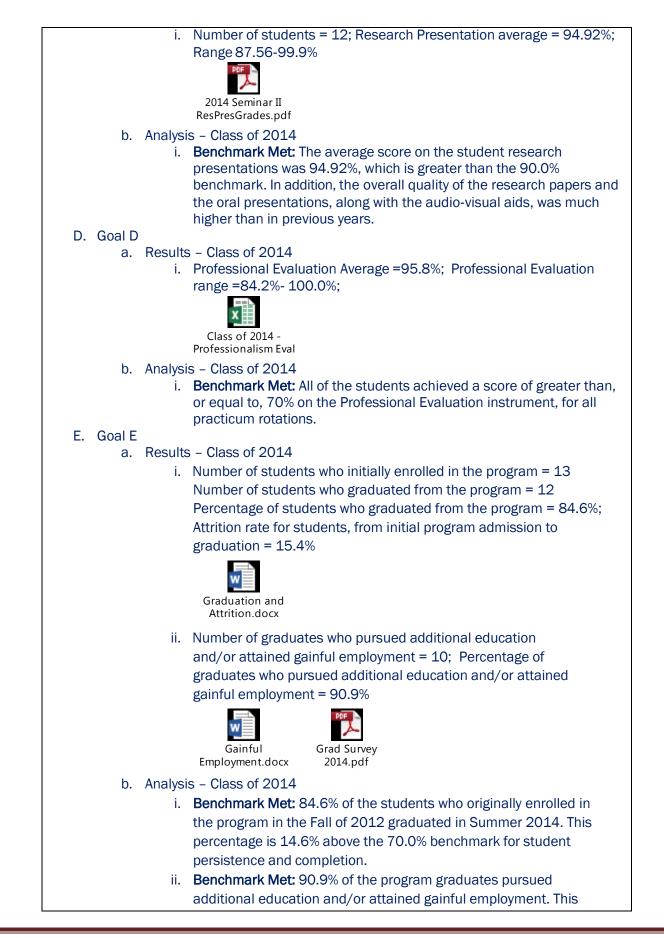




3. Identify your results and analyze your data.

A.	Goal A	
74.	a.	Results - Class of 2014
	a.	i. Final Capstone Exam Average =72.46% Exam range = 23.5%-87.5%
		2014 Seminar II Mock Boards.pdf
		ii. Task List Average = 96.7% Task List range = 83.4%-100.0%
	b.	Analysis – Class of 2014
		 i. Benchmark Not Met: 91.6%, or 11 out of 12 students, earned a score well above the target score of 70.0% on the Best of Three of their Mock Board Exams. However, one of the 12 students did not pass after taking all three capstone exams. After giving this student a month to study, she declined to take an additional capstone exam and failed the course and the program. The Program Director attempted to personally contact this student on numerous occasions, but the student did not return her phone calls, emails, or text messages. ii. Benchmark Met: All of the students achieved a score of 70.0 or more in all areas of the Task List.
В.	Goal	
	a.	Results - Class of 2014 i. Employer Satisfaction Survey Results = 4.625 on a Likert scale of 1-5; # of Surveys Distributed = 5 Surveys Returned = 4 Employer2014Surve y.pdf
	b.	 Analysis – Class of 2014 i. Benchmark Met: The Employer Satisfaction Survey Results for the graduating class of 2014 were greater than the targeted average of 3.50.
C.	Goal C	
	a.	Results – Class of 2014





Amarillo College

percentage is only slightly greater than the 90.0% benchmark for graduates pursuing additional education and/or attaining gainful employment in their chosen profession, and bears watching.

4. What key change(s) has your department/programs made in the past year or do you plan to make based on your assessment of any outcome?

Α.	Goal A	
	a.	 Improvements - Class of 2014 The Program Director prepared massive, comprehensive reviews over all of the major modalities of clinical laboratory medicine. The reviews were delivered during the Summer class, prior to the capstone exams. Periodic discussions were held with students to remind them of the importance of completing their Task Lists.
В.	Goal B	Improvemente Class of 2014
	а.	 Improvements - Class of 2014 i. Changes to the in-house clinical rotations, including the addition of a more structured environment, guest lectures and assessments by adjunct faculty from clinical affiliates, and a change in the in-house clinical evaluation process, as well as a change in the rigor in the discussions of work ethics and the development of more challenging discussion questions.
C.	Goal C	
	а.	 Improvements – Class of 2014 i. The Program Director emphasized the importance of completing the research paper and delivering their oral presentation based on their paper. This paper and presentation are part of the student's grade in Seminar II. The Program Director did discuss the impact that this project has on their grade for that course, as it accounts for 25% of their final grade.
D.	Goal D	
	а.	Improvements – Class of 2014
Ε.	Goal E	 The faculty placed increased emphasis on the necessity for good work ethics in the academic and practicum settings. Additionally, the faculty periodically reminded the students that practicum facilities, who often hire graduates, pay particular attention to the work ethics and professional evaluations of students whom they are considering for future employment.
L.	a.	Improvements – Class of 2014
	с.	 i. The Program Director and Education Coordinator scheduled mandatory meetings with students who appeared to be at risk of dropping out or failing out. Students were referred to the proper professionals/departments, as warranted (ie: Counseling, Financial Aid, Tutoring, Social Services, etc) ii. The program faculty passed on employment opportunities to students as they were discovered via practicum site discussions and through discussion with product and book representatives.

Please provide supporting documentation with this review that relates to this outcome(s).



For example, if you're using a rubric to assess student work, attach a copy of the rubric and five student samples. If you're focusing on licensure exam data, attach a copy of your pass rate results.

IV: Conclusions

- 1. How have you or your staff adjusted your pedagogy (method and practice of teaching) to improve your academic quality and/or aid in some other area related to student success?
 - A. We have created and/or found some fun and engaging activities for students to learn especially difficult concepts (Ex: Exploration of the Neuroscience of Addiction: <u>Mouse Party</u>)
 - B. We have begun piloting the use of clickers in the classroom, with a single course but with plans for all Freshmen courses in the Fall semester. This will give us the opportunity to give anonymous mini-quizzes during traditional lectures, to immediately determine whether or not students are comprehending the concepts presented.
 - C. We are now conducting all testing online, with students seated in the classroom. Previously, students were allowed to take their exams online, unmonitored, at home. For some time, we suspected that exam grades were somewhat artificially inflated, thus the need for monitored testing. With the availability of monitored athome testing, via new BlackBoard applications, we may be able to revert to students testing at home.
 - D. Block teaching is something we have been using successfully for many years. It allow our students to have fewer classes at a time, yet a full or near full-time schedule.

2. What program improvement opportunities are available to your staff (e.g. external curriculum committees, trainings, etc.)?

Funding for one of two alternating program faculty to attend the annual Clinical Laboratory Educator's Conference. This conference is a gathering of all laboratory educators across the nation, with numerous invaluable workshops offered to improve and update laboratory education. In previous years, one of the MLT faculty was funded to attend every two years, alternating between the two program faculty each time.

3. What is the biggest issue/obstacle that your program currently faces? Please explain the issue, point to evidence supporting why your issue is important (addressed in this document or elsewhere), explain how you would like to fix the issue, and explain any budgetary constraints.

Lack of available funding for purchase of adequate student laboratory supplies. The budget cuts over the last few years on what was already a barely adequate student supply budget, along with the increased pricing for laboratory supplies, has made it impossible for us to conduct certain labs. In some instances, we are having to "make due" with expired kits and reagents donated by our clinical affiliates, that may or may not work. The only way to fix the problem is to restore our student lab budget, but we realize that is not possible.

4. Additional Comments Pertinent to this Review (Not Required):

Non-Applicable



Learning Communities (Block Scheduling) and FYS Common Core Approaches: Career Clusters Service Learning Modules in Program Courses Online Learning Global Perspectives/International Education Writing Across the Curriculum Undergraduate Research with Library Connections/Student Commons/Learning Commons

