



# Planning and Evaluation Tracking

College Year: 2009-2010

Division of: Allied Health

Person Responsible: Bill Crawford

Department of: Medical Laboratory Technology

Person Responsible: Jan Martin

**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 quality of life for individuals in and beyond our service area."

Goal Statements	Objectives/Outcomes (including assessment tools and standards)	Results	Use of Results (including improvements and revisions)
<p>1. 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.</p>	<p>A. Students will recall, identify, and relate knowledge gained in all areas of clinical laboratory science and critically evaluate information and case studies presented, in order 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 tests 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.</p>	<p>A. 2009 Class Average = 86.2% Exam average range = 77.0%-96.0% (Please see chart/table 1A)</p>	<p>A. 94.1% of the students achieved a score well above the target score of 70% on one of the three exams. One student did not pass after the allotted three attempts. This student was given an incomplete, additional study materials, and one month in which to study for a fourth and final attempt. The student passed on that attempt with a score of 93.0%. The overall class average decreased 4.9%, however the exams questions were revised just prior to the beginning of the Summer semester to reflect changes in the Medical Lab body of knowledge that the students are expected to know. The program faculty will discuss areas in which students appeared to have the most difficulty and focus on those areas in lecture/lab courses. The MLT faculty will also continue to re-evaluate test questions to incorporate those related to new and emerging technologies in Clinical Laboratory Science, as well as to explore new means in which to encourage students to study efficiently and effectively.</p>

	<p>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 cognitive and psychomotor aspects of Medical Laboratory Technology in a professional, medical setting.</p>	<p>B. Students in the graduating class of 2009 earned Task List scores from 73.0% to 100.0%, with an overall average of 93.6% (Please see chart/table 1B)</p>	<p>B. The results over the past several years continue to be well above the target score of 70% with no significant difference from year to year. The MLT faculty will continue to incorporate current and new technologies into laboratory courses to well prepare student for Practicum experiences.</p>
<p>2. Students will be able to 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.</p>	<p>A. Students will perform, assess, and analyze results generated from routine and esoteric hematology, clinical chemistry, immunohematology, microbiology, serology/immunology, coagulation, and other emerging clinical laboratory tests according to established protocols and procedures. 100% of all Medical Laboratory Technology Program graduates will have achieved a score of "Pass" on a Pass/Fail basis, indicating cognitive and psychomotor competency, for all areas indicated on the Amarillo College Medical Laboratory Technology Competency Profile. The profile is updated by program officials and adjunct clinical faculty at the conclusion of each semester of the Medical Laboratory Technology program, and completed prior to the last semester of the program. The profile includes basic tasks and psychomotor skills required of the entry level Medical Laboratory Technician.</p>	<p>A. 2009 Pass/Fail Rate = 100% Pass (Please see chart/table 2A)</p>	<p>A. The Pass/Fail rate for the Medical Laboratory Technology Student Competency continues at a level of 100% passing. The faculty will continue to monitor student competency in all areas of the clinical laboratory, and also work with clinical/adjunct faculty to correct any deficiencies that arise.</p>

B. 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.

B. 2008 Employer Satisfaction Survey Results = 3.75 on a Likert scale of 1-5 (Please see chart/table 2B)

B. The Employer Satisfaction Survey Results for the graduating class of 2008 was greater than the average from 2007, and greater than the targeted average of 3.50. The faculty will continue to monitor student performance in all areas of the clinical laboratory, and also work with clinical/adjunct faculty and prospective employers to correct any deficiencies that arise in student performance prior to graduation from the program, and subsequent employment. In addition, the faculty have continued their emphasis on work ethics. One suggestion made by several employers was to reinstate Bloodbank clinicals in the medical facilities, as opposed to the current arrangement of in-house Bloodbank clinicals. In-house clinicals were initiated because several of the medical facilities requested that we send no students to their facilities for that rotation due to restructuring of facilities and staff in their labs. The Education Coordinator will meet with the officials at the clinical facilities to explore the reinstatement of Bloodbank clinicals.

<p>3. Knowledge and communication skills that extend to collaborative, consultative, and educational interactions with laboratory professionals, other healthcare professionals, patients, and the general public.</p>	<p>A. Students will collaborate in small groups or independently, and create an informational visual presentation pertaining to the clinical laboratory profession that is suitable for public display, in order to promote their profession to other students, medical professionals, and/or the general public. 90% of all currently enrolled Freshmen and Sophomore the students in the Medical Laboratory Technology Program will prepare an informational visual presentation pertaining to the clinical laboratory profession. Student participation will be evaluated by their instructors as part of their weekly Work Ethics grades on the basis of "participated/did not participate." These presentations are utilized to present information regarding different aspects of laboratory medicine during National Medical Laboratory Week, and are viewed by students and faculty in the Allied Health Division and the general public. The purpose of the presentations is to educate other medical professionals as well as the general public, and to promote the laboratory profession. All students enrolled in the Medical Laboratory Technology program are asked to participate.</p> <p>B. Students will select a subject of advanced interest; compile information from professional, peer reviewed resources; prepare a research paper using the appropriate format; create audio/visual activities/resources based on their research; and present the information to their peers in the form of an oral presentation. 100% of the Sophomore students will prepare and present an in-depth advanced research paper and presentation, and achieve an average score of 90%, as evaluated</p>	<p>A. 2009 participation = 100% (Please see chart/table 3A)</p> <p>B. 2009 Research Presentations = 88.09% (Please see chart/table 3B)</p>	<p>A. This is a requirement for the students in the Medical Laboratory Technology program, however we feel that it is an excellent opportunity for students to develop additional knowledge and better public relations skills. In addition, it provides an occasion for students to promote their chosen profession to other health professional, as well as the general public. The 100.0% rate of participation is increased from the 95.8% rate of participation in 2008, and well above the standard of 90%. In addition, these statistics include all students in both the Amarillo on-campus students as well as the online students in Lubbock. The incentives for student participation. The project is part of the work ethics evaluation for both Freshmen and Sophomore level students, and is also part of the research grade for Sophomores.</p> <p>B. The average score on the student research presentations was 88.09%, which is about 2% less than the 90.0% goal and almost 5% less than 2008. The range was 70.1- 97.5%. After analyzing individual scores, it was discovered that several students received zero points for individual components of the assignment, and one student neglected to turn in any of the components when they were due. The faculty</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

by their instructor and their peers. The project will include a research paper prepared according to specific guidelines, set forth by program officials. The students will present their research to the Med Lab faculty and to their peers during the last semester of the Medical Laboratory Technology program. The presentation must include audio-visual aides and must demonstrate sufficient depth of knowledge as would be expected of students at this level of education. Evaluation of the presentation based on appropriate selection of subject, depth of subject matter, structure of project, communication/presentation techniques, and audio/visual aides.

will continue to put greater emphasis on this project, to encourage students to be mindful of their deadlines, and encourage students to augment their research, written and verbal presentation skills prior to actual delivery of their research presentations.

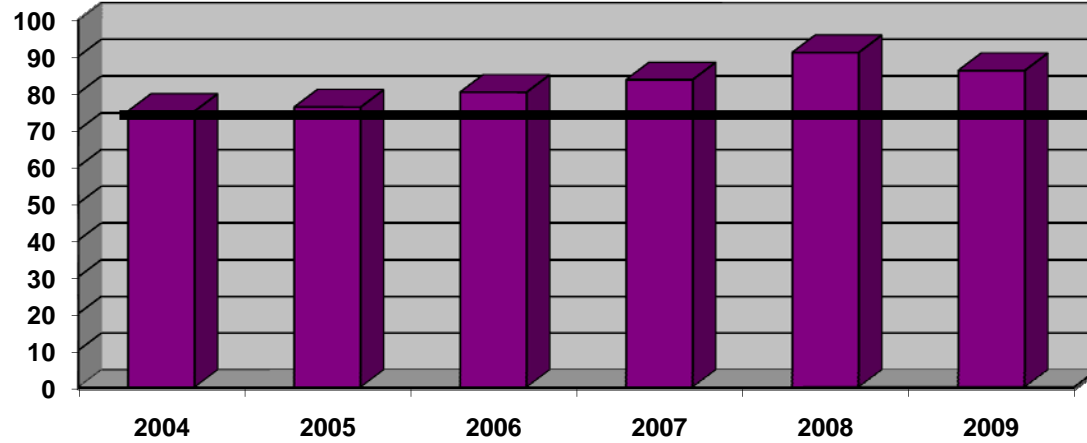
4. Demonstrated capacity for calm and reasoned judgment, taking responsibility for one's own actions, and a strong commitment to patient welfare. Ethical and moral attitudes and principles that are necessary for gaining and maintaining the confidence of patients, professional associates, and the community at large.

A. Students will act in a professional manner at all times while in the clinical setting, demonstrating the positive attributes of professionalism in regard to attire, demeanor, conduct, dependability, initiative, attitude, adaptability, reasoning, and seeking additional knowledge. 100% of the students will achieve a score of 70% or better on the Student Professional 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 affective aspects of Medical Laboratory Technology in a professional medical setting including professionalism (attire, demeanor and conduct), dependability, ability to reason and learn, initiative, attitude, and adaptability.

A. Students in the graduating class of 2009 earned Student Professional scores from 78.7% to 100.0%, with an overall average of 93.3% (Please see chart/table 4A)

A. The results are virtually identical to those of 2008, with a difference of +0.1% The faculty will continue to emphasize and evaluate the essential qualities of professionalism in the medical laboratory setting.

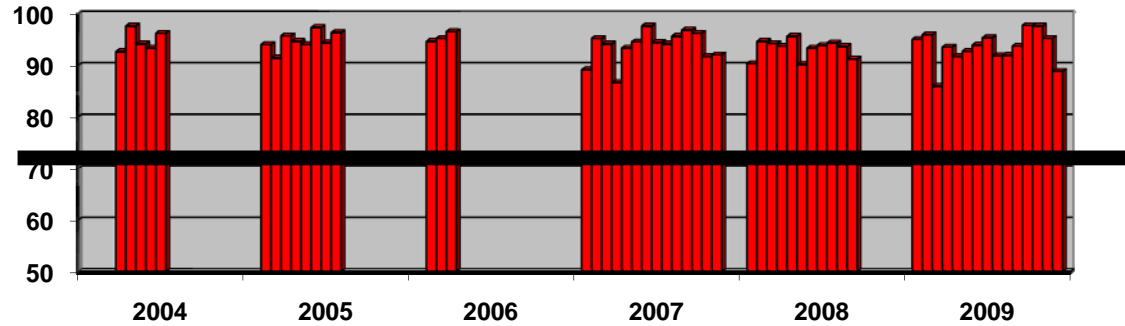
CHART/TABLE 1A – COMPREHENSIVE CAPSTONE EXAMINATIONS



"Best of Three" Individual Student Scores (%)	2004	2005	2006	2007	2008	2009
	70.0	70.0	82.5	80.5	93.4	83
86.0	68.0	80.5	82.0	94.5	86	
73.5	82.5	78.0	94.0	92.5	83	
72.0	70.5		79.0	96.5	93.5	
74.0	74.5		83.5	97.5	96	
	84.0		74.0	71.5	81	
	77.5		84.5	94.0	79	
	82.5		70.0	87.5	91	
			77.0	97.5	84	
			91.0	86.0	77	
			90.0		85.5	
			91.5		93	
			80.5		79.5	
			94.5		92	
					91	
					88.5	
					82.5	
<b>Class Average</b>	<b>75.1</b>	<b>76.2</b>	<b>80.3</b>	<b>83.3</b>	<b>91.1</b>	<b>86.2</b>

## CHART/TABLE 1B – STUDENT TASKLIST EVALUATIONS

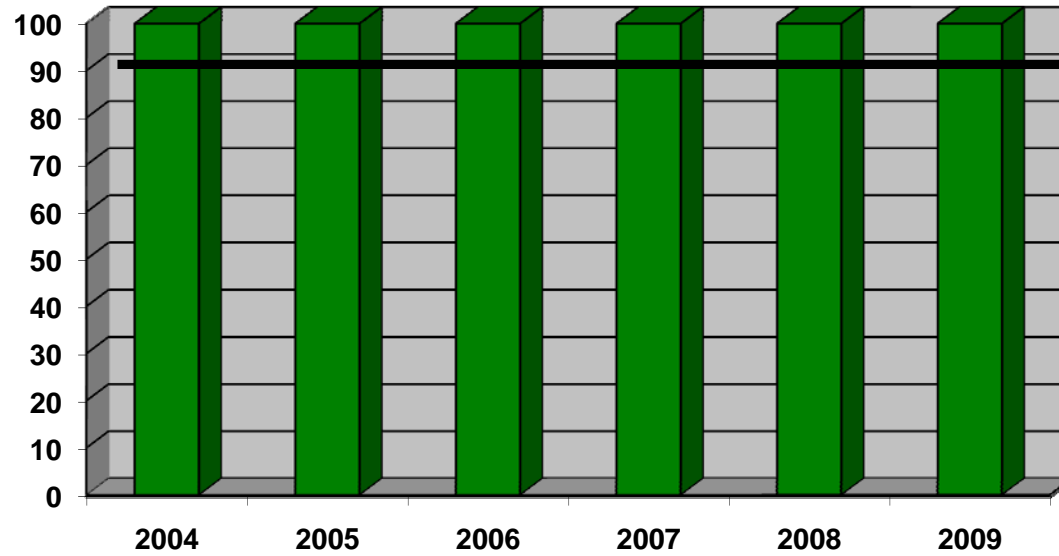
Student Task List Averages  
(Average Per Student)



### Graduating Class

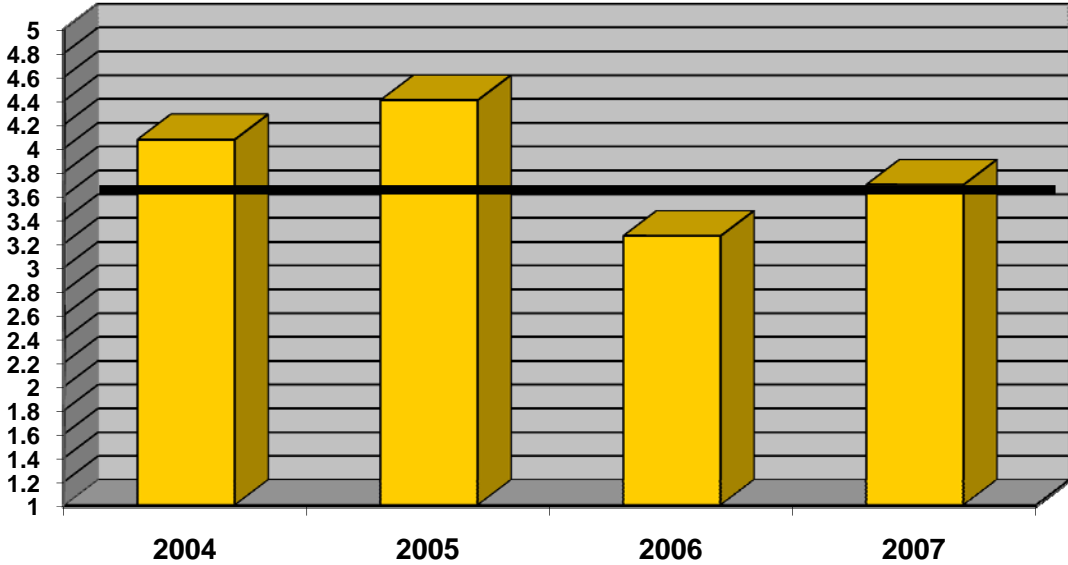
		Graduating Class																		
		2004		2005		2006	2007				2008				2009					
Individual Student Scores (%)	95	90	92	97	99	84	76	100	92	92	87.0	97.4	95.0	94.5	93.4	91.9	89.1	90.0	93.8	
	95	97	89	95	89	98	93	91	95	95	92.3	92.7	95.0	97.4	100	85.2	100.0	100.0	97.9	
	94	92	93	92	97	95	95	100	95	95	90.0	93.4	95.0	100.0	79.3	95.2	89.4	93.0	92.8	
	95	100	93	95	91	86	95	99	90	89	91.3	98.3	95.0	90.1	100	99.4	92.4	90.0	95.4	
	90	95	95	98	95	89	100	100	93	95	100.0	96.4	90.0	100.0	82.9	96.1	88.3	91.2	98.7	
	83	95	99	88	95	95	90	99	94	94	81.7	91.1	92.8	99.7	84.4	91.3	99.4	85.0	97.9	
	91	88	96	100	95	95	94	100	86	87	91.3	94.8	98.1	89.6	93.9	97.6	91.8	100.0	97.0	
	90	95	97	96	95	93	95	95	90	93	95.0	87.6	98.5	94.5	100.0	98.2	97.3	100.0	98.3	
	93		88	100	85	90	100	95	92	94	87.3	92.3	91.1	97.4	94.1	98.4	98.0	100.0	92.9	
	99		85	100	97	94	89	95	99	98	100.0	94.8	98.5	100.0	86.2	92.9	84.7	100.0		
	95		95	100	100	93	85	95	97	94	90.0	94.8	89.2	99.7	98.0	88.8	97.5	95.0		
	95		93	89	95	94	80	95	100	94	90.0	87.0	90.0	89.6	90.0	99.9	95.0	95.0		
	75		87	83	100	90	98	95	95	96	90.0	77.6	97.9		86.1	94.8	95.0	95.0		
	85		95	96	95	91	94	98	94	97	90.0	91.0	100.0		90.0	97.0	95.0	95.0		
	87		100	99	94	87	71	90	97	96	90.0	95.0	96.8		100.0	81.9	95.0	95.0		
	82		94	95	90	96	94	95	93		90.0	93.0	93.9		90.0	92.3	95.0	95.0		
	95		95	98	98	93	93	95	90		90.0	100.0	95.0		90.0	92.4	95.0	95.0		
	99		98	100	100	95	100	100	98		90.0	100.0	95.0		92.2	84.4	95.0	95.0		
	95		95	100	95	98	93	95	99		90.0	74.6	95.0		90.0	92.7	95.0	95.0		
	93		92	93	100	95	94	95	90		90.0	100.0	95.0		90.0	95.1	95.0	90.0		
	96		96	100	99	95	95	95	95		90.0	99.1	95.0		90.0	87.4	90.0	90.0		
	92		100	95		100	100	90	82		90.0	85.0	95.0		90.0	83.9	90.0	100.0		
	91		95	98		89	95	99	95		82.0	78.0	95.0		90.0	92.5	99.7	100.0		
	95		96	93		98	93	92	95		96.3	94.3	99.0		90.0	98.7	100.0	100.0		
	93		92	95		100	94	82	95		95.5	95.0	95.0		90.0	95.0	100.0	100.0		
	95		88			94	95	95	95		90.2	95.0	95.0		90.0	85.4	97.5	100.0		
	89		93			71	97	99	96		100.0	95.0	93.9		90.0	98.1	99.2	95.9		
	90		98			93	96	100	95		91.1	95.0	95.0		91.2	96.0	100.0	77.8		
97		97			85	94	91	95		92.3	95.0	96.7		98.0	92.5	73.0	97.1			
95		85			101	90	95	95		95.1	95.0	95.2		91.3	100.0	94.8	89.1			
95		93			93	92	95	100		100.0	89.2	92.0		91.8	95.1	100.0	100.0			

**CHART/TABLE 2A – STUDENT COMPETENCY PROFILES**



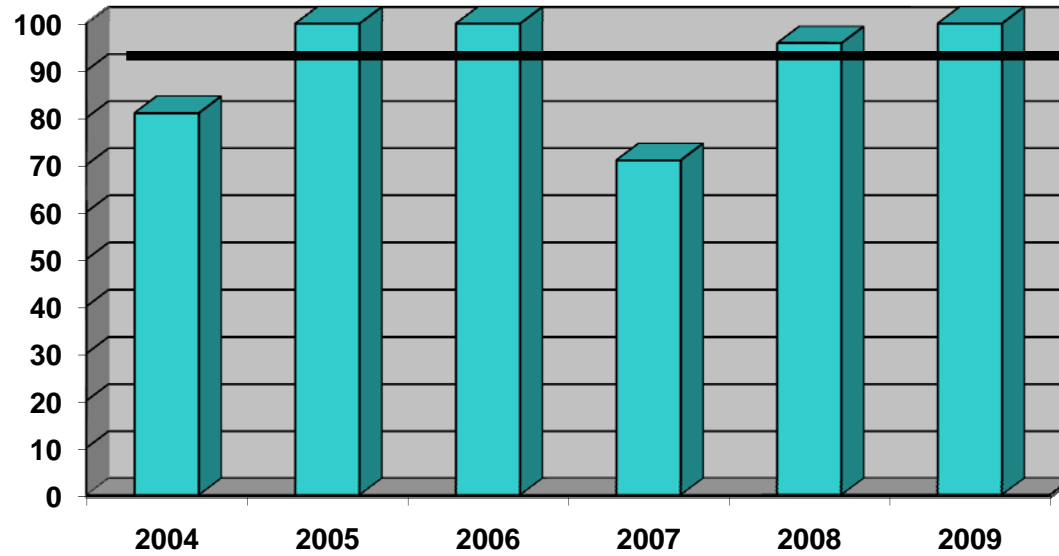
	2004	2005	2006	2007		2008	2009	
<b>Individual Student Pass/Fail</b>	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
	Pass	Pass		Pass	Pass	Pass	Pass	Pass
	Pass	Pass		Pass		Pass	Pass	Pass
		Pass		Pass		Pass	Pass	
		Pass		Pass		Pass	Pass	
		Pass		Pass		Pass	Pass	
				Pass		Pass	Pass	
<b>Class Average</b>	100% Pass	100% Pass	100% Pass	100% Pass		100% Pass	100% Pass	

**CHART/TABLE 2B – EMPLOYER SATISFACTION SURVEYS**



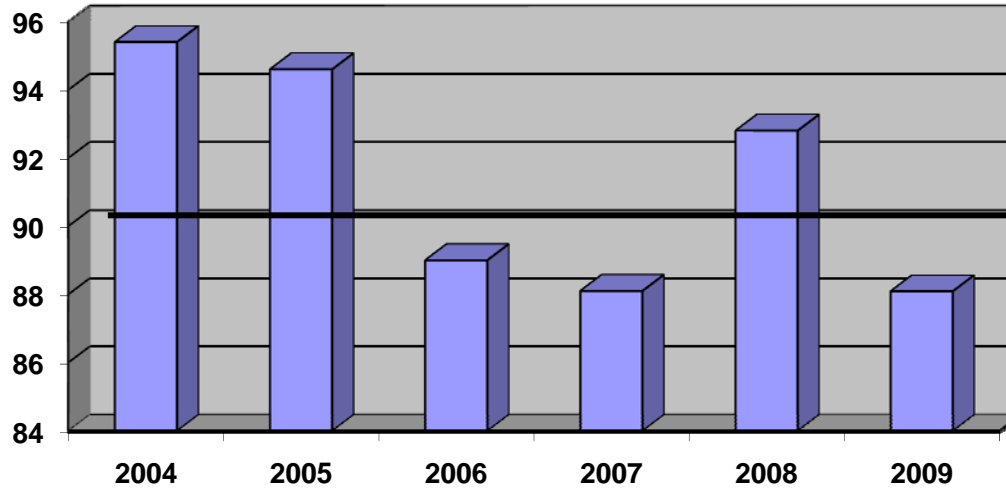
	2004	2005	2006	2007	2008
<b>Average Overall Score (Likert Scale 1-5)</b>	4.07	4.40	3.26	3.69	3.75

**CHART/TABLE 3A – NATIONAL MEDICAL LABORATORY WEEK PRESENTATIONS**



	2004	2005	2006	2007	2008	2009
<b>%Participation</b>	13/16=81%	12/12=100%	3/3=100%	24/28=86%	23/24=95.8%	23/24=100.0%

CHART/TABLE 3B – RESEARCH PRESENTATIONS

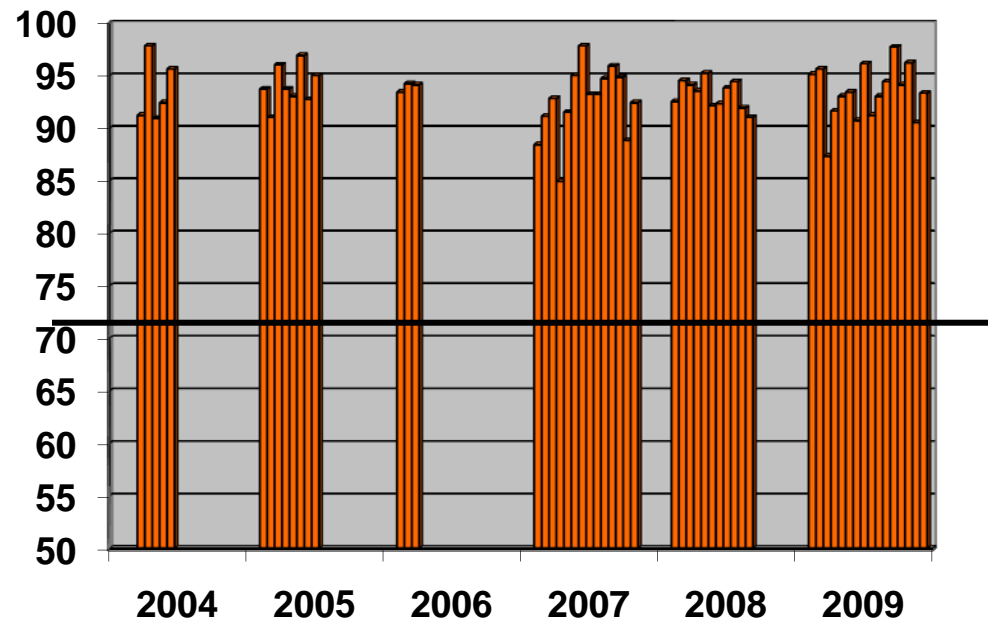


97.5	2004	2005	2006	2007	2008	2009
	95	85	75	91	92	86.33
	100	82	96	94	100	92.5
	90	98	96	93	91	98.88
	95	100		85	95	92.0
	98	95		46	96	92.92
		98		98	92	93.44
		99		97	94	78.03
		100		97	87	92.4
				83	97	91.25
				88	84	86.42
				79		91.07
				94		70.1
				95		93.85
			94		88.75	
					93.75	
					82.2	
					93.75	
Average	95.6	94.6	89.0	88.1	92.8	88.09



# CHART/TABLE 4A – STUDENT PROFESSIONAL EVALUATIONS

## Student Professional Evaluation Averages (Average Per Student)



## Actual Professional Evaluation Scores Graduating Class

	2004		2005		2006	2007					2008				2009				
Individual Student Scores (%)	96.0	94.1	76.0	100	98.7	85.3	80.0	100	95.7	95.0	85.0	90.0	92.0	99.6	98.7	92.1	95.3	93.0	80.7
	98.0	96.0	92.0	97.0	85.3	98.0	93.0	89.2	92.5	95.0	92.9	90.0	96.4	87.8	90.0	90.0	95.0	92.9	99.3
	92.0	90.1	88.0	100	96.7	94.0	95.0	100	98.7		90.0	90.0	93.0	93.0	90.8	95.9	90.0	95.0	98.1
	91.0	97.5	99.0	100	91.7	84.0	97.0	96.0	97.9		90.3	90.0	91.2	99.5	94.1	90.0	99.6	90.3	93.1
	97.0	92.6	96.3		91.6	88.0	97.7	99.0	99.1		94.3	90.0	100	99.6	97.1	96.3	95.3	95.0	94.0
	92.0	95.0	92.0		93.0	95.0	90.0	100	95.0		82.3	90.0	97.3	86.8	95.0	83.7	96.4	98.7	94.8
	99.0	88.2	95.0		95.0	95.0	95.3	90.6	90.0		87.9	90.0	92.4		95.0	90.0	95.0	97.7	93.7
	96.0	95.0	100		95.0	90.8	94.7	92.1	95.0		95.4	90.0	92.3		95.0	95.7	98.7	94.3	92.5
	100		97.7		83.9	89.0	94.2	95.0	95.0		91.7	90.0	96.7		100	94.2	95.0	97.8	
	100		100		96.1	90.0	87.3	95.0	95.0		90.3	90.0	93.7		99.3	91.0	100	94.3	
	95.0		95.0		100	93.0	85.0	95.0	94.6		91.7	90.0	90.2		90.0	95.0	88.7	100	
	82.0		96.4		95	93.7	83.0	95.0	98.0		92.6	84.0	95.0		96.1	99.8	90.0	99.9	
	81.0		96.4		94.3	87.0	100	95.0	95.0		96.0	95.0	95.0		98.1	95.0	88.5	99.3	
	96.0		99.0		95	90.0	96.0	94.0	95.0		95.5	95.2	99.9		93.3	92.7	90.9	98.2	
	99.0		71.0		91	78.0	79.7	98.0	95.0		91.5	99.9	97.4		95.0	91.0	85.2	90.2	
	95.0		95.0		91.3	96.0	94.5	90.0	100		93.4	99.7	100		100	90.0	95.0	94.4	
	99.0		92.0		100	94.5	94.6	95.0	95.0		94.3	85.6	96.1		95.0	90.2	96.0	84.3	
	97.0		93.0		100	85.6	98.6	95.0	95.0		92.5	99.4	95.0		93.3	90.1	95.0	94.0	
	98.0		95.0		95	92.5	92.6	100	95.0		94.3	98.9	90.4		73.3	99.5	91.2	98.0	
	93.0		94.0		90.5	100	96.3	95.0	90.0		93.1	90.3	93.2		90.0	95.0	91.3	100	
	100		96.0		91.3	94.5	95.7	95.0	92.9		84.4	79.0	95.0		89.3	90.0	90.0	98.7	
	93.0		93.9			97.7	100	95.0	91.0		78.9	94.3	95.0		83.8	95.0	89.7	93.0	
	98.0		91.0			85.1	87.0	95.0	81.2		95.3	98.6	95.0		97.3	100	85.6	100	
	91.0		87.3			96.0	90.0	95.0	90.9		95.0	93.9	95.0		95.0	86.7	99.2	94.1	
	92.0		95.7			100	94.0	93.0	95.7		95.0	98.5	95.0		78.7	90.0	95.0	84.6	
			95.1			93.7	91.3	80.0	97.3		95.0	98.5	95.0		95.0	79.6	94.7	100	
			94.0			70.0	98.0	95.0	93.7		95.0	96.3	95.0		83.6	92.7	95.0	96.0	
			90.0			84.8	95.0	99.3	94.4		95.0	90.0	95.0		89.0	84.0	96.2	100	
		92.1			85.0	80.0	100	92.5		95.0	90.7	95.8		90.0	95.0	95.0	96.0		
		83.0			100	83.0	93.0	91.3		95.0	90.3	95.0		91.1	98.1	90.0	98.8		
		97.5			97.0	95.0	95.0	94.3		95.0	97.8	95.0		89.9	95.0	99.7	90.5		