



FORENSIC SCIENCE MASTERS OF SCIENCE PROGRAM

FALL 2010 – SUMMER 2011 PROGRAM ASSESSMENT

1/26/2012

**FORENSIC SCIENCE MASTERS OF SCIENCE PROGRAM
2011 PROGRAM ASSESSMENT**

I. Forensic Science M.S. Program Mission Statement

The Marshall University Forensic Science Program's Mission Statement provides a clear statement of the Program's purpose, its philosophies, goals, and ambitions. The Mission seeks to define the Program's commitment to excellence in teaching and learning, research and service, as well as to reflect the goals and objectives of the forensic science community in producing graduate-level, technically skilled, ethically-sound, highly employable and knowledgeable forensic science professionals. [Ref: FEPAC Accreditation Standards v 11/22/11 Standard 5.1]

Forensic Science M.S. Program Mission Statement

The Marshall University Forensic Science Graduate Program strives to demonstrate leadership in forensic science in order to:

- Provide affordable, high quality forensic science graduate education appropriate for the nation, state and the region.
- Provide forensic science services and resources to promote student learning, retention, and academic success.
- Foster faculty, staff, and student outreach through forensic science service activities.
- Provide a safe and secure work environment.
- Provide instruction in forensic science using appropriate and innovative modes of delivery.
- Provide forensic science education, training, and community services that serve society and the forensic science community.
- Promote forensic science student involvement in economic development activities that involve research, collaboration, and technological innovations.
- Model and promote the Marshall University Creed and MU Statement of Ethics, AAFS Good Forensic Science Practices, AAFS Code of Ethics, ABC Rules of Professional Conduct, and ASCLD Code of Ethics.
- Remain current in the field of forensic science while incorporating enhanced knowledge, skills, and abilities into the educational process.
- Improve instruction through the use of innovative teaching methods that promotes students learning and the development of critical thinking skills fundamental to becoming life-long learners.
- Contribute to the expansion of the forensic science body of knowledge through education, training, research and other services.
- Actively engage and mentor students in scholarly and creative endeavors.
- Regularly review the forensic science curriculum, degree, and programs offered, and recommend necessary additions and deletions to meet changing needs of the forensic science profession.
- Develop a positive, just, and equitable workplace for forensic science students and staff.
- Encourage and enhance student ability to use their knowledge, creativity, and critical thinking skills to make their communities better places in which to live.
- Secure funding to support forensic science scholarship and creative endeavors, faculty and staff development, and state-of-the-art classrooms and laboratory facilities.
- Facilitate the Forensic Science Program and Center's achievement of its mission and vision; communicate the vision, mission, goals, achievements, and difficulties of the Forensic Science Center and Graduate Program in a clear, effective, and forthright manner to both internal and external constituencies.

I. Student Learning Outcomes

Core Forensic Science Curriculum [FEPAC Standard 5.3.1 and 5.3.1a v 11/22/11]

Program Goal – The student shall develop and understanding of the areas of knowledge that are essential to forensic science; acquire skills and experience in the application of basic forensic science concepts and of specialty knowledge to problem solving; be oriented in professional values, concepts and ethics; and demonstrate integration of knowledge and skills through a comprehensive examination and research projects; shall demonstrate basic knowledge necessary for effective testimony as an expert witness, and document participation in practical experiences where they will render expert testimony, e.g., moot court.

Student Outcome	Assessment Tool(s)	Benchmark	Assessment Frequency
Crime Scene Investigation - The student shall demonstrate that the above goals have been met	FSC 606 Mock Crime Scene Exercise Evaluation and Examination Questions	≥B grade	Fall Term
Physical Evidence Concepts - The student shall demonstrate that the above goals have been met	FSC 612 Laboratory Reports and Examination Questions	≥B grade	Fall Term
Law/Science Interface -The student shall demonstrate that the above goals have been met	FSC 665 Examination Questions	≥B grade	Spring Term
Ethics and Professional Responsibilities - The student shall demonstrate that the above goals have been met	Across the Curriculum Exam Questions New Student Orientation Attendance	≥B grade 100% attendance	All Terms Fall Term
Quality Assurance -The student shall demonstrate that the above goals have been met	FSC 604 Quality Assurance Examination Questions	≥B grade	Spring Term
Analytical Chemistry and Instrumental Methods of Analysis - The student shall demonstrate that the above goals have been met	FSC 622 & 623 Laboratory Reports and Examination Questions	≥B grade	Fall & Spring Terms
Drug Chemistry and Toxicology -The student shall demonstrate that the above goals have been met	FSC 622 & 623 Examination Questions & Laboratory Reports	≥B grade	Spring Term
Microscopy and Materials Analysis - The student shall demonstrate that the above goals have been met	FSC 618 & FSC 612 Laboratory Reports and Examination Questions	≥B grade	Spring & Fall Terms
Forensic Biology- The student shall demonstrate that the above goals have been met	FSC 604 & 624 Examination Questions	≥B grade	Fall and Spring Terms
Pattern Evidence - The student shall demonstrate that the above goals have been met	FSC 618 & FSC 606 Laboratory Reports, Papers, & Examination Questions; Mock Trial, Mock Crime Scene Exercise	≥B grade	Fall Terms

Definitions and Examples of Verbs Used in Defining Course-based Student Learning Outcomes

The Forensic Science Program strives to define its body of learning through the identification of specific goals and objectives, associated learning activities and assessment instruments to inform the public and other interested bodies, as well as to help the learner achieve these goals and objectives. The Forensic Science Program has adopted the following system for defining student outcomes.

Domain	Learning Outcome Level	Description of Level	Verbs
Cognitive	1. Recall	Remembering learned information	Define, describe, identify, label, list, mark, name, outline, recall, recite, state.
	2. Application	Understanding information and applying it to other material or new situations.	Calculate, convert, discuss, explain, illustrate, modify, predict, relate, restate, translate, use.
	3. Problem Solving	Analyzing, reorganizing, and synthesizing information. Making decisions and judgments based on information.	Analyze, assess, choose, contrast, compare, compose, create, critique, differentiate, distinguish, formulate, judge, justify, plan.
Affective	1. Awareness 2. Valuing 3. Commitment	Awareness of an activity, situation, or phenomenon.	Attend, comply, describe, help, identify, locate, obey, observe, present, reply, report, select.
		Attachment of worth to an activity, situation, or phenomenon.	Assist, cooperate with, demonstrate, discuss, invite, join, justify, propose, protect, share, support.
		Ability to defend or justify values and resolve conflicts between values resulting in a consistent value system.	Advocate, alter, choose, combine, compare, defend, exhibit, explain, influence, initiate, practice, verify, volunteer.
Psychomotor	1. Readiness	Awareness of stimulus and readiness to perform motor skill.	Assemble, identify, label, inventory, prepare, proceed, respond, select, set up, start.
	2. Proficiency	Practice motor skills with increasing proficiency and confidence.	Calibrate, dilute, manipulate, measure, operate, perform, pipette, practice, titrate,

	3. Adaptation	Ability to alter procedures or create new procedures and/or new movements.	transfer, replicate. Alter, modify, arrange, rearrange, change, combine, delete, compose, create, design, redesign, organize, reorganize, revise, vary.
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Ref: Bloom BS (ed.): Taxonomy of Educational Objectives: Handbook I, Cognitive Domain. New York, D. McKay, 1956; Krathwohl DR, Bloom BS, Masia BB: Taxonomy of Educational Objectives: Handbook II, Affective Domain. New York, D. McKay, 1956; Simpson EJ: The classification of educational objectives in the psychomotor domain. In The Psychomotor Domain, Washington, DC, Gryphon House, 1972, vol3, p 43-56.

An example of this approach as it is applied in Forensic Science is provided.

Assessment: Student Learning Outcomes Mapping for FSC 612 Microscopy

		-----COURSE OBJECTIVES-----									
Learning Level	Student Learning Outcomes	1	2	3	4	5	6	7	8	9	10
Cog 1	Recall		X	X				X		X	
Cog 2	Application				X						
Cog 3	Problem Solving					X		X	X		X
Affect 1	Awareness	X		X							
Affect 2	Valuing										
Affect 3	Commitment	X		X							
Psychom 1	Readiness	X									
Psychom 2	Proficiency	X					X				
Psychom 3	Adaptation										

Objectives:

1. Explain the purpose of Kohler Illumination and perform [this procedure] on a polarized light microscope until proficient.
2. Describe the principles of polarized light, describe ways to create polarized light, and identify ways to utilize it for the identification of a material.
3. Label parts of a polarized light microscope and explain the functions of each part.
4. Relate the main goals of microscopy to each other.
5. Differentiate between a spherical aberration and a chromatic aberration.
6. Calibrate the ocular scale for each objective using a stage micrometer.
7. Differentiate between natural and man-made fibers and list examples of each.
8. Differentiate between the structures of hardwoods and softwoods for all three viewing planes of each.
9. Outline methods for acetolysis of pollen grains and identify key structures.
10. Differentiate between a human hair and an animal fur fiber.

Learning Level	Student Learning Outcomes	11	12	13	14	15	16	17	18	19	20
Cog 1	Recall										
Cog 2	Application						X				
Cog 3	Problem Solving			X	X	X			X		
Affect 1	Awareness	X									X
Affect 2	Valuing							X			
Affect 3	Commitment	X								X	X
Psychom 1	Readiness										
Psychom 2	Proficiency										
Psychom 3	Adaptation		X								

11. Explain the growth cycle of a human hair or fur fiber.
12. Rearrange Snell's Law to show that velocity is inversely proportional to refractive index.
13. Differentiate between the six different crystal systems.
14. Analyze a known sample's refractive index using the Becke line.
15. Analyze the relationship between pleochroism, refractive index, relief, extinction, interference color, and sign of elongation.
16. Calculate the thickness, retardation or birefringence for several samples using the Michel-Levy chart.
17. Discuss how two overlapping anisotropic materials effects light vibration.
18. Apply current articles on the different uses for microscopes to forensic case scenarios.
19. Defend identification of unknown samples using polarized light microscopy.
20. Explain the three main types of information that a scanning electron microscope can identify regarding a sample.

Learning Level	Student Learning Outcomes	21	22	23	24	25	26
Cog 1	Recall		X			X	
Cog 2	Application		X				
Cog 3	Problem Solving	X		X	X		
Affect 1	Awareness					X	
Affect 2	Valuing						
Affect 3	Commitment						
Psychom 1	Readiness						
Psychom 2	Proficiency						
Psychom 3	Adaptation						X

21. Analyze the relationship between the light microscope and the scanning microscope.
22. Label the parts of the electron microscope and explain the functions of each part.
23. Analyze the relationship between accelerating voltage and atomic number.
24. Differentiate between the types of signals that are generated during primary beam and sample interaction.
25. Characterize a particle of gunshot residue.

26. Design a small research project using the scanning electron microscope.

In turn, assessment instruments are designed to assess the effectiveness of the learning activities in meeting stated goals and objective specifically stated in the course syllabus.

EXAMPLE - Evaluation of Assessment Instrument

|-----Number and Type of Items -----| | -- Taxonomic Level of Items --|

Topic	Course Objective	Multiple Choice	Short Answer	Essay	Fill-in-the Blank, Listing	Recall	Application	Problem Solving
Microscopy	1				1			1
	2	2				1	1	
	3	2				1		1
	4	2						
	5		5			2	2	1
	6	2				2		
	7					2	1	
	8	2						2
	9	3					2	1
	10				1 (20 pts)		1 (10 pts)	1(5 pts)
Total		13	5	20	4	18	11	11

EXAMPLE – Assessment of Examination Results – FSC 612 Microscopy

Standard Item Analysis Report On Exam2 Version A

Course #: FSC 612- F10
 Course Title: Microscopy
 Day/Time:

Instructor: Rushton, C
 Description:
 Term/Year:

Total Possible Points: 60.00 Median Score: 54.40 Highest Score: 57.00
 Standard Deviation: 2.09 Mean Score: 54.47 Lowest Score: 48.00
 Student in this group: 17 Reliability Coefficient (KR20): 0.31
 Student Records Based On: All Students

No.	Correct Group Responses			Point Biserial	Correct Answer	Response Frequencies - * indicates correct answer										Non Distractor
	Total	Upper 27%	Lower 27%			A	B	C	D	E						
1	94.12%	100.00%	80.00%	0.18	A	*16	0	0	1	0						BCE
2	70.59%	80.00%	40.00%	0.52	B	0	*12	1	4	0						AE
3	88.24%	100.00%	80.00%	-0.01	C	0	2	*15	0	0						ADE
4	100.00%	100.00%	100.00%	0.00	A	*17	0	0	0	0						BCDE
5	88.24%	100.00%	80.00%	0.61	B	0	*15	2	0	0						ADE
6	94.12%	100.00%	100.00%	0.06	A	*16	1	0	0	0						CDE
7	76.47%	100.00%	60.00%	0.39	C	1	3	*13	0	0						DE
8	82.35%	100.00%	60.00%	0.47	B	1	*14	1	1	0						E
9	100.00%	100.00%	100.00%	0.00	C	0	0	*17	0	0						ABDE
10	94.12%	100.00%	80.00%	0.18	D	0	0	1	*16	0						ABE
11	100.00%	100.00%	100.00%	0.00	A	*17	0	0	0	0						BCDE
12	100.00%	100.00%	100.00%	0.00	D	0	0	0	*17	0						ABCE
13	100.00%	100.00%	100.00%	0.00	D	0	0	0	*17	0						ABCE
14	100.00%	100.00%	100.00%	0.00	A	*17	0	0	0	0						BCDE
15	100.00%	100.00%	100.00%	0.00	A	*17	0	0	0	0						BCDE
16	0.00%	0.00%	0.00%	0.00	D	0	0	17	*0	0						ABDE
17	100.00%	100.00%	100.00%	0.00	A	*17	0	0	0	0						BCDE
18	94.12%	100.00%	80.00%	0.06	E	0	0	0	1	*16						ABC
19	100.00%	100.00%	100.00%	0.00	C	0	0	*17	0	0						ABDE
20	100.00%	100.00%	100.00%	0.00	B	0	*17	0	0	0						ACDE
21	94.12%	100.00%	100.00%	-0.18	A	*16	1	0	0	0						CDE
22	76.47%	80.00%	60.00%	0.46	B	0	*13	4	0	0						ADE
23	100.00%	100.00%	100.00%	0.00	B	0	*17	0	0	0						ACDE
24	100.00%	100.00%	100.00%	0.00	C	0	0	*17	0	0						ABDE
25	100.00%	100.00%	100.00%	0.00	E	0	0	0	0	*17						ABCD
26	100.00%	100.00%	100.00%	0.00	B	0	*17	0	0	0						ACDE
27	100.00%	100.00%	100.00%	0.00	C	0	0	*17	0	0						ABDE
28	88.24%	80.00%	100.00%	-0.18	A	*15	0	1	0	1						BD
29	100.00%	100.00%	100.00%	0.00	A	*17	0	0	0	0						BCDE
30	29.41%	20.00%	40.00%	-0.02	A	*5	8	4	0	0						DE
31	94.12%	100.00%	100.00%	0.06	A	*16	0	0	1	0						BCE
32	94.12%	100.00%	80.00%	0.77	C	1	0	*16	0	0						BDE
33	100.00%	100.00%	100.00%	0.00	C	0	0	*17	0	0						ABDE
34	88.24%	100.00%	80.00%	-0.14	A	*15	0	1	0	0						BDE
35	82.35%	100.00%	80.00%	0.18	B	0	*14	2	1	0						AE
36	82.35%	60.00%	80.00%	-0.12	B	1	*14	2	0	0						DE

Standard Item Analysis Report On Exam2 Version A

Course #: FSC 612- F10
 Course Title: Microscopy
 Day/Time:

Instructor: Rushton, C
 Description:
 Term/Year:

Total Possible Points:	60.00	Median Score:	54.40	Highest Score:	57.00
Standard Deviation:	2.09	Mean Score:	54.47	Lowest Score:	48.00
Student in this group:	17	Reliability Coefficient (KR20):	0.31		

Student Records Based On: All Students

No.	Correct Group Responses			Point Biserial	Correct Answer	Response Frequencies - * indicates correct answer										Non Distractor	
	Total	Upper 27%	Lower 27%			A	B	C	D	E							
37	100.00%	100.00%	100.00%	0.00	A	*17	0	0	0	0							BCDE
38	82.35%	80.00%	80.00%	0.03	D	0	1	2	*14	0							AE
39	94.12%	100.00%	80.00%	0.18	D	0	1	0	*16	0							ACE
40	100.00%	100.00%	100.00%	0.00	B	0	*17	0	0	0							ACDE
41	100.00%	100.00%	100.00%	0.00	D	0	0	0	*17	0							ABCE
42	70.59%	100.00%	40.00%	0.39	C	3	0	*12	2	0							BE
43	94.12%	100.00%	80.00%	0.18	E	1	0	0	0	*16							BCD
44	88.24%	100.00%	80.00%	0.17	D	0	1	1	*15	0							AE
45	100.00%	100.00%	100.00%	0.00	D	0	0	0	*17	0							ABCE
46	94.12%	100.00%	100.00%	0.06	B	1	*16	0	0	0							CDE
47	94.12%	100.00%	100.00%	0.06	A	*16	0	1	0	0							BDE
48	82.35%	100.00%	80.00%	0.62	C	3	0	*14	0	0							BDE
49	100.00%	100.00%	100.00%	0.00	B	0	*17	0	0	0							ACDE
50	100.00%	100.00%	100.00%	0.00	C	0	0	*17	0	0							ABDE
51	100.00%	100.00%	100.00%	0.00	E	0	0	0	0	*17							ABCD
52	100.00%	100.00%	100.00%	0.00	C	0	0	*17	0	0							ABDE
53	100.00%	100.00%	100.00%	0.00	B	0	*17	0	0	0							ACDE
54	100.00%	100.00%	100.00%	0.00	D	0	0	0	*17	0							ABCE
55	100.00%	100.00%	100.00%	0.00	A	*17	0	0	0	0							BCDE
56	52.94%	40.00%	60.00%	-0.13	A	*9	2	0	5	1							C
57	88.24%	100.00%	80.00%	0.69	A	*15	2	0	0	0							CDE
58	100.00%	100.00%	100.00%	0.00	D	0	0	0	*17	0							ABCE
59	100.00%	100.00%	100.00%	0.00	D	0	0	0	*17	0							ABCE
60	94.12%	100.00%	100.00%	0.06	C	0	1	*16	0	0							ADE

Measurements of Central Tendency and Dispersion: Measurements of central tendency are used in analyzing test results to determine the grouping of the results. These include the mean, median, mode, and standard deviation. Measurements of dispersion of test scores are useful in determining whether the scores are homogenous. The range is typically taken into consideration with the median. The most popular measurement of dispersion is the standard deviation.

Analysis: Testing is an integral part of the Forensic Science Program. It is used as an evaluation tool at the program-level as well as at the course/instructor-level, in continuing education programs, and in competency testing for forensic science personnel. Testing allows objective decisions to be made regarding the competency of a learner. Testing is one mechanism to document that the individual possesses the necessary knowledge, skill, abilities, and attitudes required to perform laboratory or field-based investigations. Testing allows learners to assess their strengths and weaknesses and improve problem areas as the course progresses or as the student progresses through the program. The critical analysis of test results allows instructors to evaluate their own effectiveness, and indirectly the effectiveness of the curriculum. Identification of a subject area in which the majority of the learners perform poorly provides instructors with the opportunity to alter the presentation of the material to make it more effective. Given the amount of information that forensic scientists must acquire, it is not surprising that many objectives are written in the cognitive domain. By mapping course objectives by type and level, it becomes easier to assess which domains and/or domain levels have been overlooked in writing objectives, designing activities, and determining learner competencies. This system assists instructors in focusing on the main points to be covered in a lecture, laboratory, or other exercise while preventing the instructor from getting off topic, overemphasizing one area, or deleting important information. Reviewing objectives from other courses can assist an instructor or administrator in determining what the learners should already know and their readiness for new material. Clearly stated and comprehensive course objectives are particularly useful in identifying gaps or excessive overlap between courses. Objectives can be used to evaluate the effectiveness of teaching methods. If many learners have difficulty attaining a particular objective, the instructor may choose to spend more time on that objective or try a different teaching strategy. Objectives are valuable tools in constructing tests. Using objectives as the basis for examination item development, learners are rarely surprised by the content of the examination and tend to view the exam as fair. Objectives allow the instructor to give concrete feedback to learners. The instructor can give positive feedback on the objectives the learner has mastered, has not mastered, and discuss steps that the learner should take in order to master the remaining objectives. Students also appreciate clearly stated objectives as they assist learners in dividing the course into manageable sections, allow them to evaluate their own progress, while providing guidance for studying. While the reasons for writing course objectives are numerous, some instructors are reluctant to use objectives to define their courses. Some instructors may feel that objectives limit their flexibility and limit achievement by confining learning to specific behaviors. [Melton RF: Resolution of conflicting claims concerning the effect of behavioral objectives on student learning. R Educ Res 48:291, 1978]. These problems can be overcome with well-written objectives. Instructors, with undergraduate and advanced degrees in science, typically have had no formal preparation for teaching. One of the most common reasons that instructors do not rely upon objectives is that they are ill-prepared to write objectives and find them time-consuming to write. New, and existing, faculty would benefit from university-sponsored training in objective-based course design and implementation, including assessment. In most cases, appropriate content exists within a course but is not clearly identified in the course syllabus. Measurements of central tendency are used in analyzing test results to determine the grouping of test results and include the mean, mode, median, and standard deviation. When analyzing individual items on an examination of this type, it is helpful to evaluate each question by its degree of difficulty and discrimination. The difficulty index is the percentage of test takers selecting the correct answer on a particular item. The difficulty index is calculated by dividing the number of learners who correctly answered the item by the total number of learners. The difficulty index of a good test item is usually between 0.60 and 0.80 (60% and 80%). In analyzing items, the instructor looks at items with very high or very low difficulty indices. Items with very low difficulty indices may reflect a problem with the item construction or that the item was

keyed incorrectly, that the material covered on the examination was not clearly identified in the objective or because the item tests trivial material. Items with a high difficulty index (most learners get this one correct) may be appropriate to document basic mastery of that concept. The discrimination index is a measure of how well an item discriminates between high-achieving learners and low-achieving learners. In this way, a good test item should be able to separate the learners who know the most about a subject from those who know the least. The discrimination index can be calculated by subtracting the number correct in the lower 27% from the number correct in the upper 27% and dividing that figure by the number of learners in the upper or lower group. From the Standard Item Analysis Report, provided previously in this report, we use the 'Point Biserial' value as an indication of item discrimination. The following examples illustrate how the relationship between difficulty and discrimination indices and helpful information that can be derived from item analysis.

Item	Responses:				Difficulty Index	Discrim Index	Comments
	A	B	C	D			
1	3	0	5	17	0.68	0.30	Statistically, this is a good item. It is noteworthy to note that no learners selected B as the correct answer. The distracter for B may not be plausible, even to the poorly performing learner.
2	7	8	6	4	0.32	0.05	This is a difficult item as only 32% answered it correctly. The item is not distinguishing learners doing well or poorly on the exam. This item may be poorly written, may test material not emphasized, or it may test trivial material. The spread of responses indicates that learners may have been guessing on this item.
3	8	4	10	3	0.32	0.48	This is also a difficult item, however, the discrimination index for this item is much better than for Item 2. Although only 32% of the learners correctly answered this item, the item discriminated between those who performed well and those who performed poorly. This item may be a higher-cognitive-level item that separated those with a thorough understanding of the material from those learners who are at a lower level of comprehension. Note: Items 2 and 3 demonstrate the need to analyze both the difficulty index and discrimination index when evaluating test items.
4	0	12	13	0	0.52	-0.20	This item is moderately difficult with slightly over half the learners choosing the correct answer. The negative discrimination index indicates a problem with this question. The item may be incorrectly keyed or the wording of the item may be leading the better learners astray. Since no learners selected A or D, these distracters may be implausible or may contain clues. These items should be revised or discarded.

Difficulty Index Interpretation: 0.60-0.80 Good

Discrimination Index Interpretation: >0.40 Ideal; 0.30-0.39 Good; 0.20-0.29 Marginal; <0.19 Poor

Ref: Beck SJ, LeFrys VA. Clinical Laboratory Education, 2nd ed., American Society for Clinical Laboratory Science, Kendall/Hunt Publishing Company, 1996.

Plan of Action: Instructors are encouraged to write course objectives that clearly state instructor expectations and how these expectations will be assessed. As a detailed "Body of Knowledge" does not exist for forensic science, our faculty may be instrumental in the development of such a guide document for the profession.

Faculty and instructors will be encouraged to assess their questions on an annual basis for making improvements to examinations.

II. OTHER ASSESSMENT ACTIVITIES

A number of assessment tools are utilized in forensic science and are listed in the chart below. Each is assessed during a particular term of the program and most are associated with a particular course. Several rubrics are utilized to assess student outcomes. These were provided last year and will not be presented here.

Assessment Measures (Tools) & Benchmarks -

This section was revised to reflect the American Academy of Forensic Sciences Educational Accreditation Commission (FEPAC) Standards for Forensic Science Graduate Programs (www.aafs.org) and the MU Forensic Science Core Outcomes/Competencies. This change will bring our MU Annual Report in-line with the Forensic Science Program's FEPAC accreditation standards with the Marshall University Assessment Office Programs' guidelines.

Professional Involvement [FEPAC Standard 3.10 v. 11/22/11]

Program Goal - The student shall provide service to the forensic science profession and to the community through some combination of communication, collaboration, consultation or technical assistance, continuing education program programs, and any other means for sharing the student's professional knowledge and competence.

Student Outcome	Assessment Tool(s)	Benchmark	Assessment Frequency
Effective Written & Oral Communication Skills – The student will effectively demonstrate communication skills appropriate for the type and level of practice	^a Lay Audience Presentation Rubric ^b Research Paper Rubric ^c Research Presentation Rubric ^d Poster Presentation ^e Appreciation Packet Checklist ^f Resume, <i>Curriculum vitae</i> , Cover Letter, Interview Rubrics	^a ≥B grade ^b ≥B grade ^c ≥B grade ^d ≥B grade ^e Pass ^f ≥B grade	^a Spring Term ^b Summer Term ^c Fall Term ^d Spring Term ^e Spring Term ^f Spring Term
Demonstration of Effective Interpersonal Skills – The student will effectively demonstrate interpersonal skills appropriate for the type and level of practice	^g Graduate Assistant's Supervisor Assessment Rubric ^h Intern Assessment by External Agency	^g ≥B grade	^g Fall & Spring Terms ^h Summer Term

Interaction with Forensic Science Laboratories [FEPAC Standard 3.10a v 11/22/11]

Program Goal: The student shall demonstrate formal, regular interaction with at least one operational forensic laboratory in the form of student internships. The student shall participate in coordinated research initiatives between laboratory and the academic program.

Student Outcome	Assessment Tool(s)	Benchmark	Assessment Frequency
The student shall demonstrate formal Interactions with an Operational Forensic Science Laboratory to include Internship and Research	ⁱ Student-Agency Research Proposal Review and Approval; Agency-Program Agreement	ⁱ Pass	ⁱ Spring Term
	^j Student Research Paper Review and Approval; Rubric	^j ≥B grade	^j Summer Term
	^k Student Research Poster Approval by Agency	^k Pass	^k Spring Term

Interaction with Forensic Science Organizations [FEPAC Standard 3.10b v 11/22/11]

Program Goal: The student shall demonstrate formal, regular interaction with at least one professional forensic science organization.

Student Outcome	Assessment Tool(s)	Benchmarks	Assessment Frequency
The student shall demonstrate voluntary membership in at least one Professional Forensic Science Organization.	^l Student Report of Professional Membership	^l 100% participation	^l All Terms

Demonstrate Integration of Knowledge and Skills [FEPAC Standard 5.3.1.]

Program Goal – The student shall demonstrate integration of knowledge and skills through a comprehensive examination and research projects.

Student Outcome	Assessment Tool(s)	Benchmark	Assessment Frequency
Demonstration of Integrated Knowledge – The student will demonstrate integration of knowledge and skills through documentation of successful level of achievement on the Comprehensive Examination, Mock Job Interview, and Research Project.	^m Comprehensive Examination	^m The student will fail the overall exam if any single section is below 70% or two or more sections are in the 70-79% range.	^m Spring Term
	^{New} Mock Job Interview Rubric	^{New} ≥B or better	^{New} Spring Term
	ⁿ Research Paper Rubric	ⁿ ≥B or better	ⁿ Summer Term

Graduate Seminar [FEPAC Standard 5.3.1c v 11/22/11]

Program Goal – The student shall actively participate in a formal seminar course series which includes presentations by invited experts, faculty, and students on topics such as published work, original research, and other relevant forensic science topics.

Student Outcome	Assessment Tool(s)	Benchmark	Assessment Frequency
The student shall attend all seminar presentations.	^o Attendance Ledger	^o 100% attendance	^o Each Semester
The student shall constructively analyze all seminar presentations.	^p Evaluation Form Tally	^p 100% participation	^p Fall & Spring Terms
The student shall orally present on a timely forensic science topic at the lay audience level.	^q Lay Audience Seminar Evaluation Form Rubric	^q ≥B grade	^q Spring Term
The student shall orally present on their research project at a professional audience-level.	^r Research Seminar Evaluation Form Rubric	^r ≥B grade	^r Fall Term

Research [FEPAC Standard 5.3.1d v 11/22/11]

Program Goal – The student shall complete an independent research project. The research project shall culminate in a written report or thesis of publishable quality. The student shall present the work orally, in a public forum, before the committee.

Student Outcome	Assessment Tool(s)	Benchmark	Assessment Frequency
The student shall submit a research proposal of appropriate quality for approval by 3 committee members.	^s Research Proposal Approval Form	^s Approval by 3 Committee Members	^s Spring Term
The student shall conduct their research under the mentorship of 3 committee members	^t Research Proposal Components Checklist	^t All components present	^t Spring Term
	^s Research Proposal Progress signatures and email approvals ; KSA Assessment Form Rubric	^s B or better progress reports	^s Summer Term

C. RESULTS/ ANALYSIS/ PLANNED ACTION

RESULTS FROM STUDENT RESEARCH POSTER PRESENTATION ASSESSMENTS – CLASS OF 2011

Goals: The student will demonstrate effective communication skills and professional demeanor appropriate for the type and level of practice. The student will demonstrate integration of knowledge and skills through documentation of successful level of achievement on a research project.

Analysis: This exercise occurs in the last term of the program and just prior to graduation. Each poster presenter is reviewed by at least 3 professionals skilled in the art of the research presented. One member of the review team is a 1st year student skilled in presentation evaluation. The Poster Presentation Rubric is not included here as it was submitted as a rubric sample last year. The rubric consists of 18 assessment items. Each student is expected to achieve ≥ 4 points per item. Item scores below this benchmark are highlighted in yellow. Each student is also expected to achieve an overall score of 80% or higher. Overall scores below this benchmark are also highlighted in yellow. Some inconsistencies among reviewers were noted. All but one student performed in the 90% or above range overall. One student performed in the 80-89% range. All students met the benchmark in total scoring. Nine (9) of 16 students received a score of 3 or less on at least one item, however, there was little consistency among reviewers. This inconsistency among reviewers may be attributed to individual stringency in rating or lack of familiarity with the rubric.

Planned Action: Reviewers rating any item below the benchmark will be asked to write written comments on the evaluation form to guide student improvements. In the future, each student will be provided with reviewer ratings and comments. The rubric for this activity is detailed and lengthy. The intent of this design was to obtain the most discriminating information possible. The disadvantage may be that the reviewer may be unfamiliar with the rubric or use of rubrics in general. While the reviewers are provided a copy of the rubric well in advance of the event along with the poster, there is no guarantee that the reviewer previewed the rubric or poster prior to the event. It would be informative to have reviewers provide comments when issuing ratings of 3 or lower on individual items. This will provide the student with additional feedback and will provide the program with an opportunity to detect flaws in the rubric itself or in its use.

----- RUBRIC ITEMS -----

Student #	Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
1	Christopher Vance	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	100	184
1	Bob Boggs	5	5	5	5	4	4	5	5	5	5	5	5	4	4	5	5	5	100	181
1	Nathan Quillen	5	5	5	5	5	4	4	5	4	5	4	5	4	5	5	5	5	100	180
1	Kathy Helenek	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185

Sum			20	20	20	19	19	18	19	20	19	20	19	20	18	19	20	20	20	400	730
Average			5	5	5	4.75	4.75	4.5	4.75	5	4.75	5	4.75	5	4.5	4.75	5	5	5	100	182.5
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	182.5	99%	5	5	5	4.75	4.75	4.5	4.75	5	4.75	5	4.75	5	4.5	4.75	5	5	5	100	182.5
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
2		Sarah Bowen	4	3	4	4	3	4	3	4	3	4	3	4	2	3	4	5	5	50	167
2		Amanda Hoffman	5	5	5	5	4	5	5	5	5	5	5	4	5	4	5	5	5	100	182
2		Jennifer Rehme	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	90	175
2		Tiffany Vickman	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
2		Heather Harrah	5	5	5	5	5	5	5	5	5	5	4	5	4	4	5	5	5	70	152
Sum			24	23	24	24	22	24	23	24	23	24	22	23	21	21	24	25	25	410	861
Average			4.8	4.6	4.8	4.8	4.4	4.8	4.6	4.8	4.6	4.8	4.4	4.6	4.2	4.2	4.8	5	5	82	172.2
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	161	87%	4.8	4.6	4.8	4.8	4.4	4.8	4.6	4.8	4.6	4.8	4.4	4.6	4.2	4.2	4.8	5	5	82	172.2
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
3		Dr. Castellani	5	5	5	5	5	5	4	5	5	5	4	4	5	5	5	90	5	90	257
3		Carolyn Trader-Moore	5	5	5	4	5	4	5	5	5	4	5	5	5	4	5	5	5	100	181
3		Alex Messina	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
3		Lindsey Hume	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
3		Larry Boggs	5	5	5	5	5	5	5	5	4	5	5	5	4	5	5	5	5	90	173

Sum			25	25	25	24	25	24	24	25	24	24	24	24	24	24	25	110	25	480	981
Average			5	5	5	4.8	5	4.8	4.8	5	4.8	4.8	4.8	4.8	4.8	4.8	5	22	5	96	196.2
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	196	106%	5	5	5	4.8	5	4.8	4.8	5	4.8	4.8	4.8	4.8	4.8	4.8	5	22	5	96	196.2
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
4		Kerrie Cathcart	5	5	5	4	5	4	4	5	4	4	4	5	5	5	5	5	5	100	179
4		Steve Compton	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
4		Dave Castle	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
4		Dana Quirindongo	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
4		Catherine Rushton	5	5	5	5	5	5	5	5	5	5	4	4	5	4	5	4	5	100	181
Sum			25	25	25	24	25	24	24	25	24	24	23	24	25	24	25	24	25	500	915
Average			5	5	5	4.8	5	4.8	4.8	5	4.8	4.8	4.6	4.8	5	4.8	5	4.8	5	100	183
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	183	99%	5	5	5	4.8	5	4.8	4.8	5	4.8	4.8	4.6	4.8	5	4.8	5	4.8	5	100	183
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
5		Catherine Rushton	5	0	0	0	5	5	5	5	5	5	5	5	5	5	4	5	5	100	169
5		Terry Fenger	5	5	5	5	5	5	5	4	4	5	5	5	4	4	5	5	5	100	181
5		Dave Castle	5	5	5	0	0	5	5	5	5	5	5	5	5	5	5	5	5	100	175
5		Kendra Wilbur	5	5	5	0	0	5	5	5	5	5	5	5	5	5	5	5	5	100	175
5		Dwight Deskins	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185

Sum			25	20	20	10	15	25	25	24	24	25	25	25	24	24	24	25	25	500	885	
Average			5	4	4	2	3	5	5	4.8	4.8	5	5	5	4.8	4.8	4.8	5	5	100	177	
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185	
Total Points	177	93.81%	5	4	4	2	3	5	5	4.8	4.8	5	5	5	4.8	4.8	4.8	5	5	100	177	
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	
6		Jennifer Hayden	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
6		Kathleen Brown	5	5	5	5	3	5	5	5	5	5	5	5	5	5	5	5	5	5	100	183
6		Season Seferyn	5	5	5	5	3	5	5	5	4	5	5	5	5	5	5	5	5	5	100	182
6		Josh Stewart	5	5	5	5	5	5	5	5	3	5	5	5	3	4	5	5	5	5	90	170
6		Jami St. Clair	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	4	5	5	100	183
Sum			25	25	25	25	21	25	25	25	22	25	25	25	23	23	25	24	25	490	903	
Average			5	5	5	5	4.2	5	5	5	4.4	5	5	5	4.6	4.6	5	4.8	5	98	180.6	
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185	
Total Points	180.6	98%	5	5	5	5	4.2	5	5	5	4.4	5	5	5	4.6	4.6	5	4.8	5	98	180.6	
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	
7		Ted Smith	5	5	5	4	5	4	5	4	5	4	5	4	5	5	5	5	5	5	100	180
7		Misty Marra	5	5	5	5	5	5	4	4	4	5	5	5	5	4	5	5	5	5	100	181
7		Season Seferyn	5	5	5	4	5	5	5	5	3	5	4	5	4	5	5	3	5	5	100	178
7		Laura Kuyper	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
7		Josh Stewart	5	5	5	5	5	5	5	5	3	5	4	5	4	3	5	5	5	5	100	179

Sum			25	25	25	23	25	24	24	23	20	24	23	24	23	22	25	23	25	500	903
Average			5	5	5	4.6	5	4.8	4.8	4.6	4	4.8	4.6	4.8	4.6	4.4	5	4.6	5	100	180.6
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	180.6	98%	5	5	5	4.6	5	4.8	4.8	4.6	4	4.8	4.6	4.8	4.6	4.4	5	4.6	5	100	180.6
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
8		Carolyn Trader-Moore	5	5	5	5	5	5	4	5	4	5	5	5	4	5	5	5	5	100	182
8		Graham Rankin	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	90	174
8		Pamela Staton	5	5	5	5	5	5	5	5	5	5	5	5	5	3	5	5	5	90	168
8		Stephanie Johnson	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	100	184
8		Larry Boggs	5	5	5	5	5	5	5	5	4	5	5	5	5	4	5	5	5	100	183
Sum			25	25	25	25	25	25	24	25	22	25	25	25	23	22	25	20	25	480	891
Average			5	5	5	5	5	5	4.8	5	4.4	5	5	5	4.6	4.4	5	4	5	96	178.2
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	178.2	96%	5	5	5	5	5	5	4.8	5	4.4	5	5	5	4.6	4.4	5	4	5	96	178.2
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
9		Graham Rankin	5	5	5	5	5	5	5	5	4	5	4	5	5	5	5	4	5	90	172
9		Season Seferyn	5	5	5	4	5	5	5	4	4	5	5	5	5	5	5	4	5	100	181
9		Erin Crum	5	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5	5	90	173
9		Rebecca Mead	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
9		Pamela Staton	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185

Sum			25	25	25	24	25	25	25	24	23	25	23	25	25	24	25	23	25	480	711
Average			5	5	5	4.8	5	5	5	4.8	4.6	5	4.6	5	5	4.8	5	4.6	5	96	142.2
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	179.2	97%	5	5	5	4.8	5	5	5	4.8	4.6	5	4.6	5	5	4.8	5	4.6	5	96	142.2
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
10		Josh Stewart	5	5	5	5	5	5	3	5	5	5	5	5	3	3	4	4	5	90	167
10		Jason Chute	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
10		Sarah Bowen	5	5	5	5	4	5	4	5	5	4	5	4	4	4	5	5	5	95	174
10		Amanda Hoffman	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	100	184
10		Laura Kuyper	5	5	5	5	4	4	4	4	5	5	4	4	4	4	4	5	5	100	176
Sum			25	25	25	25	23	24	21	24	25	24	24	23	21	20	23	24	25	485	886
Average			5	5	5	5	4.6	4.8	4.2	4.8	5	4.8	4.8	4.6	4.2	4	4.6	4.8	5	97	177.2
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	177.2	96%	5	5	5	5	4.6	4.8	4.2	4.8	5	4.8	4.8	4.6	4.2	4	4.6	4.8	5	97	177.2
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
11		Josh Stewart	5	5	5	5	2	5	2	5	5	5	5	5	3	5	5	5	5	90	167
11		Pamela Staton	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
11		Tiffany Bard	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
11		Emily Fete	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
11		Heather Harrah	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185

Sum			25	25	25	25	22	25	22	25	25	25	25	25	23	25	25	25	25	490	907
Average			5	5	5	5	4.4	5	4.4	5	5	5	5	5	4.6	5	5	5	5	98	181.4
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	181.4	98%	5	5	5	5	4.4	5	4.4	5	5	5	5	5	4.6	5	5	5	5	98	181.4
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
12		Season Seferyn	5	4	5	5	4	5	4	5	3	5	5	5	5	4	5	5	5	100	179
12		Carolyn Trader-Moore	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	100	184
12		Graham Rankin	5	5	4	5	5	5	5	5	5	5	5	4	5	5	5	5	5	90	173
12		Dr. Castellani	5	4	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	100	183
12		Dana Greely	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Sum			25	23	24	24	24	25	23	25	23	25	25	24	25	24	25	25	25	490	904
Average			5	4.6	4.8	4.8	4.8	5	4.6	5	4.6	5	5	4.8	5	4.8	5	5	5	98	180.8
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	180.8	98%	5	4.6	4.8	4.8	4.8	5	4.6	5	4.6	5	5	4.8	5	4.8	5	5	5	98	180.8
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
13		Ted Smith	5	4	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	100	183
13		Misty Marra	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	100	184
13		Terry Fenger	5	5	5	5	5	5	5	4	4	5	5	5	5	5	5	5	5	100	183
13		Jason Chute	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
13		Sean Piwarski	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185

Sum			25	24	25	25	25	25	24	24	24	25	25	25	25	25	24	25	25	500	920
Average			5	4.8	5	5	5	5	4.8	4.8	4.8	5	5	5	5	5	4.8	5	5	100	184
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	184	99%	5	4.8	5	5	5	5	4.8	4.8	4.8	5	5	5	5	5	4.8	5	5	100	184
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
14		Ted Smith	5	5	5	5	4	5	5	4	5	4	5	5	5	5	5	5	5	100	182
14		Kelly Borycki	5	5	5	5	5	5	3	5	5	5	5	5	4	5	5	5	5	100	182
14		Alyssa Strohbusch	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
14		Jason Chute	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
14																					0
Sum			20	20	20	20	19	20	18	19	20	19	20	20	19	20	20	20	20	400	734
Average			5	5	5	5	4.75	5	4.5	4.75	5	4.75	5	5	4.8	5	5	5	5	100	183.5
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	183.5	99%	5	5	5	5	4.75	5	4.5	4.75	5	4.75	5	5	4.8	5	5	5	5	100	183.5
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
15		Kerrie Cathcart	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
15		Dave Castle	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
15		Catherine Rushton	5	4	4	5	4	5	5	5	5	5	4	5	4	5	5	3	5	100	178
15		Steve Compton	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
15		Molly Corvo	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185

Sum			25	24	24	25	24	25	25	25	25	25	24	25	24	25	25	23	25	500	918
Average			5	4.8	4.8	5	4.8	5	5	5	5	5	4.8	5	4.8	5	5	4.6	5	100	183.6
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	183.6	99%	5	4.8	4.8	5	4.8	5	5	5	5	5	4.8	5	4.8	5	5	4.6	5	100	183.6
Student #		Reviewer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
16		Ted Smith	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	100	184
16		Jennifer Hayden	4	5	5	5	5	5	5	5	4	5	5	5	5	4	5	4	5	100	181
16		Valerie Bostwick	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
16		Ronald Schmidt	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
16		Heather Harrah	5	5	5	5	5	5	5	5	5	5	5	5	5	4.5	5	5	5	100	184.5
Sum			24	25	25	25	25	25	25	25	24	25	25	25	25	23.5	25	23	25	500	919.5
Average			4.8	5	5	5	5	5	5	5	4.8	5	5	5	5	4.7	5	4.6	5	100	183.9
Max Points	185		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	100	185
Total Points	183.9	99%	4.8	5	5	5	5	5	5	5	4.8	5	5	5	5	4.7	5	4.6	5	100	183.9

Simplified Rubric Items: 1.Abstract 2.Title 3.Authorship 4.Introduction:Literature Review 5.Introduction:Research Question 6.Research Design 7.Materials and Methods 8.References 9.SSF Format 10.Writing Quality 11.Results 12.Discussion and Conclusions 13.Scientific Accuracy 14.Intellectual Property 15.Acknowledgements 16.Length

h INTERNSHIP SUPERVISOR EVALUATION OF THE INTERN - SUMMER 2010/ CLASS OF 2011

Goals: The student will effectively demonstrate interpersonal skills appropriate for the type and level of practice. The student will demonstrate communication skills appropriate for the type and level of practice. The student will demonstrate formal interactions with an operational forensic science laboratory. The student will demonstrate integration of knowledge and skills through documentation of successful level of achievement on a research project.

Analysis: Each student is required to complete a 10-week research-based internship in an approved forensic laboratory. This evaluation is completed by the host laboratory supervisor. This rubric addresses interpersonal skills, communication skills, and integrated knowledge and skills. The assessment instrument is used to assess the students' overall performance with respect to their assigned research project. Each item is graded 1-5 points where 5 demonstrates excellent performance for a student with no previous work experience; Performs above those with similar education and experience; Rarely requires assistance in evaluation of situations and solutions; Student shows exceptional attention to detail. A rating of 4 demonstrates good performance for a student with no previous work experience; Performs equal to those with similar education and experience; Sometimes requires assistance in evaluation of situations and solutions. A rating of 3 demonstrates moderately consistent performance; Performs above and below those with similar education and experience; Often requires assistance in evaluation of situations and solutions. Lower levels receive 0 points and include demonstration of moderately inconsistent performance; Performs below, more than above, as compared to other interns with similar education and experience; Demonstrate difficulty grasping important concepts; More likely, than not, that this person will make errors that they may, or may, not reveal. The benchmark for this rubric is receipt of a 4 or 5 on each item.

Planned Actions: Depending on the supervisor, the student may not receive critical feedback until the end of their internship. Providing a formative evaluation of a student's performance at the mid-point of the internship can help reinforce good performance, identify areas needing improvement, and provide the student with essential time to make improvements prior to the summative evaluation. Supervisors will be asked to use the standard internship assessment tool cited in this report for this purpose. Supervisors will also be asked to use the following form as a tool to facilitate corrections as the unacceptable or less than acceptable behavior occurs to provide immediate feedback.

Corrective Action Form (NEW)

Student _____

Instructor _____

Date _____

Description of Behavior:

Corrective Action Needed (if any):

Student's Comments:

Instructor's Signature & Date:

Student's Signature & Date:

IV. Efficiency and Organization																			
A. Judgment of Priorities and Organization	5	4	5	5	5	5	4	4	4	5	4	5	5	5		4	5	4.6	0.5
B. Time Element	5	4.5	5	5	5	4	4	N/A	3	5	5	5	5	5	5	5	4.7	0.6	
V. Interpersonal Relationships																			
A. With Clients	5	5	N/A	5	n/a	N/A	N/A	N/A	4	5	5	5	N/A	N/A	5	N/A	4.9	0.3	
B. With Colleagues	5	5	5	5	5	5	3	4.5	4	5	5	5	5	5	5	5	4.8	0.5	
C. With Supervisor	5	5	5	5	5	5	4	4	3	5	5	5	5	5	5	5	4.8	0.6	
VI. Dependability and Integrity																			
A. Attendance and Punctuality	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5.0	0.0	
B. Ethics	5	5	5	5	5	5	4	N/A	4	5	5	5	N/A	5	5	5	4.9	0.3	
C. Work Performance	5	5	5	5	5	5	5	3	4	5	5	5	5	5	5	5	4.8	0.5	
D. Mistakes	5	5	5	5	5	5	4	N/A	4	5	5	5	5	5	5	N/A	4.9	0.3	
E. Perseverance	5	5	5	5	5	5	4	N/A	3	5	5	5	5	5	5	5	4.8	0.5	
VII. Communication																			
A. With Public, Juries, Officers of the Court, Attorneys, or Other Non-Scientists	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5	5	N/A	N/A					
															N/A	N/A	5.0	0.0	
B. With Law Enforcement Officers or Agencies	5	5	N/A	5	N/A	5	N/A	N/A	N/A	N/A	5	5	N/A	N/A					
															N/A	N/A	5.0	0.0	

C. With Supervisors and Colleagues	5	5	5	5	5	4	4	4	4	5	5	5	5	5	5	5	4.8	0.4
D. Oral Communication Skills	5	5	5	5	5	5	4	4.5	5	5	5	5	5	4	5	5	4.8	0.3
E. Written Communication Skills	5	N/A	4	N/A	5	5	4	4.5	4	5	5	5	5	5	5	5	4.8	0.4
VIII. Personal Appearance and Grooming																		
A. Grooming	5	5	5	5	5	5	4	4.5	4	5	5	5	5	5	5	5	4.8	0.3
B. Dress for the Occasion	5	5	5	5	5	5	4	3	5	5	5	5	5	5	5	5	4.8	0.5
C. Prepares for the Unexpected	5	5	5	5	5	5	4	3	5	5	5	5	5	5	5	5	4.8	0.5
D. Representing the Organization	5	5	5	5	5	5	4	3	5	5	5	5	5	5	5	5	4.8	0.5
IX. Professional Values and Ethics																		
A. Recognizes their responsibility to show respect and gratitude	5	5	5	5	5	5	4		5	5	5	5	5	5	5	5	4.9	0.3
B. Recognizes their responsibility for non-maleficence	5	5	5	5	5	5	4		5	5	5	5	5	5	5	5	4.9	0.3
C. Recognizes their responsibility for beneficence	5	5	5	5	5	5	4		5	5	5	5	5	5	5	5	4.9	0.3

D. Recognizes their responsibility for fidelity	5	5	5	5	5	5	4		5	5	5	5		5		5	4.9	0.3
E. Recognizes their responsibility for veracity	5	5	5	5	5	5	4		5	5	5	5		5		5	4.9	0.3
F. Recognizes their responsibility for reparation	5	5	5	5	5	5	4		5	5	5	5		5		N/A	4.9	0.3
Total Average Scores	5.0	4.8	4.9	5.0	5.0	4.8	4.1	4.2	4.2	5.0	4.9	5.0	5.0	4.9	4.8	5.0		

^mCOMPREHENSIVE EXAM RESULTS - CLASS OF 2011

Goals: The student will demonstrate integration of knowledge and skills through successful level of achievement on a comprehensive examination.

Analysis: Students are required to pass a comprehensive examination to graduate. This day-long examination is administered in the students' final term in the program. Overall, students must achieve an 80% or higher on this exam to pass. Per category, the student cannot achieve less than 70% on any section and cannot score between 70-79% on more than one (1) section to pass this examination. All students passed their comprehensive examination.

Planned Actions: It would be informative to perform an assessment of question level with regard to categorizing each item as recall, application, and problem solving to assess whether an adequate number of higher order questions are represented on this examination. In doing so, we will also assess the affective and psychomotor domains by level for this examination.

Student	TOTAL	DIGITAL	MICROSCOPY	COMPARATIVE	DNA	LEGAL	CHEMISTRY	CSI
1	90	98	86	98	86	82	90	92
2	85	94	80	88	82	90	84	80
3	96	100	98	98	92	100	92	90
4	92	100	96	92	84	90	90	90
5	91	94	96	92	94	86	82	90
6	93	100	98	96	92	88	88	90
7	92	98	92	94	90	88	92	90
8	92	96	94	92	82	88	96	94
9	91	98	94	92	84	86	86	94
10	88	98	88	90	84	84	86	88
11	93	100	94	96	86	98	82	96
12	89	98	90	82	88	84	92	90
13	95	98	98	94	94	94	92	98
14	91	96	94	86	90	90	90	92
15	90	98	86	94	90	76	90	98
16	88	100	84	86	94	80	84	88
Mean		97.875	91.750	91.875	88.250	87.750	88.500	91.250
Median		98	94	92	89	88	90	90
Std. Dev.		1.996	5.508	4.530	4.313	6.191	4.099	4.374

^aSPRING LAY AUDIENCE PRESENTATION ASSESSMENT RESULTS –SPRING 2011/CLASS 2012

Goals: The student shall provide service to the forensic science profession and to the community through some combination of communication, collaboration, consultation or technical assistance, continuing education program programs, and any other means for sharing the student’s professional knowledge and competence. The student will effectively demonstrate communication skills appropriate for the type and level of practice.

Analysis: Students are tasked with presenting a timely forensic science topic at a lay audience level appropriate for jurors, at-large public, or other audience members not skilled in the art of forensic science. Presentations are videotaped whereby students are required to self-evaluate by viewing their presentation. Students receive a compiled summary of all quantitative ratings as well as qualitative comments. Area professionals are invited to attend and also evaluate student performance. The results represent average scores provided by ~40 reviewers. Yellow indicates subpar ratings which require improvement. No student received ratings in the Unacceptable range.

Planned Actions: No actions are planned for this activity.

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	52.9	54.6	49.0	51.2	55.6	54.9	50.3	55.6	52.4	53.8	51.8	53.4	52.3	43.6	54.4	44.1	52.4	49.6	56.0	45.5
2	48.2	54.3	53.2	53.1	55.2	55.6	51.7	56.0	51.9	53.1	51.8	54.2	53.8	53.7	55.6	44.8	54.9	53.4	55.2	51.3
3	47.8	51.8	48.7	49.0	53.3	54.6	48.1	55.6	49.5	51.2	49.9	51.9	53.0	54.8	53.7	46.6	51.0	52.2	52.6	48.2
4	54.8	55.7	55.3	55.3	53.4	55.3	55.6	54.1	54.2	52.7	53.0	54.9	52.2	53.7	53.7	54.9	55.2	55.2	55.6	55.2
5	51.3	54.9	53.9	55.2	54.9	54.9	52.1	56.0	52.7	53.4	51.1	54.5	54.5	52.1	55.6	40.9	54.6	55.2	55.2	49.4
6	44.7	53.8	51.8	42.7	46.9	39.8	40.9	47.3	47.4	47.5	48.4	48.6	49.0	46.3	50.2	42.0	52.8	47.7	53.3	49.0
7	55.6	55.7	55.7	54.9	55.6	55.6	56.0	55.6	53.8	54.5	54.9	54.5	55.6	55.2	56.0	55.0	54.3	56.0	56.0	56.0
8	56.0	56.0	47.0	54.5	52.5	53.1	54.9	56.0	53.5	55.6	54.9	53.4	52.7	45.1	54.8	55.3	56.0	49.0	53.4	54.8
9	55.2	53.9	54.6	54.2	54.5	55.3	54.9	53.7	51.3	54.5	52.2	50.8	55.3	54.4	53.3	50.1	52.6	54.1	54.9	54.1
10	55.2	55.0	53.5	53.8	55.2	55.3	55.6	56.0	54.6	54.2	53.7	53.8	55.2	56.0	54.8	54.6	54.9	55.6	55.6	55.2
11	54.4	55.3	54.6	53.4	55.6	55.3	52.8	56.0	53.5	53.8	53.7	51.9	50.5	54.4	55.2	49.7	54.0	55.6	55.2	54.1
12	56.0	55.3	56.0	56.0	55.6	56.0	54.6	56.0	54.6	54.2	54.5	54.9	55.3	55.6	55.6	56.0	56.0	55.2	56.0	56.0
13	54.8	55.3	52.2	54.2	55.6	55.3	54.9	56.0	54.2	52.7	54.1	54.9	55.6	55.6	56.0	56.0	56.0	54.9	56.0	54.4
14	56.0	56.0	54.6	55.6	55.6	56.0	55.6	56.0	54.9	54.5	54.5	54.9	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
Total	53.1	54.8	52.9	53.1	54.3	54.1	52.7	55.0	52.8	53.3	52.8	53.3	53.6	52.6	54.6	50.4	54.3	53.6	55.1	52.8

A = Excellent: 50-56 pts

B = Acceptable: 45-49 pts

C = Below Average; must demonstrate improvement; requires meeting with instructor; 39-44 pts

D = Unacceptable; must repeat presentation within the term; requires meeting with instructor: < 39 pts

Simplified Rubric Items: 1. Eye Contact, 2. Facial Expressions, 3. Gestures, 4. Posture, 5. Enthusiasm, 6. Vocalized Pauses, 7. Title, 8. Timing, 9. Graphics, 10. Completeness of Content, 11. Professionalism of Presentation, 12. Hair, 13. Clothing, 14. Footwear

FALL RESEARCH ORAL PRESENTATION ASSESSMENT RESULTS – FALL 2010/CLASS 2011

Goals: The student shall provide service to the forensic science profession and to the community through some combination of communication, collaboration, consultation or technical assistance, continuing education program programs, and any other means for sharing the student’s professional knowledge and competence.

The student will effectively demonstrate communication skills appropriate for the type and level of practice.

Analysis: This is the final formal presentation for 2nd year students. In this respect, the benchmark is 90% or higher for all items and 90% or higher overall scores. Student 2 and 15 require additional work toward making itemized improvements. Required self-evaluation through student review of their videotaped presentations reinforces the students’ awareness of these deficiencies. Overall, more students struggled with the timing of their presentations.

Planned Actions: Students are encouraged to practice their presentations prior to the event. Facilities are made available for this purpose. Emphasis will be placed on the importance of self-evaluation and self-reflection to make improvement. While in the past a microphone was optional, this is now required.

-----STUDENTS-----

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	AVG	STDEV
Eye Contact	99.3	83.8	91.7	98.5	95.9	98.7	97.4	96.6	96.7	88.5	90.5	92.4	96.7	87.5	88.8	100.0	93.9	4.8
Facial Expressions	98.6	81.8	96.2	97.1	93.9	99.4	97.4	92.1	98.7	91.0	98.6	98.1	99.3	96.5	91.4	98.1	95.5	4.5
Gestures	99.3	89.2	87.5	97.8	93.2	97.4	95.4	93.2	98.7	93.6	97.3	97.2	95.4	94.4	92.6	94.9	94.8	3.2
Posture and Professional Appearance	99.3	94.6	94.2	99.3	98.6	99.4	96.7	95.9	98.6	97.4	99.1	99.3	96.1	96.5	96.1	99.4	97.5	1.8
Enthusiasm and Volume	100.0	77.0	95.5	92.6	92.6	95.5	96.7	91.9	96.7	92.3	98.6	93.1	36.0	89.6	78.3	96.2	88.9	15.0
Vocalized Pauses	95.9	73.0	91.0	95.6	79.1	97.4	98.7	85.1	92.8	97.4	97.3	95.1	98.0	87.5	96.1	92.9	92.1	7.2
Title	99.3	100.0	100.0	99.3	98.6	99.4	100.0	96.6	99.3	100.0	99.3	99.3	98.7	97.9	96.7	100.0	99.0	1.1
Timing	84.5	93.8	99.3	100.0	97.2	91.7	45.8	49.3	66.2	100.0	97.3	63.9	88.8	99.1	32.9	100.0	81.9	21.9
Graphics	99.3	91.9	93.6	99.3	97.3	96.8	97.4	90.5	96.1	89.7	98.0	99.3	89.5	98.6	90.5	94.2	95.1	3.6
Completeness of Content	98.0	87.2	96.8	99.3	93.9	96.8	96.7	95.9	97.4	96.8	98.6	97.9	98.0	97.9	82.4	97.4	95.7	4.4
Professionalism and Presentation	98.6	80.4	96.2	96.3	97.3	98.7	98.7	97.3	98.0	95.5	99.3	99.3	98.0	96.5	92.1	98.1	96.3	4.5
Introduction	98.6	94.6	98.7	100.0	95.9	99.4	99.3	99.3	97.3	98.7	100.0	99.3	100.0	99.3	94.7	98.7	98.4	1.7
Abstract	98.6	95.9	94.9	97.1	100.0	98.1	99.3	98.0	89.5	95.5	91.2	99.3	99.3	97.2	90.8	98.7	96.5	3.2
References	95.9	99.3	98.1	97.1	99.3	100.0	98.7	100.0	96.6	82.1	100.0	100.0	100.0	97.9	94.7	98.7	97.4	4.3
Discussion and Conclusions	98.6	91.9	98.7	98.5	98.6	98.7	97.4	98.6	97.4	100.0	99.1	99.0	99.3	99.3	94.6	100.0	98.1	2.0
Acknowledgements	100.0	97.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	0.5

AVG	97.8	89.5	95.8	98.0	95.7	98.0	94.7	92.5	95.0	94.9	97.8	95.8	93.3	96.0	88.3	98.0		
STDEV	3.6	7.9	3.4	1.9	4.9	2.0	12.7	11.8	7.8	5.0	2.8	8.5	15.2	4.0	15.2	2.2		

MOCK JOB INTERVIEW PROGRAM

Goals: Demonstration of Integrated Knowledge – The student will demonstrate integration of knowledge and skills through documentation of successful level of achievement on the Comprehensive Examination, Mock Job Interview, and Research Project. The student will effectively demonstrate communication skills appropriate for the type and level of practice. The student will effectively demonstrate integrated knowledge and skills as well as communication skills and professional demeanor essential to success in job interviews. Students will be employed in the field of forensic science or a related field or activity within one year of graduation. Students will interface with working professionals and receive feedback and guidance for improving their interviewing skills. The student will effectively demonstrate interpersonal skills appropriate for the type and level of practice.

Analysis: The Forensic Science Career Development Program is a multi-level process which spans the entire 5 semesters that prepares students for the Job Search. The Program attributes, in part, this program with the high employment rate of this degree program. The Program has exceptional Program and University student support services. A 2-day “Orientation” program is provided just prior to the initiation of classes for all incoming students which provides a comprehensive overview of the program, introduces students to 2nd-year student, as well as faculty, instructors, and staff, while orienting students to university and program policies and procedures as well as introducing them to various on-campus resources such as Marshall University Student Health, Library, Financial Aid, Academic Affairs, and the Graduate College personnel. Students participate in Program-provided Career Development activities throughout the program. This includes resume and CV-writing presentations/workshops and resume/CV review, job search sessions, formal mock job interviews, and instruction on Power Point in-class presentation and poster development. Full-time faculty, adjuncts, and crime laboratory professionals external to the Program, as well as MU Career Services personnel, participate in these activities. The MSFS Program Coordinator who directs the Seminar series also coordinates Career Development activities. These activities make up a component of the Forensic Science Seminar courses (FSC 680). In fall term, students receive formal presentations on resume, CV, and cover letter creation, professional demeanor, interviewing skills, and dress for success. Two formal career guide documents, the *MUFS Program’s Career Development Guide for Internship Seekers* and the *MUFS Program’s Career Development Guide for Job Seekers* are part of the Seminar program. These sessions provide students with essential sites to visit for their internship and job search as well as links to professional certification sites and requirement. Students also are introduced to various professional organizations, certifying bodies, and accrediting agencies as well as their Codes of Ethics.

MU Career Services (<http://www.marshall.edu/career-services/>) provides in-person and on-line career services to our students. The Resume 911 site (<http://www.marshall.edu/career-services/resume-911.html>) provides access to Word Resume Template, Resume Builder, Resume Quick Tips, Resume Worksheet & Checklist, Action Words for Resumes, Index to Forensic Science Resumes, Resume Samples from Jobweb.com and CV Basics. The JobTrax site (<https://marshall-csm.symplicity.com/index.php?cck=1&au=&ck=>) provides student access to Career Events & Job Fairs, Facebook and Calendars, Employer Information Sessions, Professional Networks, Resource Library, On-campus Interviews, and Resume Builder and Letter Writing Tools. MU Career Services provides formal presentations to our students regarding their use and access to InterviewStream®. InterviewStream® is a web-based interview program which allows students and alumni to participate in a virtual interview for the purpose of refining and mastering their interviewing skills. Once the student completed their webcam interview, they can not only review their performance but may also forward their interview to forensic science faculty and staff for their feedback.

In term 2, students participate in formal mock interviews. Students can elect to participate in any forensic science mock interview of their choosing. Once students have indicated their interview area preference, the Program Coordinator organizes panels of area-specific working professionals to serve as interviewers. In these interviews, students are evaluated on their personal appearance and professional demeanor, hand-shake and eye contact, resumes & CVs, as well as their overall interviewing skills. Immediate feedback is given by the panel following the interview. Students may request additional mock interviews to refine their skills. The Program Coordinator is a full-time, 12-month, faculty member who serves a) as Academic Advisor of all forensic science students; b) as student advocate bringing student concerns to the FS Faculty Committee; c) as internship director facilitating placements and assessment of outcomes; d) to facilitates student interactions with the Graduate College, Academic Affairs, Registrar, Bursar, and Financial Aid, e) as student/program safety officer, f) as student organization advisor, g) as graduate assistantship coordinator facilitating placements, identification of funding sources, as well as creator of assessments and reports; and g) as job search mentor. The Program Coordinator chairs the FS Faculty Committee, FS Graduate Studies Committee, FS Advisory Committee, and FS Admissions Committee. In this way, the FS Coordinator is a “one-stop-shop” for formal and informal student support as well as university/program policy and procedure information. In addition to these student support services, students receive area-specific mentoring from their instructors and emphasis directors. In addition to the Program Coordinator, the program has a full-time Program Manager and full-time Administrative Assistant who work closely with the Program Coordinator and who provide student services support. The Program Manager is a MSFS graduate and the Administrative Assistant has an MS as well. Both provide invaluable assistance to students on a daily basis. The Forensic Science Center is home to MU MSFS students, faculty and staff, as well as the Digital and DNA working laboratories. Students interface regularly with these in-house, crime laboratory working professional in, and outside, of the classroom setting. As a national training facility for working forensic science professional from across the country and the world, students interface frequently at the Center with visiting crime laboratory professionals who are employed external to the Center. In these ways, students are integrated into an environment and culture that is congruent with professional standards and behaviors from day-one.

Actions Planned: Data will be compiled from the General HR Mock Job Interview Rubrics as well as the Specialized Area Mock Job Interview Rubrics. While these are currently being used to provide students with feedback, we will review this data as a comprehensive report to determine if there are aspects of our career development process that requires improvements. This is an example of the General HR Mock Job Interview Rubric. Career Services conducts these interviews at the Forensic Science Center. The Program Coordinator sits in and provides feedback on all sessions to obtain an overall sense of what improvements could or should be made. This year we included a specific job posting for each specialty job interview where students were required to submit a cover letter in addition to their CV and resume prior to the event. We were successful in gaining the assistance of outside members the forensic science community to serve on the specialty interview panels. For example, several students “applied” for our mock latent print examiner position so we are bringing in an FBI Latent Print Examiner, a 2008 graduate of our program, to serve on that particular interview panel and to give a guest seminar presentation on her career with the FBI.



Mock Interview Evaluation

Student Name: _____ Graduation Date: _____

Major: _____ Professor's Name: (if class assignment) _____

Evaluator: _____ Mock Interview Date: _____

Job Title: _____

Interview Evaluation Standard	Total Points	Student's Points
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Interview Preparation:

Student arrives and is prepared to begin on time	6	_____
Student is dressed professionally	6	_____
Student brings a polished copy of their resume	6	_____
Student has good body language	3	_____
Student maintains eye contact	3	_____
Student speaks clearly and understandably	3	_____
Student shows a positive attitude and enthusiasm	3	_____

Effective Interviewing Skills:

#1. Tell me about yourself

- | | |
|--|--|
| <input type="checkbox"/> Brief summary | <input type="checkbox"/> Highlights strengths |
| <input type="checkbox"/> Gives specific examples | <input type="checkbox"/> Makes connection to job |

1 2 3 4 5 6 7 8 9 10 _____

#2. Why did you choose your major?

- | | |
|---|--|
| <input type="checkbox"/> Expresses what they like about major | <input type="checkbox"/> Displays excitement |
| <input type="checkbox"/> Shows major is a good fit | |

1 2 3 4 5 6 7 8 9 10 _____

#3. What interests you about our company/organization?

- Evidence of company research and fit with company culture and/or values

1 2 3 4 5 6 7 8 9 10 _____

Behavioral Based Questions:

#4. Interviewer may choose up to 3 behavioral based interview questions from hand-out.
Please circle the questions on the hand-out and use the same questions for each student

1 2 4 6 8 10 12 14 16 18 20 _____

#5. Why should I hire you?

Characteristics important to company, regarding job description
Sets themselves apart from competition in meaningful way
Gives a trait and cites specific evidence—mini behavioral based

1 2 3 4 5 6 7 8 9 10 _____

#6 Do you have any questions for me?

Student should have prepared several questions to ask
Questions are specific to company and diverse in type

1 2 3 4 5 _____

#7. Is there anything else you think I should know about you?

Highlights any experiences relevant but not previously mentioned
Displays enthusiasm in working for the company/organization
Gives some sort of answer

1 2 3 4 5 _____

Total points

100

Pass: 86 or Higher

Reservations: 80-85

Non-pass: 1-79

- [] Introduction
- [] Company Knowledge
- [] Connection w/job/organization

III. CHANGES BASED ON ASSESSMENT DAY ACTIVITIES

The assessment day activity was our in-house comprehensive examination. Two findings resulted in the analysis of the results: 1) Skewing of total scores was observed when one component instructor scored exams above 100; 2) the degree of difficulty in at least one component of the examination should be addressed to achieve a more normal distribution of scores. This discussion led to questions regarding how our in-house comprehensive examination might better reflect, and prepare students, for national certification examinations.

Strengthening Forensic Science in the United States: A Path Forward was published in 2009 by the National Research Council of the National Academies, The National Academies Press, Washington, DC. Recognizing that significant improvements are needed in forensic science, Congress directed the National Academy of Sciences to undertake the study that led to this report. In Section 7: Strengthening Oversight of Forensic Science Practice, Recommendation 7 states "... individual certification of forensic professionals should be mandatory, and all forensic science professionals should have access to a certification process. No person (public or private) should be allowed to practice in a forensic science discipline or testify as a forensic professional without certification." In Section 8: Education and Training in Forensic Science, the report states that "Training should move away from reliance on the apprentice-like transmittal of practices to education at the college level and beyond that are based in scientifically valid principles." As certification is not currently mandatory, educational programs can play an important role in preparation of graduates for certification. To bridge this gap between educational program and certification agency requirements, we propose to perform a 'gap' analysis by comparing topics addressed by MU Forensic Science and the American Board of Criminalistics' Study Guide for the Comprehensive Criminalistics Certification Examination. As "gaps" are identified through this assessment process, MU Forensic Science will work toward alleviation of such "gaps" in the curriculum and better prepare students for the rigors of national certification testing. This will be our Assessment Day activity for 2012.

| ----- MU FORENSIC SCIENCE CORE COURSES ----- |

Knowledge, Skills, and Abilities¹	FSC 604	FSC 606	FSC 612	FSC 618	FSC 622	FSC 623	FSC 624	FSC 630	FSC 632	FSC 665	FSC 680	FSC 619
¹Comprehensive Criminalistics Certification Examination Competencies of the American Board of Criminalistics (ABC)												
History: Evolution of Practice; Significant historical figures, e.g., Locard, Gross, Orfila, Kirk; evolution of each discipline, e.g., forensic biology, crime scene, digital forensics, trace, toxicology, drug, firearms & tool marks, questioned documents, latent prints, blood spatter, impression analysis, ballistics, etc.												

Crime Scene Preservation: Securing, isolating, recording, searching, recognition of evidentiary value, safety												
Crime Laboratory Operations: Forensic biology, controlled substances, trace analysis, toxicology, latent fingerprints, questioned documents, fire debris, firearms/toolmarks, digital evidence; Evidence associated with each discipline												
QA/QC: Accreditation, Certification, & Standardization: Audit trails, accrediting bodies, ISO 17025, DAB standards, ASCLD/LAB; Personnel Certification: ABC, IAAI, IAI, ABFT, AFTE; Standardization: ASTM, UN, TWG/SWG; Licensure vs. Certification vs. Accreditation												
QA/QC Application: Noncompliant data, documentation evaluation, validation and verification, linearity, limits of detection, limits of quantitation, limits of reporting, negative and positive controls, calibrators, estimate of uncertainty, traceability, corrective and preventative actions, proficiency and competency testing, confidence interval/confidence limits												
QA/QC: Document/Data Management: databases, LIMS, case document preservation/integrity												
Safety: Chemical Hygiene: safety labeling, MSDS, communication plans; Universal Precautions, personal protective equipment; Hazardous Waste/Biohazardous Waste Handling: spill control												
Legal: Decisions/laws: Frye, Daubert/Kumho, Brady; Legal terms: Chain of Custody, Discovery, Voir dire, Duces tecum, Subpoena												
Legal: Court Testimony: monitoring, courtroom etiquette												
Legal: Procedural Law: hearings, trials, appeals; Advocacy, burden of proof; Subpoenas and affidavits; Rules of evidence												
Ethics: AAFS & ABC Code of Professional Ethics: Conflict of interest, professional integrity, objectivity, professional obligations												

Evidence Handling: Evidence Recognition and Collection: prioritization based on circumstance, sampling, preservation												
Evidence Classes (Class/Individual): exclusionary evidence, identification, direct vs. indirect evidence, tangible vs. latent evidence Evidence Preservation: Chain of custody, alteration/degradation, storage (long term vs. short term) Definitions and applications: Scientific Method General Chemistry Concepts: Nomenclature (IUPAC), type of molecules (e.g., aromatics, isoalkanes), atomic, molecular weights, acids/bases; periodic table; elemental composition; bonding – ionic, covalent, hydrogen, Van der Waals; stereoisomers and enantiomers General Biology Concepts: biochemistry, molecular biology, genetics, botany, characteristics of body fluids General Physics Concepts: energy, electromagnetic spectrum, force General Physiology and Anatomy Concepts General Statistics: mean, median, mode, standard deviation, variability, population characteristics Stoichiometry Logic- critical thinking, inductive and deductive reasoning Metric System – metric to metric conversion; metric to English conversion Forensic Science Applications: Principles and Concepts – Measurements, procedures, and tests, inter- and intra- laboratory variability, standardization & validity, interpretation of information, precautions, limitations, false positives and false negatives, commonly applied to the examination of physical evidence, in:												
a. Forensic Biology												
b. Trace												

c. Firearms & Toolmarks												
d. Fingerprints												
e. Questioned documents												
f. Controlled substances												
g. Toxicology/blood alcohol												
h. Digital Forensics												
i. Crime scene investigation												
Results and Conclusions (a-i): Process Analysis – Interpret the microscopic, chemical, and instrumental data obtained from the analysis of evidence while being cognizant of conditions or circumstances that may affect the results; Understand the limitations of an analysis in order to formulate a conclusion concerning evidence; Apply the knowledge of class versus individual characteristics to evidence; Evaluate requests for analysis to determine what collections (questions and known), examinations, and comparisons should be conducted to develop the most forensically useful information based on sample origin, type, quantity, condition, specific case scenarios, etc.												
Collection of appropriate control and reference samples for comparison of evidence;												
Use of appropriate photographic, digital imaging, photomicrography equipment and techniques												
Properties of commonly encountered evidence materials												
QA/QC												

Reporting: Construct a report which may include: chain of custody information, description of evidence, nature of analysis, results of tests, conclusions, summary, and information regarding the disposition of the evidence;												
Case Management: maintenance of documents and data for recovery												
Accepted standards and Practices – DAB, SWGMAT, SWGFAST, SWGDRUG, SWGDOC, SWGDAM, SWGDE, SWGED, etc.												
Technique/Practice/Instrumentation <ol style="list-style-type: none"> 1. Microscopy: polarized light microscopy, comparison microscopy, stereomicroscopy, optical properties, illumination techniques; 2. Elemental analysis: XRF, XRD, ICP, SEM, 3. Spectrometry: infrared, raman, UV/visible, fluorescence, mass spectroscopy; 4. Chromatography: detectors and introduction techniques; gas chromatography, HPLC, TLC, ion chromatography 5. Forensic Biology: screening techniques, identification, PCR, STR, Y-STR, mDNA, 6. Impressions and Fingerprint: enhancement techniques, comparison criteria 7. Firearms and Toolmarks: comparison microscopy, weapons and ammunition, gunshot residue, serial number restoration; 8. Digital Evidence: 9. Photography: lighting, depth of field, digital, traditional 												

IV. ASSISTANCE NEEDED WITH ASSESSMENT

It would be helpful if the Assessment Office would provide our faculty and instructors with an overview of the assessment process including guidance regarding data collection, reporting, and utilization. Assistance with acquisition of university-generated data would also be helpful. Faculty and instructors would also benefit from a session that would assist them in embracing educational concepts in course design, development, implementation, and assessment. We continue to struggle in maintaining our Alumni Directory that we depend on to acquire feedback from graduates regarding their satisfaction with what they received while a student at Marshall University. Individuals change jobs and names where we do not have an efficient system for tracking these changes. We are contemplating use of programs such as Constant Contact to facilitate acquisition of this information but would appreciate university guidance. We are currently working with the MU Foundation to tap into their tracking system. The same situation exists where we would benefit greatly from having a mechanism in place for contacting employers to acquire information regarding their satisfaction with our graduates. We believe there are many missed opportunities by not having an efficient alumni and employer system in place as these individuals are also essential for locating future jobs for our new graduates as well as keeping us abreast of the educational needs of the forensic science community at-large. While we do not have an efficient system in place for graduate and employer communications, graduates have been important for internship and job posting notifications over the years. Other attempts to communication with our alumni include our sponsorship of the Marshall University Alumni Reception at the American Academy of Forensic Sciences Meeting held in various locations across the U.S. each year which is attended by most of our current students. This meeting is being held in Atlanta this year with our faculty and most of our students attending. Last year it was in Seattle, WA, where most students attended that as well. The number of students from our program who are selected to present their research at this meeting continues to increase. While we encourage this, students are responsible for paying their own expenses to attend with minimal but helpful travel support from the MU Graduate College and the MU Forensic Science Program. This year, the MU student forensic science professional organization took it upon themselves to offer 'CSI Huntington' to area high schools where they charged a fee with funds going to support student travel to the AAFS Meeting as well as other national and regional professional meetings. We believe that community and professional involvement goes a long way in allowing us to assist students in meeting our overall professional goals and objectives including the transfer of knowledge, skills, and affective behaviors that characterizes, and serves to brand, the MU Forensic Science graduate.