JOHN JAY COLLEGE OF CRIMINAL JUSTICE
The City University of New York
524 West 59th, NY, NY

FOS 401 – Forensic Science Laboratory Internship

Mentor: Supervisor of External Laboratory
Coordinator: Professor Peter Diaczuk
Laboratory: External Laboratory
Office: 03.77.00D or Department of Science
Office Hours: By appointment
Phone: 212-237-8899
Email: pdiaczuk@jjay.cuny.edu

Course Description: Independent laboratory and study (internship). A 10-week/400 hour, full-time internship in a crime laboratory (or equivalent i.e. toxicology laboratory) covering one or more of the following functions: document examination, instrumental analysis, chemistry, toxicology, serology, crime scene service, special photography, explosive and incendiary device recovery, trace evidence, comparative microscopy in firearms and tool marks. Arrangements for internships must be completed through the Coordinator of the Forensic Science Program in advance.

Knowledge and Performance Objectives:
Course learning outcomes:

Reasoning

- Acquire the knowledge of practical applications by shadowing experienced laboratory scientists and develop an understanding of evidence analysis protocols.
- Assess each item of evidence by employing the scientific method.
- Assess data collected from experiments and analytical tests to formulate conclusions within the established standards of the laboratory.

Knowledge

- Comprehend laboratory protocols and laboratory analysis reports.
- Discuss relevant casework with other laboratory scientists on section meetings.
- Use foundational knowledge from prior science coursework to impart insight to case-specific necessities.

Practical Skills

- Perform tasks for the crime laboratory scientists, such as standards, solutions, controls, calibrations.
- Conduct laboratory analysis of standards and controls.
- Read and understand all relevant laboratory scientific protocols for quality assurance standards

- Perform experiments, accurately run standards, positive and negative controls.

Communication

- Maintain a laboratory notebook to include daily activities.
- Write a reflective statement about the entire internship experience
- Participate in laboratory meetings with other scientists performing case work

Prerequisites: Senior standing and majoring in Forensic Science

Attendance, Lateness, Behavior: This course functions as an independent study within an external forensic science laboratory. As such, students are expected to attend the work in the laboratory scheduled in conjunction with their supervisor. Attendance is required and students who do not meet this requirement will be required to withdraw from the course.

Statement of College Policy:

College wide policies for undergraduate courses *(*see the *Undergraduate Bulletin*, Chapter IV Academic Standards).

A. Incomplete Grade Policy : *Undergraduate Bulletin*, Chapter IV Academic Standards
B. Extra Work During the Semester : *Undergraduate Bulletin*, Chapter IV Academic Standards
C. Americans with Disabilities Act (ADA) Policies : *Undergraduate Bulletin*, Chapter IV Academic Standards

Qualified students with disabilities will be provided reasonable academic accommodations if determined eligible by the Office of Accessibility Services (OAS). Prior to granting disability accommodations in this course, the instructor must receive written verification of a student's eligibility from the OAS which is located at L66 in the new building (212-237-8031). It is the student's responsibility to initiate contact with the office and to follow the established procedures for having the accommodation notice sent to the instructor."

Statement of the College Policy on Plagiarism

Plagiarism is the presentation of someone else's ideas, words, or artistic, scientific, or technical work as one's own creation. Using the ideas or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations require citations to the original source.

Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism.

It is the student's responsibility to recognize the difference between statements that are common knowledge (which do not require documentation) and restatements of the ideas of others. Paraphrase, summary, and direct quotation are acceptable forms of restatement, as long as the

source is cited.
Students who are unsure how and when to provide documentation are advised to consult with their instructors. The Library has free guides designed to help students with problems of documentation. *(John Jay College of Criminal Justice Undergraduate Bulletin,* http://www.jjay.cuny.edu/academics/654.php , see Chapter IV Academic Standards)

Plagiarism detection software - the College subscribes to Turnitin.com and Blackboard has a similar module called SafeAssign. If you will be using any plagiarism detection software in your course, you must state it on the syllabus.

Work and Assignments: This course has no written quizzes or exams. Students will be evaluated according to their knowledge of the subject matter as evaluated in weekly, oral meetings with the individual laboratory supervisor. In addition, all students are required 1) to prepare a reflective statement and 2) to submit the internship notebook.

1) Reflective statement ---- (attached rubric provides more details)
   - Purpose of research project
   - The reasons and general concepts of specific applications
   - Use scientific principles for problem solving
   - Include the experimental design, the experimental design shortcomings and theoretical results
   - Show an analytical scheme for analyzing evidence
   - Report data collected accurately and seek to explain data

2) Notebook --- (attached rubric provides more details) --- suggested format
   Index Page-contains the title of the experiment and pages where the experiment begins and ends. This must be the first page in the notebook.

   Each experiment:

   - Experiment Title
   - Purpose of experiment
   - Detailed procedure
   - Observations
   - Data Collection/Calculation
   - Conclusion/Discussion/Summary

Grading

Student's grade will be given based on student's performance on their work and assignments and on the supervisor's comments.

Supervisor will be given a grading rubric or survey.

Reflective index ---------- 30%
Notebook ---------- 30%
Supervisor's comment ---- 40%

Scoring rubric for Reflective statement

FOS 401 Undergraduate Internship	**Programmatic Learning Goals & Objectives**			
	Reasoning	**Knowledge**	**Practical Skills**	**Communication**
A (90-100)	• Consistently distinguishes between experimental design shortcomings and theoretical results • Fully understands the decision-making process in choosing an analytical scheme for analyzing evidence	• Comprehensive use of scientific principles applied to problem solving • Frequent adaptation of general concepts from coursework to specific applications	• Always reports data collected accurately and seeks to explain anomalous data thoughtfully and scientifically. • Always runs blanks and controls	• Thorough comprehension of journal articles including ability to discuss and critique content
B (80-89)	• Often distinguishes between experimental design shortcomings and theoretical results • Understands the decision-making process in choosing an analytical scheme for analyzing evidence	• Use of scientific principles applied to problem solving • Adaptation of general concepts from coursework to specific applications	• Usually reports data collected accurately and seeks to explain anomalous data thoughtfully and scientifically. • Usually runs blanks and controls	• Considerable comprehension of journal articles including ability to discuss and critique content
C (70-79)	• Distinguishes between experimental design shortcomings and theoretical results • Some understanding of the decision-making process in choosing an analytical scheme for analyzing evidence	• Some use of scientific principles applied to problem solving • Occasionally adapts general concepts from coursework to specific applications	• Reports data collected accurately and seeks to explain anomalous data thoughtfully and scientifically. • Runs blanks and controls	• Comprehension of journal articles including ability to discuss and critique content
D (60-69)	• Occasionally distinguishes between experimental design shortcomings and theoretical results • Has little understanding of the decision-making process in choosing an analytical scheme for analyzing evidence	• Marginal use of scientific principles applied to problem solving • Infrequently adapts general concepts from coursework to specific applications	• May report data collected accurately and may seek to explain anomalous data thoughtfully and scientifically. • May run blanks and controls	• Marginal comprehension of journal articles, minimal ability to discuss and critique content

F (below 60)	• Cannot distinguish between experimental design shortcomings and theoretical results • Has no understanding of the decision-making process in choosing an analytical scheme for analyzing evidence	• Complete lack of scientific principles applied to problem solving • Unable to adapt general concepts from coursework to specific applications	• Doesn't report data collected accurately or seeks to explain anomalous data thoughtfully or scientifically. • Never runs blanks and controls	• Unable to comprehend journal articles, inability to discuss and critique content

Scoring rubric for Notebook

FOS 401 Undergraduate Internship	**Programmatic Learning Goals & Objectives**			
	Reasoning	**Knowledge**	**Practical Skills**	**Communication**
A (90-100)	• Fully understands the difference between objective and subjective data interpretation • Fully understands the limits of the experiment and the range of conclusions that can be drawn and stated	• Clearly and concisely expresses and explains scientific concepts used to design experiments and collect data • Consistently applies fundamental scientific principles when conducting experiments	• Displays consistent proficiency in all aspects of scientific thinking, experimental design, data collection and interpretation	• Has a thorough understanding of scientific literature formatting and is able to apply same to report writing
B (80-89)	• Mostly understands the difference between objective and subjective data interpretation • Mostly understands the limits of the experiment and the range of conclusions that can be drawn and stated	• Clearly expresses and explains scientific concepts used to design experiments and collect data • Often applies fundamental scientific principles when conducting experiments	• Displays frequent proficiency in all aspects of scientific thinking, experimental design, data collection and interpretation	• Has considerable understanding of scientific literature formatting and is able to apply same to report writing
C (70-79)	• Understands the difference between objective and subjective data interpretation • Understands the limits of the experiment and the range of conclusions that can be drawn and stated	• Expresses and explains scientific concepts used to design experiments and collect data • Applies fundamental scientific principles when conducting experiments	• Displays proficiency in all aspects of scientific thinking, experimental design, data collection and interpretation	• Has an understanding of scientific literature formatting and is able to apply same to report writing
D (60-69)	• Has little understanding of the difference between objective and subjective data interpretation • Somewhat understands the limits of the experiment and the range of conclusions that can be drawn and stated	• Marginally expresses and explains scientific concepts used to design experiments and collect data • Rarely applies fundamental scientific principles when conducting experiments	• Displays minimal proficiency in aspects of scientific thinking, experimental design, data collection and interpretation	• Has a marginal understanding of scientific literature formatting and is sometimes able to apply same to report writing

F (below 60)	• Does not understand the difference between objective and subjective data interpretation • Has no understanding of the limits of the experiment or the range of conclusions that can be drawn or stated	• Does not express or explain scientific concepts used to design experiments and collect data • Does not apply fundamental scientific principles when conducting experiments	• Displays no proficiency in any aspects of scientific thinking, experimental design, data collection and interpretation	• Has no understanding of scientific literature formatting and is unable to apply same to report writing