

Introduction to CSI



PennState
Eberly College
of Science

Forensic Science Program
329 Whitmore Laboratory
University Park, PA 16802

SYLLABUS—Fall 2018

It is the responsibility of each student to carefully review this document. Its content is subject to revision with notice.

COURSE INFO

INSTRUCTOR

RALPH R RISTENBATT III

E-mail: rrr20@psu.edu

<https://sites.psu.edu/pennstatecsi/>

COURSE ASSISTANT

JESSICA HOVINGH

E-mail: jzh5138@psu.edu

CANVAS CMS

psu.instructure.com

CANVAS will be used extensively for communication and posting course material. Students are strongly advised to check CANVAS frequently for updates.



Course Description

This course offers an exploration of the science, management, and investigative techniques for the field of crime scene investigation. Students will develop the intellectual skills needed to be able to plan for and organize a crime scene investigation. Each student will understand the nature and value of each kind of physical evidence and how to recognize, collect and preserve it. They will research all the topics in this course and provide their own evidence of competency in each in the form of a professional portfolio. A student who demonstrates competency in the subject matter of this course:

- Employs the philosophies and practice of science
- Generates hypotheses of crimes based on evidence
- Can use deduction in a scientific manner
- Is tenacious when recovering and developing evidence
- Prescribes recovery and development cascades for: fingerprints; trace evidence; impression evidence; biological evidence
- Prescribes and amends crime scene search plans
- Sketches crime scenes to scale
- Makes competent use of limited time, human and other resources
- Calculates: measurements for crime scene sketches; bullet trajectories; angle of impact; and area of impact
- Provides complete, admissible reconstruction reports
- Understands and accounts for chain of custody

Required References

Mozayani A, Fisher CP, editors. Forensic evidence management: from the crime scene to the courtroom. Boca Raton: CRC Press; 2018.

National Forensic Science Technology Center (NFSTC). Crime scene investigation: a guide for law enforcement. Largo, FL: National Forensic Science Technology Center; September; 2013.

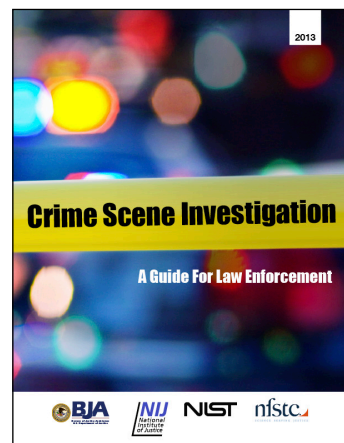
Supplemental References

Chisum WJ, Turvey BE. Crime reconstruction. 2nd ed. Amsterdam: Academic Press; 2011.

Shaler RC. Crime scene forensics: a scientific method approach. Boca Raton: Taylor & Francis Group, LLC; 2012.

Additional Reading

Additional reading assignments are required. At the discretion of the instructor, readings not listed in the bibliography may also be assigned.



General Course Information

Enrollment Requirements:

- None

Other Required Materials:

- Access/knowledge of CANVAS, Internet, and World Wide Web

Course Syllabus Modifications:

- Changes to this syllabus may be made as deemed appropriate by the instructor. Students will be notified of changes in writing or by e-mail.
- Changes to the syllabus, class schedule, announcements, etc., will be communicated via CANVAS/e-mail. Students are REQUIRED to check their Penn State and CANVAS e-mail daily.

Information Literacy:

Students will recognize when research is required and will have the ability to access, analyze, integrate, and evaluate information from a variety of sources. These sources include, but are not limited to, Penn State library databases, published and other written materials, and computer sources (Internet, World Wide Web, databases, etc.).

Expected Course Behavior:

- Students are expected to be actively involved in their acquisition of knowledge. Every student is responsible for all assigned reading, material presented in lecture, and computer-assisted and delivered instructional material.
- All students are expected to behave ethically and with honor and integrity (refer to *Academic Integrity Policy*).

Attendance Considerations (refer to Attendance Policy):

- The instructor reserves the right to require written documentation of any event(s) leading to missed exercises, quizzes, and examinations (funerals, hospitalization, physician's office visit, etc.).

Examination Requirements:

- Cell phones must be silenced and not on the person during quizzes or examinations.
- No electronic/wearable devices are allowed during quizzes or examinations.
- If a student misses a quiz, examination, or assignment:
 - The student must e-mail the course instructor within 24 hours of the absence with a plan for completing the missed course assessment or assignment. If emergent circumstances prevent e-mail correspondence within 24 hours, the instructor must be notified as soon as possible.
 - Documentation of the event must be provided to the course instructor and a plan for completing the missed assessment or assignment must be implemented by the student.
 - If a quiz or examination is missed, it must be completed before the next weekly session. If emergent circumstances prevent a make-up before the next weekly session, the instructor must be notified as soon as possible.
 - It is the instructor's prerogative to administer an alternative format examination for any make-up examination.
- Additional requirements/instructions may be given at the start of an examination or assignment.

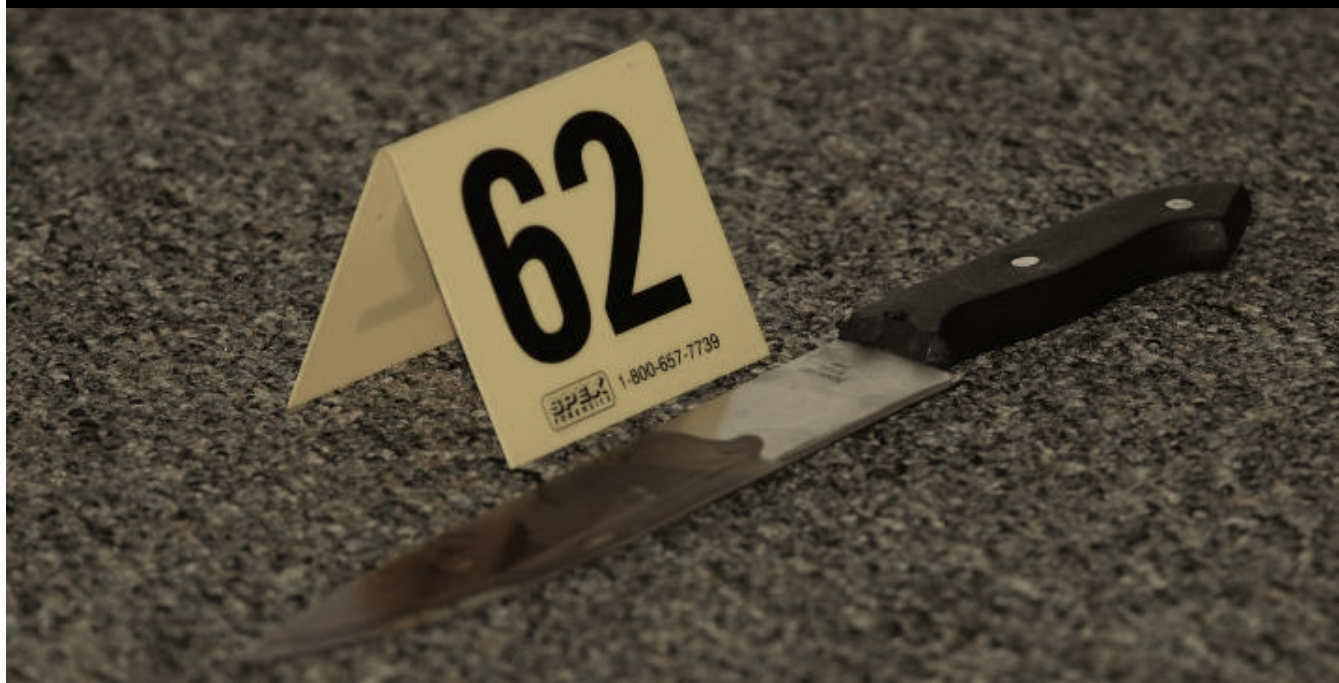
Other Assessment Requirements:

- Students are responsible for keeping a back-up copy of all submitted work.
- All assessments are due on the date and time specified unless otherwise determined by the instructor (refer to *Late Submission Policy*).
- Additional requirements/instructions may be given at the time an assessment is assigned.

Duplication, Distribution, and Copyright of Course Materials:

- Students are not permitted to record lectures or any parts of lectures (photography, videography, or any other type of image capture or live recording).
- Students are not permitted to distribute or share any information from this course with others who are not enrolled in the course.
- Students are prohibited from posting any course information electronically without the permission of the instructor; this includes online note-taking/note-sharing services (refer to Penn State Administrative Policy AD-40).
- Violations will result in disciplinary sanctions.

CRIME SCENE DO NOT CROSS CRIME SCENE
Penn State CSI



Course Calendar

Lectures, Reading Assignments, and Examinations

Wk	Date	Lecture Topics	Assigned Reading*	Assessment
01	AUG 20	Introduction to the course; CSI; forensics; ethics	Syllabus; Mozayani & Fisher (ch. 1, 15)	Photograph description exercise
02	AUG 27	Scene management; CSI team structure; evidence collection	NFSTC (pp. 1-10, 38-42, and 145-149); Mozayani & Fisher (ch. 2)	Coin exercise
03	SEP 03	Documentation: notes, sketches, scene entry logs, other forms	NFSTC (pp. 10-27)	Quiz 1 (weeks 1-3)
04	SEP 10	Photography I (general photography)	Supplemental websites (to be provided)	Online photography exercise
05	SEP 17	Photography II (CSI photography; photographing people)	NFSTC (pp. 27-38)	Quiz 2 (weeks 4-5)
06	SEP 24	Fingerprints	NFSTC (pp. 134-142); Mozayani & Fisher (ch. 3)	MIDTERM EXAM I (weeks 1-5)
07	OCT 01	Pattern evidence	NFSTC (pp. 71-73, 98-111, 142-144)	Fingerprint exercise
08	OCT 08	Trace evidence	NFSTC (pp. 73-97); Mozayani & Fisher (ch. 7)	Quiz 3 (weeks 6-8)
09	OCT 15	Biological evidence; sexual assault	NFSTC (pp. 43-56); Mozayani & Fisher (ch. 4-5)	Locard's exchange principle exercise
10	OCT 22	Firearms	NFSTC (pp. 61-71, 97-98); Mozayani & Fisher (ch. 8)	Quiz 4 (weeks 9-10)
11	OCT 29	Fires; explosions; mass fatalities	NFSTC (pp. 43, 56, 111-113); Mozayani & Fisher (ch. 13, pp. 71-74)	MIDTERM EXAM II (weeks 6-10)
12	NOV 05	Digital evidence; questioned documents	NFSTC (pp. 113-134); Mozayani & Fisher (ch. 11-12)	Evidence packaging exercise
13	NOV 12	Autopsy; entomology; drugs	Mozayani & Fisher (pp. 55-71, ch. 9-10)	Quiz 5 (weeks 11-13)
14	NOV 19	Analysis of blood traces	Chisum & Turvey (ch. 12)	
15	NOV 26	Aspects of shooting incident investigation I	Chisum & Turvey (ch. 13)	Quiz 6 (weeks 14-15)
16	DEC 03	Aspects of shooting incident investigation II	Chisum & Turvey (ch. 14)	Final mock scene exercise
17	DEC 10	FINAL EXAMINATION (comprehensive)		

* **Reading Assignments must be completed by the start of the following week; i.e., week 01 readings must be completed by Monday of Week 02.**

Assessment of Knowledge and Skills

ASSESSMENT METHOD	ASSIGNMENT WEIGHT	FINAL WEIGHT
TOTAL COURSE SCORE		100.00%
Exercises (×6)	3.75%	22.50%
Final mock scene exercise	9.50%	9.50%
Quiz (×6)	5.00%	30.00%
Midterm Examinations (×2)	12.00%	24.00%
Final Examination	14.00%	14.00%



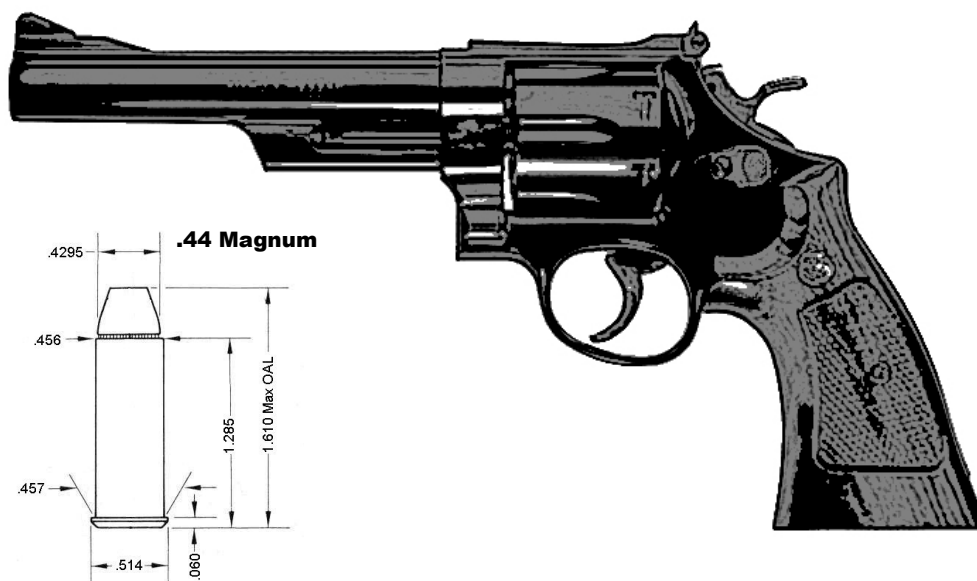
Additional Grading Considerations

- **Assignment Submission**
 - **Late submissions will NOT be accepted.**
 - Extensions will be granted for exigent circumstances (*documentation may be requested*)
- **Attendance Policy:** Students are expected to listen to every lecture (refer to University Faculty Senate [Policy 42-27: Class Attendance](#) for further information).

Grading Scale

Letter Grade	Score (%)
A	$93.00 \leq x \leq 100.0$
A-	$90.00 \leq x < 93.00$
B+	$87.00 \leq x < 90.00$
B	$83.00 \leq x < 87.00$
B-	$80.00 \leq x < 83.00$
C+	$77.00 \leq x < 80.00$
C	$70.00 \leq x < 77.00$
D	$60.00 \leq x < 70.00$
F	$x < 60.00$

NOTE: Grades are NOT rounded up. For example, a final course score of 59.99% will result in a failing grade.



ACADEMIC INTEGRITY

All Penn State policies regarding ethics and honorable behavior apply to this course (refer to links below for policy statements). Academic integrity is the pursuit of scholarly activity free from fraud and deception and is an educational objective of this institution. All University policies regarding academic integrity apply to this course. Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating of information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. For any material or ideas obtained from other sources, such as the text or things you see on the web, in the library, etc., a source reference must be given. Direct quotes from any source must be identified as such. All examination answers must be your own, and you must not provide any assistance to other students during examinations. Any instances of academic dishonesty WILL be pursued under the University and [Eberly College of Science](#) regulations concerning academic integrity.

Discussion of course concepts and cooperative study are encouraged; however, collaboration, discussion, assistance, cheating, plagiarism, etc., are NOT permitted during examinations or other assignments as specified by the instructor. Integrity and ethics are considered exceptionally important by the instructor.

CODE OF MUTUAL RESPECT

The [Code of Mutual Respect and Cooperation](#) was developed to embody the values that we hope our faculty, staff, and students possess, consistent with the aspirational goals expressed in the Penn State Principles. The University is strongly committed to freedom of expression, and consequently, the Code does not constitute University or College policy, and is not intended to interfere in any way with an individual's academic or personal freedoms. We hope, however, that individuals will voluntarily endorse the 12 principles set forth in the Code, thereby helping us make the Eberly College of Science a place where every individual feels respected and valued, as well as challenged and rewarded.

DISABILITY ACCOMMODATIONS

Penn State welcomes students with disabilities into the University's educational programs. Every Penn State campus has an office for students with disabilities. Student Disability Resources (SDR) Web site provides contact information for every Penn State campus: <http://equity.psu.edu/sdr/disability-coordinator>. For further information, please visit Student Disability Resources Web site: <http://equity.psu.edu/sdr>.

In order to receive consideration for reasonable accommodations, you must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <http://equity.psu.edu/sdr/guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with an accommodation letter. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. You must follow this process for every semester that you request accommodations.

COUNSELING AND PSYCHOLOGICAL SERVICES

Many students at Penn State face personal challenges or have psychological needs that may interfere with their academic progress, social development, or emotional wellbeing. The university offers a variety of confidential services to help you through difficult times, including individual and group counseling, crisis intervention, consultations, online chats, and mental health screenings. These services are provided by staff who welcome all students and embrace a philosophy respectful of clients' cultural and religious backgrounds, and sensitive to differences in race, ability, gender identity and sexual orientation.

Counseling and Psychological Services at University Park:
Penn State Crisis Line (24 hours/7 days/week):
Crisis Text Line (24 hours/7 days/week):

+1-814-863-0395
+1-877-229-6400
Text LIONS to 741741

<http://studentaffairs.psu.edu/counseling/>

EDUCATIONAL EQUITY AND BIAS REPORTING

Penn State takes great pride to foster a diverse and inclusive environment for students, faculty, and staff. Acts of intolerance, discrimination, or harassment due to age, ancestry, color, disability, gender, gender identity, national origin, race, religious belief, sexual orientation, or veteran status are not tolerated and can be reported through Educational Equity via the Report Bias webpage (<http://equity.psu.edu/reportbias/>).

MANDATED REPORTING (TITLE IX)

Penn State's policies require faculty to share information about incidents of sex-based discrimination and harassment (discrimination, harassment, sexual harassment, sexual misconduct, dating violence, domestic violence, stalking, and retaliation) with Penn State's Title IX coordinator or deputy coordinators, regardless of whether the incidents are stated in person or shared by students as part of their coursework. For more information regarding the University's policies and procedures for responding to reports of sexual or gender-based harassment or misconduct, please visit <http://titleix.psu.edu>. Additionally, faculty members are required to report on any reasonable suspicion of child abuse in accordance with the Pennsylvania Child Protective Services Law.



Course Objectives

OBJECTIVES	STRATEGIES AND ASSESSMENT
Comprehension of the techniques used to preserve the crime scene record (notes, sketches, and digital SLR photography).	<ul style="list-style-type: none"> • Lectures illustrating handwritten recording techniques and appropriate content • Lectures and reading assignments covering fundamentals of photography and application to scene and evidence documentation • Examination questions to assess fundamental knowledge
Comprehension of the techniques used to recognize, enhance, document, collect, handle, and package physical evidence. Comprehension of importance of chain of custody and evidence integrity.	<ul style="list-style-type: none"> • Lectures outlining various search, recognition, enhancement, collection, handling, and packaging techniques • Lectures illustrating science behind enhancement techniques • Lectures discussing importance of chain of custody and evidence integrity • Examination questions to assess fundamental knowledge
Comprehension of common field tests for the presumptive identification and enhancement of different types of physical evidence.	<ul style="list-style-type: none"> • Lectures outlining common field tests for the presumptive identification and/or enhancement of biological evidence, fibers, gunshot residue, and impression evidence • Lectures illustrating science behind field tests and enhancement techniques • Examination questions to assess fundamental knowledge
Comprehension of incident/crime reconstruction including the analysis of blood traces and projectile trajectory analysis.	<ul style="list-style-type: none"> • Lectures describing fundamentals of a scientific reconstruction • Lectures illustrating science behind techniques including the analysis of blood traces and projectile trajectory analysis • Examination questions to assess fundamental knowledge
Comprehension of proper preparation and maintenance of case folders.	<ul style="list-style-type: none"> • Lectures describing fundamentals of documentation and use of forms and logs • Examination questions to assess fundamental knowledge
Comprehension of techniques to communicate results including verbal and written communication.	<ul style="list-style-type: none"> • Lectures describing communication of results; verbal and written
Comprehension of scene management techniques including allocation of personnel, resources, and time.	<ul style="list-style-type: none"> • Lectures illustrating aspects of scene management including allocation of personnel, resources, and available time (if time constraints)
Comprehension of importance of science and scientific, objective, critical thought processes in scene investigations.	<ul style="list-style-type: none"> • Lectures discussing science, scientific integrity, critical thinking and their importance during the investigation of a scene • Examination questions designed to assess critical thinking and problem-solving abilities
Comprehension of the role and impact of the criminalist in incident scene investigations.	<ul style="list-style-type: none"> • Lectures discussing role (responsibilities and duties) and importance of the criminalist in a scene investigation • Examination questions to assess fundamental knowledge
Introduction to codes of professional conduct and ethics for forensic science professional organizations; comprehension of necessity of ethics in forensic science and potential ethical problems in forensic science including issues of professional practice, technical competence, and bias.	<ul style="list-style-type: none"> • Lecture discussing integrity, ethics, and bias in forensic science