



CRJ465: CRIME SCENE INVESTIGATION (CSI)

Credit Hours: 4

Contact Hours: This is a 4-credit course, offered in accelerated format. This means that 16 weeks of material is covered in 8 weeks. The exact number of hours per week that you can expect to spend on each course will vary based upon the weekly coursework, as well as your study style and preferences. You should plan to spend 14-20 hours per week in each course reading material, interacting on the discussion boards, writing papers, completing projects, and doing research.

Faculty Information: Faculty contact information and office hours can be found on the faculty profile page.

COURSE DESCRIPTION AND OUTCOMES

COURSE DESCRIPTION:

This course serves as an introduction to the application of different forensic disciplines in scientific examinations of physical evidence developed and collected from the crime scene. Students apply critical thinking skills to analyze evidence using the scientific method.

COURSE OVERVIEW:

In this course, the students learn about forensic science disciplines, including how to define forensics, its development, and the role it plays in criminal investigations. Students learn various forensic methods in hands-on exercises, such as developing latent fingerprints, casting shoe impressions, examining bloodstain patterns and preserve physical evidence. The course exposes students to real-world crime scene scenarios. The course activities culminate in a final project, in which the students analyze a mock crime scene applying forensic disciplines learned during the course; the previous hands-on exercises become part of the final crime scene report.

COURSE LEARNING OUTCOMES:

1. Discuss the history of crime scene investigation.
2. Evaluate career specializations and options in crime scene investigation.
3. Describe the types of physical evidence and techniques of scientific analysis.
4. Assess how data influences legal decisions and shapes methods of analysis.
5. Determine appropriate conclusions based on scientific evidence.
6. Generate scientific reports using scientific procedures.

PARTICIPATION & ATTENDANCE

Prompt and consistent attendance in your online courses is essential for your success at CSU-Global Campus. Failure to verify your attendance within the first 7 days of this course may result in your withdrawal. If for some reason you would like to drop a course, please contact your advisor.

Online classes have deadlines, assignments, and participation requirements just like on-campus classes. Budget your time carefully and keep an open line of communication with your instructor. If you are having technical problems, problems with your assignments, or other problems that are impeding your progress, let your instructor know as soon as possible.

COURSE MATERIALS

Required:

Saferstein, R. (2018). *Criminalistics: An introduction to forensic science* (12th ed.). New York, NY: Pearson. ISBN-13: 978-0134477596

NOTE: All non-textbook required readings and materials necessary to complete assignments, discussions, and/or supplemental or required exercises are provided within the course itself. Please read through each course module carefully.

COURSE SCHEDULE

Due Dates

The Academic Week at CSU-Global begins on Monday and ends the following Sunday.

- **Discussion Boards:** The original post must be completed by Thursday at 11:59 p.m. MT and peer responses posted by Sunday 11:59 p.m. MT. Late posts may not be awarded points.
- **Opening Exercises:** Take the Opening Exercise before reading each week's content to see which areas you will need to focus on. You may take these exercises as many times as you need. The Opening Exercises will not affect your final grade.
- **Mastery Exercises:** Students may access and retake Mastery Exercises through the last day of class until they achieve the scores they desire.
- **Critical Thinking:** Assignments are due Sunday at 11:59 p.m. MT.

WEEKLY READING AND ASSIGNMENT DETAILS

MODULE 1

Readings

- Chapter 1 in *Criminalistics*
- Jeddy, N., Ravi, S., & Radhika, T. (2017). Current trends in forensic odontology. *Journal of Forensic Dental Sciences*, 9(3), 115-119.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

MODULE 2

Readings

- Chapter 2 in *Criminalistics*
- Renuka, D. W., Richetelli, N., Pelz, J. B., & Speir, J. A. (2017). Eye tracking to evaluate evidence recognition in crime scene investigations. *Forensic Science International (Online)*, 280, 64-80.
- Urbanová, P., Jurda, M., Vojtíšek, T., & Krajsa, J. (2017). Using drone-mounted cameras for on-site body documentation: 3D mapping and active survey. *Forensic Science International (Online)*, 281, 52-62.
- PowerPoint presentation by Gabriele Suboch

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Critical Thinking (70 points)

Choose one of the following two assignments to complete this week. Do *not* complete both assignments. Identify your assignment choice in the title of your submission. Note that while there are two options for the Critical Thinking Assignment, there is only one rubric. Review the rubric to confirm you are meeting the assignment requirements.

Option #1: Documenting the crime scene with a sketch and collecting evidence from the mock burglary scene

The critical thinking assignment for this week has two parts.

Part 1: Create a crime scene sketch and obtain measurements

Crime scene sketches are an important part of documenting a crime scene. For this task, you will need:

- Pencil
- Eraser
- Paper
- Measuring tape
- Phone, camera or scanner

Scenario: You are an intern in the crime scene unit of Summerville Police Department.

On Monday, December 3, 2018, at approximately 15:40, CSI Smith and you are responding to a residential burglary. The owner of the residence is Marion Hunter living at 2354 Kings Highway, Summerville, GA.

Unknown perpetrators broke the glass of the bedroom window and gained entry to the residence. The offender rummaged through the dresser drawers and took a pearl necklace from the top dresser drawer and US \$ 200.00 in cash. Blood drops were found on the tiled floor next to the window.

CSI Miller asks you to draw a sketch of the bedroom. The case number is 18-94834. Let's pretend the bedroom is the crime scene.

- Draw a rough sketch with measurements. Draw the sketch in the bird's eye view.
- Obtain measurements of the walls in your bedroom, the furniture, the windows and doors.
- Add the measurements to your sketch of your bedroom.
- Add the legend and the compass direction.

- Download the free application of Smart Draw on your computer. Follow this link:
<https://www.smartdraw.com/downloads/?id=365146&msclkid=b301ed2b82ca19f50d3bb7c34e920f6f>
- Transfer the rough sketch into the Smart Draw program.
- Ensure you transfer all information and save the file. (Ensure all details of your sketch are clearly marked and identifiable!)
- Upload the sketch for submission as a separate file from the submission deliverable to “Part 2” (below).

Ensure your work is clearly labeled and thoroughly completed. Adhere to writing standards set forth in the CSU-Global Guide to Writing and APA Requirements.

Part 2: Crime Scene Property Receipt (this is worth 40 Points to the overall Critical Thinking Assignment score)

Scenario: CSI Miller collects the following items as evidence:

- One piece of glass found on the ground next to the window at marker 1. The glass was packaged in a cardboard box.
- One blood sample from the drop of blood on the tiled floor next to the window at marker 2.

The blood sample is packaged in a paper bag.

While continuing to investigate the burglary scene, CSI Miller asks you to write the property receipt for the evidence. Ensure to maintain the chain of custody.

For this part, you will fill out a property receipt and maintain the chain of custody. Use the evidence collected and this Property Receipt form and fill in the fields with details of the scene, collected evidence, and maintain the chain of custody.

CSI Miller and you clear from the scene at 17:40 and transport the evidence to the Headquarters. Subsequently, the evidence is turned over to the evidence custodian.

Submitting your Assignment:

Submit your property receipt form. You will need to upload this document separately from your sketch.

Ensure your work is clearly labeled and thoroughly completed. Adhere to writing standards set forth in the CSU-Global Guide to Writing and APA Requirements.

Option #2: Crime Scene Sketch and Measurements: Computer-Assisted

The critical thinking assignment for this week has two parts.

Part 1: Create a crime scene sketch and obtain measurements

Crime scene sketches are an important part of documenting a crime scene. For this task, you will need:

- Measuring tape
- Computer/digital drawing tools

Scenario:

On Monday, December 10, 2018, at approximately 15:40, CSI Smith responded to a burglary to a conveyance at the parking lot at Burger King at 2354 Kings Highway in Santa Carolina, NY.

As an intern in the CSI unit, you and CSI Miller respond to the scene and meet with the victim and owner of the vehicle, Mrs. Mary Parker. Mary works at Burger King and when returning to her vehicle after her shift ended, noticed that the passenger window of the vehicle had been smashed in. She noticed that her iPad and Beats headphones had been taken from the passenger's seat. She called 911 and reported the burglary.

The case number is 13-94834.

CSI Miller asks you to draw a sketch of the parking lot including measurements of the vehicle and triangulated measurements of the location of the vehicle in the parking.

1. Draw a rough sketch with measurements. Pretend your car is the burglarized vehicle and your driveway/parking lot is the Burger King parking lot. Choose two fixed points for your triangulation measurements. Also include the measurements of your vehicle.

You can do this in one of several ways:

- a. Draw a rough sketch with pencil and paper.
- b. Obtain measurements and add to the rough sketch.
- c. Transfer the data to the sketch using MS Word drawing tools.
- d. Don't forget the legend, compass direction and all necessary information.
- e. Use an online drawing tool or software of your choice.

**Ensure whichever drawing method you use that you can import it into a Word or PDF document for submission! If you opt to use an online drawing tool that generates an image with a URL, and you are unable to export your picture into a Word document or PDF file, you can copy/paste the link to your drawing into a Word document and submit that document. Your instructor will be able to view your drawing from your submitted link.*

2. Put your sketch into a Word document or PDF file for submission. Ensure all details of your sketch are clearly marked and identifiable!

Submitting your Assignment:

Submit your sketch. You will need to upload this document separately from your property receipt (below).

Ensure your work is clearly labeled and thoroughly completed. Adhere to writing standards set forth in the CSU-Global Guide to Writing and APA Requirements.

Part 2: Crime Scene Property Receipt

For this part, you will write a property receipt and maintain the chain of custody. Based on the information given in the scenario below, use this Property Receipt form and fill in the fields with details of the scene, collected evidence and maintain the chain of custody.

Crime scene description:

Unknown perpetrators broke the passenger window of the vehicle and gained entry to the vehicle. The offender had smashed in the window with a tire iron that is found on the passenger floorboard. The victim stated that her iPad and Beats headphones had been taken from the passenger seat. The offender had cut himself on the glass and blood drops were visible on the passenger's front floorboard.

CSI Miller collected the following items as evidence and asks you to write the property receipt and maintain the chain of custody for the evidence:

- One tire iron found on the passenger' floorboard at marker 1
- One blood sample from passenger front floorboard at marker 2

Both items of evidence were packaged in a paper bag.

CSI Miller and you clear from the scene at 17:40 and transport the evidence to the Headquarters. Subsequently, the evidence will be turned over to the evidence custodian.

Submitting your Assignment:

Submit your property receipt form. You will need to upload this document separately from your sketch.

Ensure your work is clearly labeled and thoroughly completed. Adhere to writing standards set forth in the CSU-Global Guide to Writing and APA Requirements.

Portfolio Project Milestone (25 points)

Milestone: Portfolio Project Option #1

As the CSI, you collected the handwritten note from the bank teller. You also collected a pen that the robber used to write the note when he entered the bank.

Explain how you photograph, mark and measure, sketch, collect, and preserve the evidence. Consider possible later laboratory testing that you may want to perform to match the items to a suspect.

Your submission should be 1-2 pages in length, framed by a cover page and references page. You must support your analysis with at least three references. At least two of these must be academic, scholarly sources in addition to the course text and course readings. The CSU-Global Library is a good place to find these sources. Format your submission according to the CSU-Global Guide to Writing and APA Requirements. Review the rubric to confirm you are meeting the assignment requirements.

Milestone: Portfolio Project Option #2

Notes of mock crime scene

Please read the Portfolio Project scenario.

You are the CSI responding the crime scene. You are notified at 6:43PM by Janice, Communication Supervisor to respond to the death investigation at 525 NE 16th Street in Sun City, California. You arrive on scene at 6:57PM. You sign the crime scene log and receive a briefing of the known facts from Detective Sergeant Chris Rodriguez during the walk through of the scene.

Detective Rodriguez advised that the husband Mr. Philip Sommer, DOB 9/6/1945, stated the following:

Marge and him were swimming in the pool in the back yard. Marge decided to go in the house to take a shower. Philip remained in the pool. He became suspicious when he did not see or hear Marge. He got out of the pool and walk into the house calling her name. She did not answer. He walked into the bathroom and found her lying on the floor in a pool of blood. Philip called 911.

Mr. Philip Sommer gave written consent to search the residence.

Pretend that your residence is the crime scene.

As the crime scene investigator, your first duty is to document the scene with notes and photographs. Crime scene notes are of the utmost importance. Using the notes package, add the information you received during the walk through and describe the scene in the bathroom. (Remember to describe your own bathroom as the crime scene. Use compass directions such as north of the toilet, on the south wall, etc.).

Your task for this milestone of your investigation is to add the information from the scenario—your arrival and the walk-through of the scene and information obtained from Detective Rodriguez—into the crime scene note package.

Under description of the scene, include your house/residence information and describe your bathroom. (Remember your bathroom is the crime scene.) Be as detailed as possible and use compass directions instead of left and right. Apply the information from the interactive lectures, course readings, and the textbook.

Your submission is your completed notes package. Review the rubric to confirm you are meeting the assignment requirements.

MODULE 3

Readings

- Chapters 11, 12, 14, and 18 in *Criminalistics*
- DetectaChem (2018). DetaChem releases mobile detect for smart phones for drug detection. Retrieved from <https://www.policeone.com/police-products/Fentanyl-Protection/press-releases/469875011-DetectaChem-releases-MobileDetect-for-drug-detection-on-smartphones/>
- Schnegg, M., Turchany, M., Devitern, M., Gueissaz, L., Hess, S., & Massonnet, G. (2017). A preliminary investigation of textile fibers in smothering scenarios and alternative legitimate activities. *Forensic Science International (Online)*, 279, 165-176.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Critical Thinking (75 points)

Choose one of the following two assignments to complete this week. Do *not* complete both assignments. Identify your assignment choice in the title of your submission. Note that while there are two options for the Critical Thinking Assignment, there is only one rubric. Review the rubric to confirm you are meeting the assignment requirements.

Option #1: Document and Handwriting Analysis Cases

Handwriting analysis led to the BTK (Bind, Torture, Kill) Killer.

For nearly two decades, police were hunting the killer of 10 known victims between 1974 and 1991. By 2005, the case was a cold case with no leads whatsoever. The killer sent letters describing the gruesome murders to police and news media. After a decade of quiet, he resumed sending letters in 2004. The BTK killer had sent a computer floppy disk, and police were able to trace contact information to Rader and

were forensically able to match a series of handwritten letters to Dennis Rader. Rader wasn't even suspected until nearly fifteen years after his final victim was murdered.

The BTK killer is one of the many cases that has been solved through document and handwriting analysis.

- Research two cases in which document and handwriting analysis led to the identification of the offender.
- Provide overview information about each case.
- Discuss the reliability of handwriting analysis.
- Should handwriting analysis be the sole reason for an arrest and conviction? Explain.

Your submission should be 3-4 pages in length (excluding cover page and references) and formatted according to the CSU-Global Guide to Writing and APA Requirements. Be sure to discuss and reference concepts taken from the assigned textbook reading and relevant research. You must include a minimum of three credible, academic, or professional references beyond the text or other course materials. Review the grading rubric to see how you will be graded for this assignment.

Option #2: Fraudulent Forensic Examinations

Since 2009, government prosecutors have admitted false hair analyses were used to convict Kevin Martin, Kirk Odom, Cleveland Wright, Santae Tribble, and Donald Gates. All of these men won certificates of actual innocence and large monetary settlements.

Judge Todd Edelman wrote in his opinion, "Malone presented his conclusions as definitive science when they simply were not" and "the statistical conclusions were at best a guess and at worst yet another fabrication" (Wagner, 2017).

In December 2017, the D.C. Superior Court judge has thrown out a conviction in a 1985 murder case saying the testimony of an FBI agent "rested on a foundation of lies." Derrie Nelson, who had been in prison for 33 years for a murder he did not commit, was sentenced based on false hair analysis. Nelson had rented a room and stated that he went into the house to get some of his belongings. Prosecutors claimed that was when he shot and killed James Nichols. During the trial, FBI agent Michael Malone claimed hairs found on the body of Nichols were a match to Nelson.

The following video explains the conviction overturn.

Video: DC judge overturns 1985 murder case conviction

Link: <http://www.fox5dc.com/news/local-news/dc-judge-overturns-1985-murder-case-conviction>

Summary: A D.C. Superior Court judge has thrown out a conviction in a 1985 murder case saying the testimony of an FBI agent "rested on a foundation of lies." Derrie Nelson has been locked up for 33 years and learned last week that his conviction has been overturned. He is the sixth man in the last eight years to have his conviction overturned on false hair analysis.

- Choose two cases in which hair and/or fiber analysis test results were falsified. You may refer to the cases mentioned above.
- What do the cases have in common?
- What do you think is the motive for why forensic scientists falsify the examination test results? Explain.
- How can the accuracy of forensic analysis be improved to avoid falsification of test results? Explain.

Your submission should be 3-4 pages in length (excluding cover page and references) and formatted according to the CSU-Global Guide to Writing and APA Requirements. Be sure to discuss and reference concepts taken from the assigned textbook reading and relevant research. You must include a minimum of three credible, academic, or professional references beyond the text or other course materials. Review the grading rubric to see how you will be graded for this assignment.

References

Wagner, P. (2017). DC judge overturns 1985 murder case conviction. Retrieved from <http://www.fox5dc.com/news/local-news/dc-judge-overturns-1985-murder-case-conviction>

MODULE 4

Readings

- Chapters 15 and 16 in *Criminalistics*
- Augenstein, S. (2017). Rapid DNA act signed into law, setting target of 90-minute CODIS profiles. *Forensic Magazine*.
- Leary, M. G. (2017). Touch DNA and chemical analysis of skin trace evidence: Protecting privacy while advancing investigations. *The William and Mary Bill of Rights Journal*, 26(2), 251-285.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Critical Thinking (75 points)

Choose one of the following two assignments to complete this week. Do *not* complete both assignments. Identify your assignment choice in the title of your submission. Note that while there are two options for the Critical Thinking Assignment, there is only one rubric. Review the rubric to confirm you are meeting the assignment requirements.

Option #1: Innocence Project Cases

In 1992, the Innocence Project was founded by Peter Neufeld and Barry Scheck at Cardozo School of Law, exonerating the wrongly convicted through DNA testing and reforms in the criminal justice system to prevent injustice.

For example, Mecklenburg County District Attorney Andrew Murray filed legal papers on February 16th dismissing the indictments against Timothy Bridges, who wrongly served over 25 years for a rape and burglary, based in large part on the erroneous testimony of an FBI-trained state hair analyst who claimed that Bridges' hair linked him to two hairs found at the scene. Bridges was released on October 1, 2015, after prosecutors consented to vacating Bridges' 1991 convictions. (<https://www.innocenceproject.org/cases/timothy-bridges/>)

Please visit the website of the Innocent Project at <https://25years.innocenceproject.org/>

Research the cases and choose two cases that have been exonerated through flawed forensic evidence examination.

- Provide an overview of the two cases.
- Identify the physical evidence that led to the conviction.
- Discuss the flaws in the physical evidence evaluation.

- Provide suggestions on how to strengthen the examinations of forensic evidence.
- Discuss if there is a need for standardization of forensic science disciplines.

Your submission should be 3-4 pages in length (excluding cover page and references) and formatted according to the CSU-Global Guide to Writing and APA Requirements. Be sure to discuss and reference concepts taken from the assigned textbook reading and relevant research. You must include a minimum of three credible, academic, or professional references beyond the text or other course materials. Review the grading rubric to see how you will be graded for this assignment.

Option #2: DNA Presentation

You are a Crime Scene Investigator asked to give a presentation to the honor students of Lincoln High School. The students learned about serology and DNA and would like to learn about the application of DNA in criminal investigations.

Develop a PowerPoint presentation of 10-12 slides, including a title slide and reference slide, providing the following information:

- Definition and components of DNA
- Explanation of the sources for DNA
- Where to find DNA at a crime scene
- How to collect and preserve DNA evidence
- What is a buccal swab and how do you collect it?
- Explain PCR, STR, and mitochondrial DNA.

Deliverable:

- Your presentation must be at 10-12 slides in length, not including the title and reference slides, which are required.
- Include images and content with detailed, thorough speaker notes for each slide.
- You must include a minimum of three credible, academic, or professional references beyond the text or other course materials.
- Your presentation must follow the CSU-Global Guide to Writing and APA Requirements.
- Review the grading rubric to see how you will be graded for this assignment.

Portfolio Project Milestone (25 points)

Choose one of the following two Portfolio Milestones to complete this week. Do *not* complete both assignments. Identify your assignment choice in the title of your submission. Note that while there are two options for the milestone, there is only one rubric. Review the rubric to confirm you are meeting the assignment requirements.

Milestone Option #1: Bank Robbery

Part 1 of your Portfolio Project:

You are assigned as the CSI responding to the Bank of America robbery and asked to collect the handwritten note from the bank teller and the pen that the robber used to write the note.

For this milestone, complete the following:

- Create a handwritten note demanding money.
- Photograph the note.
- Photograph the pen.

- Use a Ziploc bag and place the note inside. Add information such as case number, item number, describe item, date, time, and your initials on the bag.
- Use a Ziploc bag and place the pen inside. Add information such as case number, item number, describe item, date, time and your initials on the bag.
- Photograph both bags.
- Write a property receipt for the items collected and maintain the chain of custody. Use the provided template for the property receipt.

Upload your photos into a PowerPoint presentation. In the presentation, write a short explanation for each photo. For example: Note collected at Teller 2 of the bank. Next slide: Photo of plastic bag containing the note demanding money from Teller 2. Next slide: Pen used to write the note, collected from Teller 2 (etc.).

Deliverable:

- Your presentation should be 5 slides in length (4 slides of the photos and 1 slide of the property receipt with the chain of custody), not including the title and reference slides, which are required.
- Include images and content with speaker notes for each slide. In the speaker notes explain the condition of the evidence: for example, the paper was crumpled, the pen had Bank of America imprinted....
- Your presentation must follow the CSU-Global Guide to Writing and APA Requirements.
- Review the grading rubric to see how you will be graded for this assignment.

Milestone Option #2: Sketch with measurements of the scene

Rough sketch with measurements

As the CSI in charge, after taking all the notes of the information from the scene, the next step is to take overall, medium range, and close up photos.

Please use a camera, if available, or use your cellphone to photograph the crime scene. Use the corner to corner method (take a picture from each corner of the bathroom showing the ceiling, wall, and floors). Take medium range photos of the bathroom.

Sketch the bathroom using the bird's eye view. Include measurements of the bathroom. Don't forget to add the measurements of the bathroom in the sketch. Also, be sure to provide the legend, including the case number, date, time, type of crime, address, name of sketch, ID number, north arrow, and NOT TO SCALE.

Create a PowerPoint presentation that includes the photos and the sketch. Explain each photo. For example: "Overview photo of the bathroom from southwest corner."

Add your bird's eye view sketch of the bathroom to the presentation.

Add the date, time, and how many photos you obtained in your presentation's speaker notes. Also note what date and time you took the sketch in your notes package. The note package is a fluid document that guides you throughout the investigation.

Deliverables:

- Your **presentation** must be 8 to 10 slides in length (4 slides of the corner to corner overall photos of the bathroom, 4 medium range photos of the bathroom, and the crime scene sketch), not including the title and reference slides, which are required.
- Include images and content with speaker notes for each slide. For example: "Photo taken from southwest corner of bathroom."
- Save the **note package** as a Word document and submit it as part of this milestone as well.
- Your presentation must follow the CSU-Global Guide to Writing and APA Requirements.
- Review the grading rubric to see how you will be graded for this assignment.

MODULE 5

Readings

- Chapter 4 in *Criminalistics*
- Basu, N., & Bandyopadhyay, S. K. (2017). Bloodstain pattern analysis—A less explored domain. *International Journal of Applied Research*, 3(1), 200-211.
- *Schumer: Opioid epidemic is reaching a critical level in Monroe County, and more medical examiners are desperately needed to keep up with dozens of overdose deaths; Senator calls on U.S. Justice and Health and Human Services Departments to provide relief fast.* (2017). Washington: Federal Information & News Dispatch, Inc.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Critical Thinking (75 points)

Choose one of the following two assignments to complete this week. Do *not* complete both assignments. Identify your assignment choice in the title of your submission. Note that while there are two options for the Critical Thinking Assignment, there is only one rubric. Review the rubric to confirm you are meeting the assignment requirements.

Option #1: Coroner and Medical Examiner Systems

Death Investigations are very difficult to investigate. The general rule is to investigate every death investigation as a homicide.

You can always eliminate evidence and statements, but missing evidence can break the case and a murderer can walk free.

The forensic autopsy is an important part of the death investigation. Therefore, we need to know about the specifics and answers an autopsy can provide.

While some jurisdictions have a Coroner, other states have the Medical examiner's system.

- What are the differences in the appointment and duties of the Medical Examiner versus the Coroner?
- In your city or state, identify if you have the Coroner or Medical Examiner System. Provide details.
- What are the benefits of each system and how do they affect law enforcement and criminal investigations?
- Identify the manners and causes of death and provide examples for each.
- What is Rigor Mortis, Algor Mortis, and Livor Mortis? What information do they provide for criminal investigations? Explain.

Your submission should be 3-4 pages in length (excluding cover page and references) and formatted according to the CSU-Global Guide to Writing and APA Requirements. Be sure to discuss and reference concepts taken from the assigned textbook reading and relevant research. You must include a minimum of three credible, academic, or professional references beyond the text or other course materials. Review the grading rubric to see how you will be graded for this assignment.

Option #2: Bloodstain Analysis Presentation

Create different bloodstain patterns and analyze the patterns using these instructions and the following materials:

Items needed:

- mixture of blood substitute (evaporated milk, water, and tomato paste)
- newspaper
- yardstick or tape measure
- dropper
- one ceramic tile
- one piece of cardboard
- one piece of glass or a mirror
- one piece of raw wood
- one plastic knife
- a camera (phone camera is fine)

Experiment 1:

Lay out the different surfaces, such as glass, tile, cardboard and wood on the ground. Using a dropper filled with the blood solution, the student will drip blood onto the surface at a distance of 12 inches and at 36 inches at a 90-degree angle. Use the yardstick or tape measure to determine the distances from the floor to the dropper.

Experiment 2:

Lay a newspaper on the ground. Dip a plastic knife into the blood solution. Walk slowly on the newspaper and let the blood drip off the knife. Change the newspaper, re-dip the knife in the blood and walk at a fast speed on the newspaper while letting the blood drip off the knife.

Assignment:

- Photograph the bloodstains with and without scale. Use a ruler, yard stick or measuring tape to show the size of the bloodstain.
- Analyze the bloodstains created in Experiment 1 and explain the findings of the different surfaces and distances in regards to stain size, shape, and pattern.
- Analyze the bloodstains created in Experiment 2 and explain the direction of travel and measure the angle of impact of one bloodstain of choice.

Perform the experiments and report your findings in a PowerPoint presentation. Add the photos to your presentation and include key words in the slides. The explanation of your findings should be in the speaker notes for each slide.

Deliverable:

- Your presentation must be at 10-12 slides in length, not including the title and reference slides, which are required.
- Include images and content with detailed, thorough speaker notes for each slide.
- You must include a minimum of three credible, academic, or professional references beyond the text or other course materials.
- Your presentation must follow the CSU-Global Guide to Writing and APA Requirements.
- Review the grading rubric to see how you will be graded for this assignment.

MODULE 6

Readings

- Chapters 6 & 9 in *Criminalistics*
- Jingyang, X., Ziyuan, Z., Xiaochun, Z., & Bond, J. W. (2017). A modified electrostatic adsorption apparatus for latent fingerprint development on unfired cartridge cases. *Journal of Forensic Sciences*, 62(3), 776-781.
- Song, J., Vorburger, T. V., Chu, W., Yen, J., Soons, J. A., Ott, D. B., & Nien, F. Z. (2018). Estimating error rates for firearm evidence identifications in forensic science. *Forensic Science International (Online)*, 284, 15-32.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Critical Thinking (75 points)

Choose one of the following two assignments to complete this week. Do *not* complete both assignments. Identify your assignment choice in the title of your submission. Note that while there are two options for the Critical Thinking Assignment, there is only one rubric. Review the rubric to confirm you are meeting the assignment requirements.

Option #1: Lifting Fingerprints Presentation

For this assignment, you will develop, lift, and identify fingerprints in two different experiments as outlined below.

Items needed for fingerprint experiments:

- One mirror
- One clear drinking glass or wine glass
- One roll of clear Scotch tape
- White paper
- Cocoa powder
- A clean paint brush (for water color or acrylic painting)
- One ruler or measuring tape
- Camera (phone camera or digital camera)

Note: Before beginning the experiments, ensure you have oil on your hands and did not wash your hands before the experiment.

Experiment 1:

- Student will touch the mirror to deposit a fingerprint.
- The fingerprints are not visible to the eye.
- Brush a fine coat of cocoa powder over the surface of the mirror to develop the fingerprints.
- Apply Scotch tape and lift the fingerprint. Avoid air bubbles.
- Place the lifted print onto a piece of paper.

Experiment 2:

- Student will touch the inside of the drinking glass to deposit fingerprints.
- Fill the glass with water. Let stand for 5 minutes.
- Empty the water and allow the glass to air dry.
- Brush a fine coat of cocoa powder inside the glass and fingerprints will develop.
- Photograph the fingerprints with scale.
- Apply Scotch tape and lift the print.
- Place the lifted print onto a piece of paper.

Assignment:

Explain the experiments and present your findings by addressing the following items:

- Describe your experience in developing fingerprints on different surfaces (Experiments 1 and 2).
- Present the photos of the developed fingerprints.
- Evaluate the fingerprints and identify the fingerprint pattern.
- Explain why the fingerprints remained inside the water glass.
- Develop a PowerPoint presentation addressing these items.

Deliverable:

- Your presentation must be at 10-12 slides in length, not including the title and reference slides, which are required.
- Include images and content with detailed, thorough speaker notes for each slide.
- You must include a minimum of three credible, academic, or professional references beyond the text or other course materials.
- Your presentation must follow the CSU-Global Guide to Writing and APA Requirements.
- Review the grading rubric to see how you will be graded for this assignment.

Option #2: Casting Tire Impression in Dirt and from a Vehicle Tire (Presentation)

For this assignment, you will photograph, cast, and lift tire impressions in two different experiments as outlined below.

Items needed for tire impression experiments:

- Plaster of Paris (available in Home Depot, Lowes, etc.)
- One container with water
- One bucket or container to mix the plaster
- Two brown paper shopping bags (from local store)
- One rag
- WD40 or spray cooking oil
- a piece of chalk or marker

- Cocoa powder
- A clean paint brush (for water color or acrylic painting)
- One ruler or measuring tape
- hairspray
- Camera (phone camera or digital camera)

Note: Before beginning the experiments, drive your car in the dirt, sand, or soil to create a tire impression.

Experiment 1:

- Photograph the tire impression.
 - Ensure to capture the full impression
 - Add the ruler at the same plane of the tire
 - Take several photos at a 90-degree angle (straight above the impression)
- Spray the impression in the dirt with hairspray to seal the pattern.
- Mix the Plaster of Paris based on the instructions given on the package.
- Mix to a pancake consistency.
- Slowly pour the mixture into the tire impression. You can use a spoon or a wooden stick to ensure smooth flow of the mixture.
- Let dry for about 30 to 45 minutes, depending on the temperature and humidity in your area.
- Add the North arrow for direction and pick up the cast.
- Add the case information such as date, time, name of caster, case number and address.
- Photograph the cast and upload the photos into the ppt presentation.

Experiment 2:

- Cut the brown paper bags open to create a strip of brown paper.
- Lay paper onto the driveway or in the garage behind your front tire.
- Use your piece of chalk or marker and mark your tire to ensure you obtain a full rotation of the tire.
- Clean the tire with the rag ensuring no debris remains on the pattern.
- Spray a light coat of WD40 or cooking oil spray on the tire.
- Slowly drive the tire over the brown bags.
- Remove the brown paper and apply a thin coat of cocoa powder to the oiled tire impression.
- Photograph the tire impression lifted from the vehicle and upload to the ppt presentation.

Assignment:

Explain the experiments and present your findings in addressing the following items:

- Describe your experience in developing tire impressions on different surfaces (Experiments 1 and 2).
- Present the photos of the developed tire impression and casting.
- Evaluate the tire impressions and compare the cast to the inked tire impression.
- Develop a PowerPoint presentation addressing these items.

Deliverable:

- Your presentation must be at 10-12 slides in length, not including the title and reference slides, which are required.

- Include images and content with detailed, thorough speaker notes for each slide.
- You must include a minimum of three credible, academic, or professional references beyond the text or other course materials.
- Your presentation must follow the CSU-Global Guide to Writing and APA Requirements.
- Review the grading rubric to see how you will be graded for this assignment.

MODULE 7

Readings

- Chapters 19 & 20 in *Criminalistics*.
- Du, X., Le-Khac, N., & Scanlon, M. (2017). Evaluation of digital forensic process models with respect to digital forensics as a service. Paper presented at the Council for Scientific and Industrial Research, South Africa, 322-331.
- Romig, H. (2017). Today's digital evidence room. *Law Enforcement Technology*, 44(7), 7-9.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

MODULE 8

Readings

- Jones, D. A. (2015). Frye v. Daubert - Time to bring Florida into the 21st century. Retrieved from <https://www.floridabar.org/news/tfb-news/?durl=/DIVCOM%2fJN%2fjnnews01%2ensf%2f8c9f13012b96736985256aa900624829%2f8bdc4b8dafac11be85257ef30068b65c%21OpenDocument>
- Maeder, E. M., Ewanation, L. A., & Monnink, J. (2017). Jurors' perceptions of evidence: The relative influence of DNA and eyewitness testimony when presented by opposing parties. *Journal of Police and Criminal Psychology*, 32(1), 33-42.
- Mandell, M. R. (2016). When religious belief becomes scientific opinion: Burwell v. Hobby Lobby and the unraveling of Federal Rule 702. *Northwestern Journal of Law and Social Policy*, 12(1), 92-118.
- Oliva, J. D., & Beety, V. E. (2017). Discovering forensic fraud. *Northwestern University Law Review*, 112(1), 121-138.
- Wertlieb, N. J. (2017). Ethics issues in the use of expert witnesses. *The Professional Lawyer*, 24(3), 35-45.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Portfolio Project (300 points)

Choose one of the following two Portfolio Projects to complete. Do not do both assignments. Identify your assignment choice in the title of your submission. Review the Portfolio Project grading rubric to understand how you'll be graded on your project.

Portfolio Project Option #1:

Project Description

For this Portfolio Project option, assume you are the lead crime scene investigator of the bank robbery investigation described in the scenario linked below:

[Click here to access the Portfolio Project scenario.](#)

You respond to the different crime scenes and collect evidence. The detective arrests a suspect; however, the evidence is not beyond a reasonable doubt and the State Attorney's Office is asking you to prepare a PowerPoint presentation documenting the evidence for the Grand Jury hearing.

Your presentation for the Grand Jury must show the evidence recovered from the vehicle and the collection of the sole impression from the suspect's shoes.

Include the photos taken of evidence at the scene and overall photos of the vehicle.

The Portfolio assignment is consistent with the timely investigation of a real crime scene. The CSI responds to the Bank of America robbery scene and documents the scene. In Milestone 1, the CSI arrives on scene and assesses the scene and plans the scene documentation and evidence collection. In Milestone 2, the student performs the evidence collection and maintains the chain of custody of the evidence from the crime scene. The investigation continues and new information about the suspect is available for the Portfolio assignment.

Present the inventory of the vehicle, the property receipts, and show the chain of custody in your presentation. Save the forms as JPEGs to put them into the presentation. Be as convincing as possible for the Grand Jury presentation.

To successfully complete this assignment, you will need to produce and collect the evidence for your presentation. You will do this in three parts, as outlined below:

PART 1: Cast a shoe impression in dirt from the recovery scene of the vehicle.

For this exercise, you are going to create a shoe impression in the dirt which will later be photographed as evidence (hypothetically from the crime scene outside the suspect's vehicle).

Wear shoes with good tread and step into soil, sand, or dirt.

Items needed for Shoe impression cast

- One box of Plaster of Paris (Lowes, Home Depot)
- Mixing bowl or a plastic Ziploc bag
- Hair spray
- Water

Follow these instructions:

1. Photograph the shoe impression with and without scale.
2. Spray the shoe impression with hair spray to preserve the patterns.
3. Mix water to the Plaster of Paris to a pancake mixture consistency.
4. Pour the mixture onto the impression.
5. Let dry.
6. Add the case number, North arrow, date, time and your initials as the CSI.

7. Carefully remove the cast.
8. Photograph the cast.
9. DO NOT remove the dirt and grass from the cast.
10. Save the photographs to add to your PowerPoint presentation for the Portfolio Project.

PART 2: Obtain the impression from the soles of the suspect's tennis shoes.

Items needed for the exercise:

- A pair of shoes with good tread (the same shoes used in Part 1 for the cast shoe impression)
- Rag or an old towel
- Butcher paper or brown paper bags
- WD-40 or cooking spray
- Cocoa powder
- Camel hair paint brush

Follow these instructions:

1. Clean the soles of the shoes with the rag.
2. Spray the soles with WD-40 or with cooking spray, ensure the oil is not dripping off the soles.
3. Walk over the paper.
4. Apply a thin coat of cocoa powder onto the imprints on the paper.
5. Photograph the impressions with and without a scale.
6. Save the photographs to add to your PowerPoint presentation for the Portfolio project. *Hint: these shoes match the shoe prints found at the vehicle.*

PART 3: For this exercise, pretend that your vehicle is the stolen vehicle used in the bank robbery.

Search for, document, and collect evidence from the vehicle.

For this exercise, pretend that your vehicle is the stolen vehicle used in the bank robbery. If you don't have a car, borrow a friend's or fellow student's vehicle for this experiment.

Provided documents:

1. Vehicle Portfolio
2. Chain of Custody Form
3. Property Receipt

Please use the provided template **Vehicle Portfolio** to write down the information of the vehicle. To inventory the vehicle, use the zone search method and subdivide the vehicle in different zones such as:

Area	Items found
Glove box	Registration for 2010 Honda CRV, FL tag...registered to... One Proof of insurance, Progressive Insurance for... List all items in the glove box.
Front passenger's side	One pair of black sunglasses One iPhone List all items on the floorboard and on the seat
Trunk	List all items found in the trunk

Follow the above example for the entire vehicle and follow these steps:

- a. Photograph the exterior of the vehicle
- b. Document the vehicle
 - i. Odometer
 - ii. Exterior damage
 - iii. Interior damage
 - iv. Vehicle is facing north, south, east, west
 - v. Locked or unlocked
 - vi. VIN number
 - vii. License plate
- c. Search and inventory the vehicle including
 - i. Separate into sections such as
 1. Driver's seat
 2. Front passenger's seat
 3. Rear driver's side/floorboards
 4. Rear passenger's seat/floorboards
 5. Trunk
 - ii. Photograph the areas such as
 1. Driver's seat
 2. Passenger's seat
 3. Rear bench seat
 4. Front and rear floorboards
 5. Trunk
 - iii. Note any items in these areas.
 - iv. Package the items and list in the provided **Property Receipt Form**
 - v. Maintain the chain of custody, using the provided **Chain of Custody Form**

Develop your PowerPoint presentation and include the evidence from these exercises.

Deliverables:

- Submit all forms as detailed in the Portfolio's description and the PowerPoint presentation.
- Your PowerPoint presentation must be at 20-25 slides in length, not including the title and reference slides, which are required.
- Include images and content with detailed, thorough speaker notes for each slide.
- You must include a minimum of six credible, academic, or professional references beyond the text or other course materials.
- Your presentation must follow the CSU-Global Guide to Writing and APA Requirements.
- Review the grading rubric to see how you will be graded for this assignment.

Option #2: Death investigation of Mrs. Sommer

[Click here to access the Portfolio Project scenario.](#)

Setting up the crime scene:

Pretend that your residence is the crime scene.

Please stage the scene by using a ketchup/water mixture to create a small pool of blood on the floor in your bathroom corresponding with the crime scene. Also drop some of the ketchup mixture on the floor in the bathroom and create a bloody foot print. Use a baseball bat, a hammer, or a piece of wood, whatever you have available and place some of the ketchup mixture onto the edges of the item. Please

hide the item in the vanity underneath the sink in the bathroom. Place some fingerprints and palm prints on the mirror in the bathroom.

The Portfolio Assignment is consistent with the timely investigation of a real crime scene. The CSI responds to the death investigation and documents the scene. In Milestone 1, the CSI arrives on scene and takes notes, as well as describes the scene in detail. In Milestone 2, the student photographs the scene and draws a rough sketch. Throughout Milestone 1 and 2 as well as the different parts of the Portfolio Projects, the note package is updated. It is a fluid document from the beginning of the scene investigation to the collection of the last piece of evidence including property receipts and the chain of custody. The investigation continues and new information about the suspect is available for the Portfolio Assignment.

Part 1

After the victim had been removed from the crime scene, you detect a pool of blood and a bloody foot print.

- Document the blood evidence with photographs (with and without scale) and evidence markers (create some evidence markers using a folded piece of paper and a marker). Begin with "Number 1" for the first item of evidence and continue throughout your evidence collection and scene processing. Use a ruler for the photos with scale to show the size of the stains and the pool of blood.
- Add the photographs to your presentation that you begin started in your Portfolio Milestone #2.
- Obtain measurements of the blood evidence and add to the rough sketch.
- Add the information of the blood evidence to the notes. Include the date, the time, and your activity. For example: "9/10/18, 4:15 PM. CSI Smith took 5 overall photos, 2 medium range photos of the pool of blood with and without scale."

DON'T FORGET TO CONTINUE TO ADD THE INFORMATION TO YOUR SCENE NOTES!

Part 2: Collection of blood evidence

After you documented the blood evidence with photos, sketch and measurements, you collect the samples.

For this activity, you need

- Sterile cotton swabs
- Sterile water (regular water will be appropriate for the mock scene)
- A small envelope or cardboard box to collect the dried blood sample

You are asked to collect the blood sample from the bathroom scene. Please use the proper packaging and preservation method for the sample. Take photos of the following:

- Cotton swab
- Collected blood on cotton swab
- Packaging of the swab

Include the information on the bag, such as:

- Case number
- Item number
- Description of the item
- Date and time of collection
- Initial of the CSI collecting the evidence
-

Create a property receipt and maintain the chain of custody for the blood evidence collected from the scene. (Use the provided template.)

DON'T FORGET TO CONTINUE TO ADD THE INFORMATION TO YOUR SCENE NOTES!

Part 3: Crime scene search

After you documented and collected the blood evidence, you are searching the crime scene for additional evidence.

Note: Your bathroom is the crime scene, and you placed a bloodstained item (hammer, baseball bat, or piece of wood) in the vanity.

- Identify the search pattern that you use for the search in the bathroom.
- Photograph the bloody item with overall, medium range and close up photos.
- Mark the item with marker number.....and take photo with and without marker number.
- Add the item and the measurements to the rough sketch.
- Package the item (include the required information on the outside of the bag).
- Create a property receipt and maintain the chain of custody for the blood evidence collected from the scene. (Use the provided template.)

DON'T FORGET TO CONTINUE TO ADD THE INFORMATION TO YOUR SCENE NOTES!

Add the photos and the property receipt into the PowerPoint presentation for the grand jury. (This is the same presentation that you started in Portfolio Milestone #2 and that you already added more photos of evidence.)

Part 4: Fingerprints

While investigating the crime scene, you notice some fingerprints and palm prints on the mirror in the master bathroom.

Using the appropriate method, develop the latent fingerprints (remember the exercise with the cocoa powder).

- Develop the latent fingerprint.
- Photograph the print with and without scale/ruler.
- Lift the fingerprint using Scotch tape.
- Create a property receipt and maintain the chain of custody for the blood evidence collected from the scene. (Use the provided template.)

DON'T FORGET TO CONTINUE TO ADD THE INFORMATION TO YOUR SCENE NOTES!

PART 5: Bring it all together for the Grand Jury presentation

After your scene investigation is concluded, you are cleared from the scene at approximately 11:45 pm. You sign out on the crime scene log and transport the collected evidence to the headquarters of the Sun City Police Department.

For the Grand Jury presentation of the case, please ensure to include the following:

- Complete the PowerPoint presentation that you started with Portfolio Milestone #2. Ensure to include:
 - Photos of the scene and all evidence developed, such as the fingerprints collected and preserved (the weapon, the blood sample, etc.)
 - All property receipts
 - Maintain the chain of custody of all evidence collected
- Complete the notes package of the crime scene investigation. Save as a word document and submit separately from the presentation.

Add all relevant information into your PowerPoint presentation for the Grand Jury, who will be tasked to identify if there is enough evidence to charge the husband in the death of his wife.

Deliverables:

- Submit all forms as detailed in the Portfolio's description and the PowerPoint presentation.
- Your presentation must be at 20-25 slides in length, not including the title and reference slides, which are required.
- Include images and content with detailed, thorough speaker notes for each slide.
- You must include a minimum of six credible, academic, or professional references beyond the text or other course materials.
- Your presentation must follow the CSU-Global Guide to Writing and APA Requirements.
- Review the grading rubric to see how you will be graded for this assignment.

COURSE POLICIES

Course Grading

20% Discussion Participation
0% Opening Exercises
8% Mastery Exercises
37% Critical Thinking Assignments
35% Portfolio Project & Milestones

Grading Scale	
A	95.0 – 100
A-	90.0 – 94.9
B+	86.7 – 89.9
B	83.3 – 86.6
B-	80.0 – 83.2
C+	75.0 – 79.9
C	70.0 – 74.9
D	60.0 – 69.9
F	59.9 or below

IN-CLASSROOM POLICIES

For information on late work and incomplete grade policies, please refer to our [In-Classroom Student Policies and Guidelines](#) or the Academic Catalog for comprehensive documentation of CSU-Global institutional policies.

Academic Integrity

Students must assume responsibility for maintaining honesty in all work submitted for credit and in any other work designated by the instructor of the course. Academic dishonesty includes cheating, fabrication, facilitating academic dishonesty, plagiarism, reusing /repurposing your own work (see *CSU-Global Guide to Writing and APA Requirements* for percentage of repurposed work that can be used in an assignment), unauthorized possession of academic materials, and unauthorized collaboration. The CSU-Global Library provides information on how students can avoid plagiarism by understanding what it is and how to use the Library and Internet resources.

Citing Sources with APA Style

All students are expected to follow the CSU-Global Guide to Writing & APA when citing in APA (based on the most recent APA style manual) for all assignments. A link to this guide should also be provided within most assignment descriptions in your course.

Disability Services Statement

CSU-Global is committed to providing reasonable accommodations for all persons with disabilities. Any student with a documented disability requesting academic accommodations should contact the Disability Resource Coordinator at 720-279-0650 and/or email ada@CSUGlobal.edu for additional information to coordinate reasonable accommodations for students with documented disabilities.

Netiquette

Respect the diversity of opinions among the instructor and classmates and engage with them in a courteous, respectful, and professional manner. All posts and classroom communication must be conducted in accordance with the student code of conduct. Think before you push the Send button. Did you say just what you meant? How will the person on the other end read the words?

Maintain an environment free of harassment, stalking, threats, abuse, insults, or humiliation toward the instructor and classmates. This includes, but is not limited to, demeaning written or oral comments of an ethnic, religious, age, disability, sexist (or sexual orientation), or racist nature; and the unwanted sexual advances or intimidations by email, or on discussion boards and other postings within or connected to the online classroom. If you have concerns about something that has been said, please let your instructor know.