

5-11-2017

## Minimum Education Requirements for Crime Scene Investigators

Araseli Saldivar  
*San Jose State University*

Follow this and additional works at: <http://scholarworks.sjsu.edu/themis>

 Part of the [Criminology and Criminal Justice Commons](#), [Evidence Commons](#), [Forensic Science and Technology Commons](#), and the [Higher Education Commons](#)

---

### Recommended Citation

Saldivar, Araseli (2017) "Minimum Education Requirements for Crime Scene Investigators," *Themis: Research Journal of Justice Studies and Forensic Science*: Vol. 5 , Article 10.

Available at: <http://scholarworks.sjsu.edu/themis/vol5/iss1/10>

This Peer-Reviewed Article is brought to you for free and open access by the Justice Studies at SJSU ScholarWorks. It has been accepted for inclusion in Themis: Research Journal of Justice Studies and Forensic Science by an authorized editor of SJSU ScholarWorks. For more information, please contact [scholarworks@sjsu.edu](mailto:scholarworks@sjsu.edu).

---

# Minimum Education Requirements for Crime Scene Investigators

## **Abstract**

The initial crime scene investigation is critical since it is the primary step in the investigative process; therefore, individuals assigned to process a scene should be highly educated. Improperly educated (or uneducated) crime scene investigators (CSIs) can mishandle evidence during an investigation, affecting the outcome of cases. The minimum education requirement for CSIs should transition from a high school diploma—the current requirement—toward a bachelor's degree. The importance of acquiring a college-level education is observed in a study conducted on crime scene examiners in Australia. To determine the educational requirement for CSIs in the United States, information was gathered electronically from numerous law enforcement departments. The most common entry-level education was a high school diploma, followed by an associate's degree, and lastly, a bachelor's degree. A bachelor's degree, with coursework specifically intended for individuals not wanting to work in a laboratory, will ensure CSIs are well equipped to correctly perform their duties.

## **Keywords**

crime scene investigator, education, bachelor's degree

## Minimum Education Requirements for Crime Scene Investigators

*Araseli Saldivar*

### **Abstract**

The initial crime scene investigation is critical since it is the primary step in the investigative process; therefore, individuals assigned to process a scene should be highly educated. Improperly educated (or uneducated) crime scene investigators (CSIs) can mishandle evidence during an investigation, affecting the outcome of cases. The minimum education requirement for CSIs should transition from a high school diploma—the current requirement—toward a bachelor’s degree. The importance of acquiring a college-level education is observed in a study conducted on crime scene examiners in Australia. To determine the educational requirement for CSIs in the United States, information was gathered electronically from numerous law enforcement departments. The most common entry-level education was a high school diploma, followed by an associate’s degree, and lastly, a bachelor’s degree. A bachelor’s degree, with coursework specifically intended for individuals not wanting to work in a laboratory, will ensure CSIs are well equipped to correctly perform their duties.

## **Introduction**

Interest in forensic science grew during the late 20<sup>th</sup> and early 21<sup>st</sup> century, primarily because of the development of DNA typing techniques, such as PCR, and shows like *CSI*. As a result of these shows' popularity, the crime scene investigator profession became extremely popular. Numerous personnel, including law enforcement, emergency personnel, crime scene investigators, forensic scientists, and specialized personnel, if necessary, are involved throughout the extensive process of an investigation after a major crime has occurred. All of these professionals are important to achieve a successful investigation, particularly the crime scene investigator (CSI)—also referred to as crime scene examiners (CSEs), crime scene/forensic technicians, evidence technicians, and forensic specialists. The CSI is responsible for searching, detecting, collecting, documenting, and preserving any physical evidence at a crime scene. This investigative process requires very adept professionals. Unqualified individuals, such as police officers, can overlook, contaminate, or improperly collect the evidence. As a result, the evidence is of no use, regardless of the amount and extent of the forensic examinations (Stanley & Horswell, 2004).

Currently, the minimum education, or common set of entry requirement, for a CSI is a high school diploma. Without a proper education, a CSI can commit numerous errors in a crime scene investigation, which can jeopardize the strength and integrity of the case. A higher education will allow CSIs to obtain the necessary skills and attributes to conduct their job correctly. A bachelor's degree with coursework that includes crime scene investigation, forensic science, photography,

fingerprints, and biological hazards should be mandated for crime scene investigators, as well as certification.

### **Literature Review**

Historically, only a police officer could be a CSI. Officers received training for crime scene investigations in conjunction with the customary training during the police academy (Stanley & Horswell, 2004). Reports from the early 1980s indicated the forensic science training police officers received was inadequate (Ludwig & Fraser, 2013) because it did not provide CSIs with the required job skills to process an entire crime scene (Capsambelis, 2002). Some CSIs state that being a police officer prior to becoming a CSI does assist in the development of a few skills, albeit not skills necessary to process a crime scene (Kelty, 2011). For example, CSIs will be more adept at communicating with other personnel to establish control of crime scenes and they will also be better at handling gruesome cases, since they will have previous exposure to accidents investigated during their careers as officers. However, even though training has improved since the 1980s, police officers still do not completely comprehend forensic science (Ludwig & Fraser, 2013). Possessing limited forensic knowledge hinders the investigative process. Not understanding the importance of the collection of certain evidence, or lack thereof, can affect the direction of an investigation, and potentially the outcome of a case (Kelty, Julian, & Robertson, 2011). In 2000, Her Majesty's Inspectorate of Constabulary (HMIC), an agency in the United Kingdom, found that despite the advancement in forensic science training, investigating officers usually learned how to conduct a crime scene investigation "through trial and error from first-hand experiences" or from information they gathered from their coworkers, (Ludwig & Fraser, 2013, p. 84). Potentially

inadequate and ill-prepared crime scene investigators were directly dealing with evidence without having the proper background knowledge—essentially experimenting during real-life crime scene investigations in order to learn what to do, or what not to do, for future investigations. As a result of many police officers' inability to properly and successfully investigate a crime scene for valuable information, numerous agencies made the decision to hire civilians specifically trained in crime scene investigation.

Following the civilianization of the position, those who sought to become CSIs were able to do so without first becoming a police officer. The educational requirement, however, remained the same. Crime scene investigators, like law enforcement, were not required to possess academic degrees (Gaensslen, 2003); throughout the United States, the position has usually required a minimum education requirement of a high school diploma and on-the-job training, as well as occasional refresher courses (Capsambelis, 2002). Despite the fact that civilians were trained specifically to conduct crime scene investigations, Horvath and Meesig (1996) found that they were receiving occasional, unplanned, and disorganized training (as cited in Ludwig & Fraser, 2013).

The transition from sworn to civilianized personnel was imposed to reduce costs. This established the need for trained civilians to process a crime scene, since most police officers would no longer be responsible for collecting and preserving evidence. However, if they do not receive adequate training, and are not expected to obtain the proper educational background received by the completion of a bachelor's degree, there is no guarantee CSIs will conduct their duties correctly. Nevertheless, whether the crime scene investigator is a sworn officer or a

civilian, they must have the necessary knowledge and abilities to search for, collect, and preserve evidence traces, which are essential for successful investigations.

Success in any profession is a result of several significant skill sets, such as critical thinking, and exceptional written and verbal communication. The acquisition and development of these attributes are extremely crucial for the crime scene investigator. Kelty and colleagues (2011) list seven attributes a high-performing crime scene examiner (CSE) demonstrates. These key characteristics include knowledge, cognitive abilities, communication skills, work orientation, life experience, professionalism, and approach to life. In their study of 74 participants from police departments in Australia, Kelty and colleagues (2011) found that of those participants, only eighteen were qualified and regarded by their peers as high-performing CSEs. Additionally, Kelty and colleagues determined that of the 18 CSEs, 12 (67%) of them had a bachelor's degree, mostly in a science field, whereas the remaining 6 (22%) had a master's degree or higher (Kelty et al., 2011). Additionally, the more advanced education the CSE receives, the more their colleagues tend to value and respect their conclusions, in contrast to their lower-educated peers (Kelty et al., 2011). A bachelor's degree instills confidence within an investigative unit because the other personnel believe that the CSE has received extensive knowledge beyond what is provided during training, which anyone with a high school diploma can receive.

Cognitive skill development throughout a higher education career allows CSIs to produce fast decisions regarding the relevance of evidence recognized at real crime scenes (Wyatt, 2014). They are more adept at knowing which evidence can or cannot potentially assist an investigation. While it is

preferable during the investigative process that CSIs conduct a search for evidence at their own pace, they need to determine whether that evidence is relevant to the crime committed, in order to collect and preserve it as quickly as possible to prevent any contamination or destruction (Kelty et al., 2011). Determining whether or not to collect certain evidence can create unexpected consequences. As Kelty and colleagues (2011) learned, high-performing CSEs considered the outcome their actions will have later on during the investigative process, not just in the foreseeable future.

Excellent communication skills are exceedingly important in the profession for crime scene investigators (Kelty et al., 2011). CSIs need to have mastered the ability to communicate effectively because throughout their careers they will need to talk to various people involved before, during, and after any given crime scene investigation. Kelty and colleagues found that high-performing CSEs “have highly developed interpersonal and communication skills” (Kelty et al., 2011, p. 181). These particular CSEs are assertive, capable of testifying well in court, and able to negotiate with emergency personnel. Additionally, the authors of this study found that these specific CSEs were regarded as high-performing in this attribute because they could easily explain to their law enforcement counterparts the pertinence of specific physical evidence (Kelty et al., 2011).

The above stated attributes are displayed by high-performing CSIs in comparison to their colleagues. Studies conducted in the United States and the United Kingdom report that crime scene investigators who possess these seven attributes perform better than their coworkers, resulting in more solved cases (Kelty et al., 2011). While education is only one of the seven attributes, Kelty and colleagues (2011) study demonstrates



that with the proper education, CSIs can drastically affect the overall outcome of criminal cases since they are able to collect evidence that is more pertinent to a case.

A CSI participant in Wyatt's (2014) study stated that anyone, regardless of their educational background, is capable of lifting prints. The participant asserts that anyone can grab a brush, dip it into black powder, distribute it on a surface, such as a window, and obtain a fingerprint (Wyatt, 2014). Despite possessing the ability to lift prints, the knowledge required to determine what equipment to use on different surfaces, where to search for prints at a crime scene, and how to correctly lift a legible print, is not information that the average person possesses (Ludwig, Fraser, & Williams, 2012).

Crime scene processing is more than a sequence of techniques (Ribaux et al., 2009). It is a process that requires investigators to be "equipped with multitasking, critical thinking, and problem-solving skills" (Baker, 2009, p. 53). These skills take much longer to acquire than the allotted time for training, meaning that only receiving training for a couple of months is not a sufficient measure of educating CSIs in the complexity of crime scene processing (Crispino, Rossy, Ribaux, & Roux, 2015). Having an education within a classroom setting, along with investigative experience, allows the CSI to limit their search for pertinent evidence to particular areas of examination (Wyatt, 2014).

Classroom setting courses and learning objectives assist future CSIs to employ their knowledge during investigations, rather than experimenting while at an actual crime scene (Baker, 2009). Additionally, college courses allow students to apply their acquired knowledge during exercises, strengthening certain skills. For example, moot court simulations allow an individual

to experience a realistic role that enhances their critical thinking (Baker, 2009) and communication skills by requiring them to present their results (Fradella, Owen, & Burke, 2007). Criminal investigation courses teach individuals the appropriate methods for collecting and preserving evidence to reduce their chances of contaminating the evidence (Fradella et al., 2007). Courses involving other content not specifically meant for CSIs can also provide necessary skills. A class focused on death recognition, which is normally meant for medical examiners, can teach CSIs how to detect important evidence from a victim's body (Capsambelis, 2002).

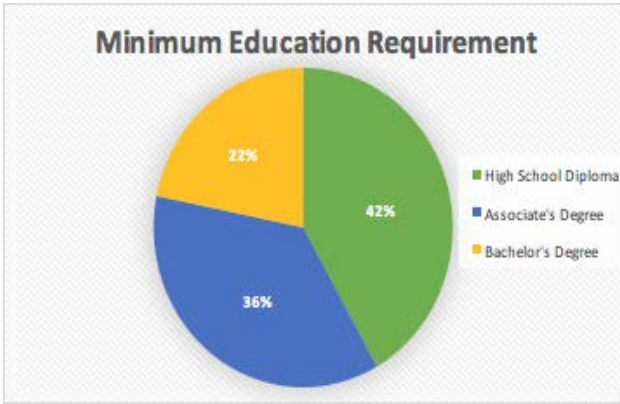
CSIs who acquire extensive knowledge by going to college, or a university, are usually accelerated through their training (Ribaux et al., 2010), in order for them to begin working in crime scenes sooner. CSIs with a college education receive less on-the-job training, saving the agency money and resources (Stanley & Horswell, 2004). Furthermore, as demonstrated by Kelty and colleagues' (2011) study, CSEs that obtain a bachelor's degree or higher, minimize the use of resources and the forensic lab's staff time since they are capable of detecting and collecting evidence that is more pertinent to the case than their lower educated peers. Acquiring a bachelor's degree does not only meet the requirements of the job description for a CSI, but also the requirements of Federal Rule 702. The Federal Rules of Evidence require that any expert witness is "qualified as an expert by knowledge, skill, experience, training, or education..." (Fed. R. Evid. 702, 1975). By mandating that future CSIs obtain a bachelor's degree with courses relevant to the profession, the knowledge and education aspect of Federal Rule 702 are met.

## **Methods**

To determine the minimum educational requirement for CSIs, an electronic search from 110 police departments and county sheriff's offices throughout the United States was conducted. The data gathered was predominantly from large metropolitan areas, such as Denver, San Diego, and Omaha. Information was obtained from the job descriptions of individuals who are assigned to detect, collect, and preserve evidence; in some instances, these individuals were also responsible for conducting forensic examinations on the evidence or conducting investigations following the search of the crime scene. Additionally, phone calls were made to the agencies to determine the duration of the CSIs' on-the-job training.

## **Results**

The analysis of the data determined that 42% of the agencies required a high school diploma, 36% required an associate's degree, and 22% required a bachelor's degree (see Figure 1). Additionally, 44% of CSIs received training for more than a year, 34% for less than six months, 14% based on their experience, and 8% based on other circumstances (see Figure 2).



*Figure 1.* Minimum education requirement for CSIs in the United States.



*Figure 2.* Duration of on-the-job training for CSIs in the United States.

## Discussion

The data from the departments surveyed demonstrate there is no consistent educational requirement for CSIs. Forty-six departments required a high school diploma, 40 needed an associate's degree, and only 24 required a bachelor's degree. Even though a bachelor's degree alone makes up about a third of the minimum education requirement for CSIs, when both the associate's and bachelor's degrees are considered together, a transition from a high school diploma to a requirement of some college education is observed (see Figure 1). Furthermore, the data gathered demonstrate that police departments in the US are employing civilians to conduct crime scene investigations. Only six agencies, of the 110, required their CSIs to be police officers first. The data contradict statements made in the NAS report indicating that CSI units continue to be predominantly comprised of police officers, rather than civilians (National Research Council, 2009).

Initially, it was assumed that CSIs who only needed to have a high school diploma would train for extended periods of time—six months or longer—and those who obtained a bachelor's degree would train for shorter periods--between four to six months. However, there appears to be no correlation between the type of degree a CSI obtains and the length of time they receive on-the-job training. For instance, of the CSIs who received training for more than a year, three departments required them to have a bachelor's degree, whereas one department required an associate's, and two agencies required a high school diploma. Of the 50 police departments that provided information regarding the training for their CSIs, 22 departments train them for six months or longer, while CSIs in 17 departments received six months or less of training. Seven

departments provided training based on the experience of the CSI (see Figure 2). Even though the duration of training is inconsistent throughout the U.S., training CSIs based on their experience seems like an appropriate option, instead of having a standardized duration of training, because some CSIs are required to have experience prior to applying for the position; therefore, an extended period of training when it is not needed can result in the waste of resources. In addition to training, numerous CSIs also receive continuous education while employed, if resources permit it. For instance, they can either enroll in classes, on topics such as fingerprints or bloodstain pattern analysis, or they can attend conferences.

### **Conclusion**

College is more than a vocation; it assists in the development of skills critical for a CSI. CSIs require a strong comprehension of the scientific method; a bachelor's degree will ensure CSIs are able to conduct investigations with scientific understanding and skills (Stanley & Horswell, 2004). Although anyone has the capacity to lift prints (Wyatt, 2014), in order to obtain the necessary knowledge to determine where to search for fingerprints and how to correctly lift legible prints of off various surfaces, CSIs should be mandated to enroll in a fingerprint course. Crime scene investigation courses, in addition to teaching future CSIs the appropriate procedures in collecting and preserving evidence, also educate CSIs about their role in the overall process of an investigation. If they do not properly conduct their duties, they can overlook or contaminate the evidence, resulting in the forensic scientists not having useful evidence to conduct examinations. Classroom oriented courses provide mock court and simulated crime scenes for CSIs to practice their crime scene processing techniques, so they do not

practice while investigating a real crime scene. Kelty and colleagues (2011) study demonstrates that the most successful CSEs obtained a minimum education of at least a bachelor's degree. High-performing CSEs were better able to communicate with personnel during a crime scene investigation and with the judicial system; they also had more advanced cognitive skills than their lower educated peers (Kelty et al., 2011). The development, or enhancement, of these skills can be acquired by completing coursework that includes crime scene investigation, forensic science, photography and fingerprints. The minimum education requirement should, therefore, transition from a high school diploma toward a bachelor's degree to ensure CSIs are as highly educated as possible.

Beyond acquiring a bachelor's degree to properly conduct their duties and to meet the requirement to qualify as an expert witness, a higher education will also increase the credibility of this position (Capsambelis, 2002). Additionally, certification will ensure CSIs are qualified to conduct crime scene investigations, not simply to testify in court, since this process verifies that individuals possess certain knowledge and skills, which allows them to be regarded as professionals within a designated field. However, if the academic programs needed to successfully educate future CSIs are not developed and mandatory certification is not enforced, problems in the profession will continue. Currently, the University of Teesside in the United Kingdom offers a degree in crime scene science (Mennell, 2006) and Jacksonville State University provides a bachelor's degree in crime scene investigation specifically for individuals who wish to become CSIs (Fradella et al., 2007). These programs lack many of the scientific courses required in forensic science degrees, since most CSIs do not intend to work

in a laboratory setting. The lack of science-based courses allows future CSIs to focus on aspects that are more important during crime scene processing, instead of on the forensic examinations conducted on evidence after it has been collected.

The data obtained from the conducted study demonstrates that a transition to a requirement of a bachelor's degree is gradually increasing throughout law enforcement agencies in the United States. The most common duration of on-the-job training was determined to be less than six months. This is not a sufficient amount of time to adequately train CSIs who are only required to have a high school diploma. Much of the coursework suggested that CSIs should enroll in goes beyond what is provided to them during training. Courses at a university roughly take several months to complete, which in some instances is longer than the provided time for training. Further research should determine if the education of CSIs significantly affects the outcome of investigations in the US. For instance, if cases involving lower educated CSIs affect conviction rates in contrast to those CSIs who obtain a higher education of at least a bachelor's degree. Additionally, a study similar to Kelty and colleagues (2011) should be conducted in the US to determine if the same seven characteristics can be observed in high-performing CSIs in the US. Research should also be gathered to determine if the implementation of a school specifically designed to educate CSIs, such as the National Policing Agency in the United Kingdom, can assist in the standardization of this profession, along with establishing a defined set of responsibilities.



## References

- Baber, C. & Butler, M. (2012). Expertise in crime scene examination: Comparing search strategies of expert and novice crime scene examiners in simulated crime scenes. *Human Factors, 54*(3), 413-424.
- Baker, T. E. (2009). Police criminalistics: Learning modalities and evaluation. *The Forensic Examiner, 18*(3), 50-55.
- Capsambelis, C. R. (2002). So your student wants to be a crime scene technician? *Journal of Criminal Justice Education, 13*(1), 113-127.
- Crispino, F., Rossy, Q., Ribaux, O., & Raux, C. (2015). Education and training in forensic intelligence: A new challenge. *Australian Journal of Forensic Sciences, 47*(1), 49-60.
- Federal Rules of Evidence. (1975). Pub. L. 93-595.
- Fradella, H. F., Owen, S. S., & Burke, T. W. (2007). Building bridges between criminal justice and the forensic sciences to create forensic studies programs. *Journal of Criminal Justice Education, 18*(2), 261-282.
- Gaensslen, R. E. (2005). How do I become a forensic scientist? Educational pathways to forensic science careers. *Analytical & Bioanalytical Chemistry, 376*(8), 1151-1155.
- Kelty, S. F., Julian, R., & Roberston, J. (2011). Professionalism in crime scene examination: The seven key attributes of top crime scene examiners. *Forensic Science Policy & Management: An International Journal, 2*(4), 175-186.
- Ludwig, A., Fraser, J., & Williams, R. (2012). Crime scene investigations: An empirical study of perception and practice. *Forensic Science Policy & Management: An International Journal, 3*(2), 53-61.

- Ludwig, A., & Fraser, J. (2013). Effective use of forensic science in volume crime investigations: Identifying recurring themes in the literature. *Science and Justice*, 54, 81-88.
- Mennell, J. (2005). The future and crime scene science: Part II. A UK perspective on forensic science education. *Forensic Science International*, 157, S13-S20.
- National Research Council. (2009). *Strengthening forensic science in the United States: A path forward*. Washington, DC: National Academies Press.
- Ribaux, O., Baylon, A., Lock, E., Delemont, O., Roux, C., Zingg, C., & Margot, P. (2010). Intelligence-led crime scene processing. Part II: Intelligence and crime scene examination. *Forensic Science International*, 199, 63-71.
- Ribaux, O., Baylon, A., Roux, C., Delemont, O., Lock, E., Zingg, C., & Margot, P. (2009). Intelligence-led crime scene processing. Part I: Forensic intelligence. *Forensic Science International*, 195, 1-3.
- Stanley, S. & Horswell, J. (2004). The education and training of crime scene investigators: An Australian perspective. *The practice of crime scene investigation*. (pp. 57-66). Boca Raton: CRC Press.
- Wyatt, D. (2014). Practising crime scene investigation: Trace and contamination in routine work. *Policing and Society*, 24(4), 443-458.

*Araseli Saldivar graduated with her bachelor's degree in Forensic Science with an emphasis in Biology, and a minor in Chemistry from San Jose State University in 2016. She will be pursuing her master's degree in Forensic Science at UC Davis in the fall of 2017. Following graduation, Araseli plans to pursue a career at a local crime laboratory, and hopes to work for a federal agency.*