



FORENSIC SCIENCE PROGRAM

UTAH VALLEY UNIVERSITY

SPRING 2020 | NEWSLETTER



Careers and Job Opportunities

Some of the most common questions we receive from prospective and current students in our program are “What kind of job can I get with a forensic science degree?”, “What jobs are currently available for me to apply for?”, and “What are the statistics of getting hired in a forensic science field after graduation?” We even get the common popular question “Is forensic science just like it is on television?” These questions may have crossed any one of your minds. For this reason, we decided to answer these questions and focus the Spring semester newsletter on forensic science career fields and job opportunities. We have also highlighted local forensic science technicians and scientists to provide you with their education, background and current job duties.

Is forensic science just like it is on television?

Let’s start with the question that gets under our nerves the most, shall we? In October 2000, *CSI: Crime Scene Investigation* debuted on CBS, marking the beginning of countless popular television shows, podcasts and documentaries highlighting the various disciplines within forensic science. Shows like *CSI* have catapulted the public awareness of forensics to the forefront and created an increased interest and educational demand within various forensic disciplines. However, they have also given a false perception of how real life forensic practitioners do their job. These television shows promote a cool, sleek vision of crime laboratories. Crime scene investigators who, within minutes of arrival on scene, find the single important piece



of evidence that solves the crime. Immediate laboratory results through automation. The ability to enhance

faces and reflections on grainy, otherwise impossible to decipher, video recordings. Suspects identified and arrested within minutes of the crime. Ultimately, the case is solved within 45 minutes. Imagery such as this has created an inaccurate, dramatized depiction and expectation of what forensic science is really about. As you go through our program, you learn the true applications and technologies that are available within the forensic science community. Even though what you see on

television is not quite accurate, forensic science is still an amazing career and you still get to do some pretty cool things! So, in case you were wondering, the answer is “No, it is not just like it is on television!”

What kind of job can I get with a forensic science degree?

There are many forensic science careers out there for you to explore. Depending on your education, you have a variety of disciplines from which to choose. The focus for this article will deal with careers you can apply for with a degree from UVU’s program. UVU has two separate emphases



available to you. The Forensic Investigation emphasis will focus your studies on “field type” careers. With this degree, you could become a crime scene or death investigator, latent print examiner, questioned document examiner, bloodstain analyst, impression evidence examiner or a firearms examiner. Not only are you prepared for these careers, but there are also several law enforcement jobs you could apply for on the local, state and federal levels. All of these jobs are possible with this particular focus. The Forensic Laboratory emphasis requires a bit more science and math throughout your degree program. Because of this, you will be qualified to work in the crime laboratory as a forensic chemist, drug analyst, forensic toxicologist or a general criminalist. Depending on the electives you decide to complete, you will also be qualified to apply for any of the jobs listed under the Forensic Investigation fields. Therefore, if you want to keep your options open for the field or the laboratory make sure you complete the Forensic Laboratory degree emphasis.

What jobs are currently available for me to apply for?

Throughout the United States, there are many different job opportunities that are available; you just need to know where to look for them. A few websites exist which will provide you with a complete list of jobs that are currently being advertised. The first site you could utilize is through the International Association for Identification. “*The IAI is the oldest and largest forensic association in the world. This professional forensic association represents a diverse, knowledgeable and experienced membership that are*

assembled to educate, share, critique and publish methods, techniques and research in the physical forensic science disciplines.” The direct link to job opportunities is theiai.org/job_listings.php.



A second option for job openings is through the American Academy of Forensic Science. “The AAFS is a multidisciplinary professional organization that

provides leadership to advance science and its application to the legal system. The objectives of the Academy are to promote professionalism, integrity, competency, education, foster research, improve practice, and encourage collaboration in the forensic sciences.”

The link to employment opportunities is aafs.org/public/jobs/postings.aspx.

The final website that is a great resource is for anyone looking for a job within the federal government. There are many special agent, investigator and inspector positions open throughout several federal agencies.



The direct link for federal employment is usajobs.gov/.

Any of these sites can assist you to see what job options you may have to choose from throughout the U.S. after graduation.

What are the statistics of being hired in a forensic science field after graduation?

This is probably the toughest question to answer for our students. The Bureau of Labor Statistics (BLS) estimates the 2014-2024 growth rate for jobs that include forensic science within Utah to be as fast as average with estimated increase of between 10% and 56% and combined growth of about 450 new job openings in Utah annually.

Something to keep in mind, however, is that the numbers do include law enforcement positions. As a result, the actual number



of forensic science specific job openings will be much lower than 450. As Utah continues to grow in population, the forensic job options will also continue to grow, but it will take some time. There are countless other options if you are willing to move out of state, all of which can be located on the aforementioned job sites.

Real life forensic scientists and technicians here in Utah

The remainder of our Spring newsletter highlights many of our local forensic scientists and technicians. You can read about their educational background, employment history and information about their current job duties. You can explore what they do on a daily basis in order to help you in deciding what career might be best for you. Enjoy learning about each of the disciplines and good luck in your educational endeavors!



“State and local governments are expected to hire additional forensic science technicians to process their high caseloads. Additionally, scientific and technological advances are expected to increase the availability, reliability, and usefulness of objective forensic information used as evidence in trials. As a result, forensic science technicians will be able to provide even greater value than before, and more forensic science technicians will be needed to provide timely forensic information to law enforcement and courts.” – Bureau of Labor and Statistics



Angela Petersen, CLPE, CSCSA

*Forensic Investigator II
West Valley Police Department*

In 2002, Angela started her criminal justice career with the Weber County Attorney's office as a legal secretary and a victim's witness advocate. Working in that capacity allowed her to see how a criminal investigation was submitted, screened for charges and how a case moved into the court phase. She saw the prosecution's burden of proof and how the system worked with both the defendant and victims of crime. She also witnessed how law enforcement and experts testified in court and how each case worked its way through the court process from arraignment to the ultimate trial.

Angela received her Bachelor's degree in forensic science from Weber State University in 2009. She started with Weber Metro CSI Unit shortly thereafter. Weber's CSI unit responded to all major crimes, which included homicides, officer-involved critical incidents, sexual assaults and robberies. They were also called to process all types of death investigations such as attended, unattended, and suicides, and smaller crimes ranging from vehicle burglaries to graffiti calls. The unit functioned on a call-to-call basis, responding to most scenes with the first

responders. Angela's job duties included fingerprint comparisons, processing evidence on scene or in the lab, processing and documenting crime scenes, crime scene reconstruction, photography, and diagramming. She processed items for friction ridge detail on scene or in the lab using physical and chemical processing. She used alternate light sources (ALS) to help with friction ridge, trace evidence, or biological detection. Processing recovered latent prints for AFIS and IAFIS entry was done using digital photography and/or digital enhancement with Adobe Photoshop. The unit would prepare courtroom displays, diagrams or other demonstrative presentations to aid in their testimony in court hearings and trials. Angela also strengthened her public speaking skills by giving presentations to local community groups and schools.

In 2012, Angela was offered a contract position with the Department of Defense as a Latent Print Examiner. After a three-month assessment at United States Army Criminal Investigation Laboratory in Georgia, she deployed to Forward Operation Base (FOB) in Afghanistan at Camp Leatherneck. In that capacity, she worked at a Joint Expeditionary Forensic Facility (JEFF) laboratory. The lab consisted of latent print examiners, firearms examiners, DNA analysts, and forensic chemists. They utilized all these forensic sections to process and exploit captured enemy material in order to facilitate coalition force intelligence and prosecution operations. As a latent print examiner, Angela followed the FBI's sequential physical and chemical processes along with alternate light techniques for latent print enhancement on post blast materials and firearms. Located friction ridge detail was processed through Adobe Photoshop and the use of WACOM display for submission to Biometrics Identity Management Agency (BIMA). Angela was honored to work in a war zone alongside our Marines and the British military.

After returning to the states the end of May of 2013, Angela began employment with Sorenson Forensics as a serologist working on rape kit backlogs and private forensic requests for agencies across the United States. The primary responsibilities consisted of forensic serology, generation of laboratory reports, laboratory quality assurance and quality control of samples, DNA extraction and DNA quantitation of sexual assault property and homicide cases.

For the last six years, Angela has been working with West Valley Police Department as a Forensic Investigator II. Their unit only responds to major cases, which include homicides, officer-involved critical incidents, sexual assaults and robberies. The patrol officers and detectives handle all other types of incidents and collected evidence is submitted to the lab for further processing. On top of her regular crime scene and lab responsibilities, Angela has become the lead on 3D Laser scanning and processing technician and lead technical reviewer in latent print identifications (including complex latent prints).

Angela has received her Latent Print Examiners certification and Senior Crime Scene Analyst certification with the International Association for Identification. She volunteers to teach forensics for the Citizen's Academy and has recently been selected as a board member for the IAI's Crime Scene Certification Board. Angela is also an adjunct professor here at UVU within the Forensic Science Program. She teaches Fingerprint Processing and Examination courses.

Angela is constantly pushing to improve herself and further her knowledge in the field of forensics so that she can help victims and victims' families find closure, serve her community with pride and pass down her field experience to new forensic science majors entering the field.



Jennifer McNair

*Senior Forensic Scientist Manager
State Crime Lab*

Jennifer McNair is a Senior Forensic Scientist Manager at the Utah Department of Public Safety Bureau of Forensic Services (State Crime Lab) where she has been employed for over 25 years. Prior to her employment, she received a Bachelor of Science Degree in Chemistry from the University of Utah. Jennifer is an expert in the analysis of controlled substances, fire debris, and paint evidence and has testified in courts throughout the state as an expert witness. As a forensic scientist, Jennifer has had the opportunity to examine thousands of items of evidence and respond to around 75 clandestine drug laboratories. One of the first cases she worked on was testing a suitcase full of drugs.

Jennifer served as the Chemistry Section manager and technical leader for many years. In that capacity, she was responsible for writing procedures and validation of scientific instrumentation. Jennifer currently oversees the Criminalistics side of the laboratory, which includes Chemistry, Fingerprints, Firearms, Evidence and the Satellite Labs. Working at a forensic lab has been an interesting and rewarding career!



Bonnie Wilder-Estes

*Senior Forensic Scientist
State Crime Lab*

Bonnie received her Bachelor's Degree in Criminalistics and Associate's Degree as a Chemical Technician from Weber State University. Bonnie currently works as a Senior Forensic Scientist in the Identification Section with the Utah Bureau of Forensic Services (State Crime Lab). As a Senior Forensic Scientist, Bonnie has multiple job responsibilities. Her main duties include processing items of evidence from crime scenes for the presence of latent prints, photographing those latent prints, comparing the prints to a known individual or running them through the fingerprint database to find an involved individual.

Bonnie is also the only Bloodstain Pattern Analyst for the Bureau of Forensic Services. In this capacity, she examines photographs and items of evidence to determine an answer to a specific question based on the bloodstains present. To add more to her plate, Bonnie is also the Crime Scene Response Team Manager. As the CSU Manager, she is responsible for responding to major crime scenes throughout the state of Utah as well as managing the team and maintaining proficiency. Not only does Bonnie have all of these duties at the state laboratory, she also teaches as an adjunct professor within the forensic science program. Bonnie teaches Bloodstain Pattern Analysis, Fingerprint Processing and Examination.



Hoa Trinh

*Forensic Scientist - DNA
State Crime Lab*

Hoa started her educational studies at the University of Pennsylvania. She received her Bachelor of Arts degree, receiving a double major in Molecular Biology and Psychology. Hoa went on to receive her Master of Science degree in Forensic Science from Drexel University. Her Master's degree emphasis was in DNA and Criminalistics.

Hoa has an extensive forensic background. She worked at Aegis Sciences Corp as a Toxicologist. While employed there she worked as a Certifying Scientist where she analyzed toxicological results. She also worked as a Forensic Mass Spectrometrist where she ran samples on GC/MS/MS, LC/MS/MS and maintained the instruments. Hoa was then hired on at the Salt Lake City Crime Lab where she worked as a Crime Scene Technician II. In that capacity she responded to crime scenes where she would document, collect and process evidence. Hoa currently works as a Forensic Scientist in the DNA Analysis section at the Utah Bureau of Forensic Services. As a DNA analyst, she analyzes and interprets DNA results. Hoa also teaches as an adjunct professor here at UVU. She is currently teaching Introduction to Forensic Science.



Derek Mears
Crime Lab Director
State Crime Lab

Derek first decided to go into the field of Forensics after completing an internship with the Salt Lake City Police Department Crime Lab. While trying to determine what to officially major in, he began looking at a career in Criminal Justice, but after considering it for a while, decided that he didn't want to be a police officer. A close friend, who was an officer for Salt Lake City Police Department at the time, suggested that he reach out to the department's Crime Lab to inquire about doing an internship. He knew Derek had an interest in science and thought it might be a good fit, and he was right. Derek completed a semester-long internship in the summer of 2002 and knew that this was what he wanted to do. Soon after Derek completed an Associate of Science degree in Criminal Justice from Salt Lake Community College. He then transferred to Weber State University to complete his Bachelor's degree in Criminalistics.

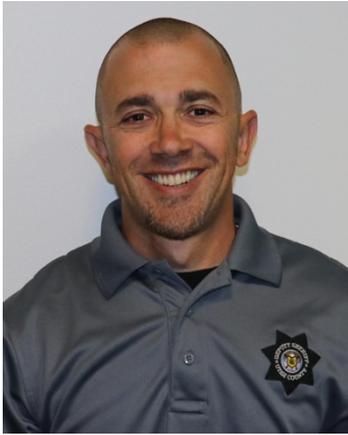
After completing his internship, Derek became a student member of the Utah Division of the International Association for Identification, a professional forensic organization that included members who were currently working in the forensic field at local police department Crime Labs. Derek eagerly began volunteering to help at training events, as well as attend any training classes he could get into. This became a valuable resource in networking and learning.

In early 2005, a position opened up for a Crime Scene Technician I with the Salt Lake City Police Department Crime Lab. Derek applied, tested, interviewed, and was hired in April of 2005. At the time, the Crime Lab responded to just about anything. Derek was able to get a lot of field experience and responded to everything from a simple vandalism to a multiple homicide. In 2007, he received his certification as a Crime Scene Investigator through the IAI and was soon after promoted to a Crime Scene Technician II. In 2009, Derek passed the second level exam and became a Certified Crime Scene Analyst.

After working as a Crime Scene Technician for a while, Derek began looking at specializing in a forensic discipline. This too requires a good fit. Having prior experience and knowledge of firearms, he decided to specialize in the area of firearms and toolmarks. However, he faced a big challenge. At the time, the Crime Lab did not do casework in firearms and toolmarks. His options were to either go into fingerprints or questioned documents. While both of those areas were intriguing, his true passion was firearms. Starting in 2008 Derek began contacting people and working towards setting up a firearms section within the department. It took a lot of work, but eventually he was able to secure a grant with the funding to purchase the necessary equipment and resources for a firearms section. As part of that process, he applied to the ATF's National Firearms Examiner Academy and was accepted in the fall of 2010. The Firearms Academy is a year-long program, approximately 4 months of it training full time at the ATF lab in Ammendale, Maryland. It was one of the most challenging things Derek had ever done, but also the most rewarding. He made close friendships and contacts that he still maintains to this day. After graduating from the Academy, Derek supervised casework with the Utah Bureau of Forensic Services, and after being signed off, began independent casework at his own Crime Lab. Derek has been working firearms/toolmark cases ever since and to date, has successfully trained two additional firearms examiners. Later, in 2018, Derek became certified in Firearms Examination and Identification through the Association of Firearm and Tool Mark Examiners (AFTE).

In the fall of 2011, Derek was promoted to a Crime Lab Supervisor, and in early 2016 became the Director of the Crime Lab. Looking back he finds himself very fortunate to have found such an exciting and rewarding career. He has made friends and contacts with people all over the U.S. as well as overseas, and has been fortunate enough to travel to many places and receive training in all sorts of forensic topics. It's interesting, it's challenging, and at times it can be very difficult, having to deal with some of the worst sides of humanity. But it's truly different every single day which is one of the things Derek appreciates most.

The field has changed a lot from when Derek first started. Technology is constantly changing and improving. To be successful in this field you have to be flexible and open to new ways of doing things not just differently, but better. You can't have a "this is the way we've always done it" mentality. You have to keep challenging yourself to move forward and keep learning. Derek is looking forward to what the future holds in this field and to working with the next generation of forensic scientists. Currently Derek instructs as an adjunct professor in our forensic science program here at UVU where he teaches Firearms Examination.



Travis Ashdown

Crime Lab Director
Utah County Sheriff's Office

Travis Ashdown started going to school back in the early 2000s with a long-term career goal of getting into a federal law enforcement program. He graduated from UVU with a degree in Criminal Justice. While going to school, he was working full time in the corporate security industry. He quickly realized that getting into the FBI or DEA is not at all easy! The FBI did not work out for him, and the more he learned about the DEA, he found it was not really the right fit for him or his family. Travis stayed in the security industry for several years working as a security program manager for a large software company, and later as the physical security manager for a medical device manufacturing company. His experience in this industry helped him recognize that a security program is far more than a couple of security guards wandering around a building! Travis was able to serve as a system administrator for an international access control system that governed security access across four continents, manage security system installations worldwide, help employees travel safer while abroad, and develop emergency response and business continuity programs.

After 15+ years in security, a new opportunity presented itself in the Utah County Sheriff's Office as a forensic technician. The job sounded exciting and far more fulfilling, so Travis applied for the job and was lucky enough for it to be offered to him. In this new endeavor, Travis has

found far more job satisfaction and a sense of teamwork than ever before! His responsibilities as a forensic technician include crime scene investigation, processing evidence for latent fingerprints, digital forensic extractions and analysis. Being able to work with local detectives, deputies and other forensic professionals has been a wonderful experience and something he hopes to do for many more years.

Travis thoroughly enjoys teaching at UVU! He teaches Introduction to Forensic Science, Crime Scene I, and Forensic Photography. Being able to teach multiple classes gives him a great chance to meet lots of different students, and he particularly enjoys being able to get to know some students who end up taking all three classes! Travis tries to make his classes as interactive as possible through hands on activities, debates and discussions.



Bryan Holden

Senior Forensic Scientist
State Crime Lab

Bryan Holden is a Senior Forensic Scientist at the Utah Bureau of Forensic Services, which serves as the Utah State Crime Laboratory. Prior to working at the lab, Brian received his Bachelor's degree in Forensic Science from the University of Central Oklahoma. Brian has worked at the State Crime Laboratory since January 2006. He currently works as a forensic analyst in the Chemistry section of the lab. In that capacity, he analyzes suspected controlled substances, fiber evidence, clandestine laboratories and other trace evidence. Additionally, Brian has received extensive training in glass, hair and paint analysis.

Bryan serves as a member of the Crime Scene Response Team at the state lab. He is the manager and lead instructor for the Marijuana Leaf Technician and the Field Investigation Drug Officer (FIDO) programs. Brian's favorite part of his job is learning and training in many areas of forensics and getting to play with the analytical instruments. Brian currently teaches as an adjunct professor in our forensic program here at UVU. He instructs the Marijuana Identification Certification Course that is offered during the Summer semester.