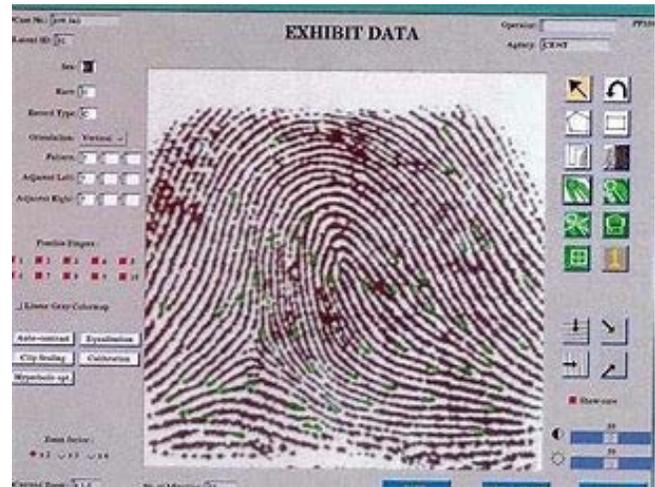


FORENSIC TECHNOLOGIES

JULY 2018 TECH BRIEF FOR LIFE SCIENCES
TALENT NETWORK



Forensics Promises a Just Outcome for Crimes

The [National Institute of Justice](#) reports that meeting the increasing demand for analysis of physical evidence from crimes poses a challenge for crime laboratories. Also politically important is the reduction of [evidence backlogs](#), the most publicized example being rape kits. This will require additional hiring.

The number of the untested rape kit backlog in New Jersey is currently unknown according to [End The Backlog](#). In 2018, NJ legislators introduced bills to require the [submission and testing](#) of all backlogged and newly collected kits and to require a [one-time, statewide inventory](#) of untested rape kits. If either or both bills pass, new laboratory jobs will be created. If the NJ workforce is ready, the work can be done in state.

Labor Force Takeaway

Currently the LSTN Industry Valued Credential list doesn't include anything on forensics, but there are certifications available from the [American Board of Medicolegal Death Investigators](#), (ABMDI). The number of positions in this field are on the rise. Bureau of Labor Statistics (BLS) output on Forensic Science Technicians ([SOC Code 19-4092](#)) indicates there are ~70 techs working in the state making between \$16.92/hr. and \$33.80/hr. The average annual wage was \$54,860. Note that [EMSI](#) indicates 124 Forensic Science Techs are currently working in NJ. The difference in recorded statistics may be due to how public-sector positions are categorized and/or the type of electronic forensic work identified.

Laboratory technicians are also in demand. The number of U.S. crime laboratories that perform forensic analyses is estimated to be 475 in 2017, [an increase of 175 over the last 20 years](#). Publicly funded forensic crime labs now spend in aggregate more than [\\$1.7 billion per year](#). As new technology is introduced, trained technicians will be required to load, log and interpret the analyses. Given public funding for most crime laboratories, being a [U.S. person](#) may be required, although not U.S. citizenship.

The U.S. Department of Labor lists Chemical Laboratory Technician as a program in its Registered Apprenticeship Partners Information Data System (RAPIDS.) The RAPIDS number is 0050 corresponding to ONET 19-4031.00. It is a time-based program requiring 8000 hours, the equivalent of four years.



Intersection of Life Sciences and Criminology

Forensics, including both biological and electronic study, is one of the most dynamic sectors of the modern economy. Forensics has a unique confluence of technological change and social demands. Costs have dropped, which have led decision-makers to promote forensics to a generally receptive public. Although some controversy over the validity of certain forensic techniques remains, the overall demand for forensic products and services is experiencing accelerated growth.

Crime laboratory data serves a critical function in society; hence the forensic science industry (often simply called forensics) continues to develop and expand.

The broader forensic technology industry overlaps with the life sciences in DNA/tissue analysis, toxicology and biometrics. Biometrics is the automated identification of an individual based on non-invasive physiological data or behavioral characteristics. Biometric products recognize faces, hands, fingers, signatures, veins, irises, voices, skin and fingerprints. Non-life science technology aspects of forensics include database and cell phone forensics.

Life science has made possible the use of “touch DNA” to prosecute property crimes, real-time DNA sequencing machines for DNA identification, improved fingerprint recovery from metals such as gun cartridges and bomb fragments and the use of the chemistry of color and nanowires to identify biological weapons.

Other advancements include portable equipment and DNA profiling techniques for use at crime scenes as well as the use of artificial intelligence in interpreting scans. Improved scanning technology allows for greater accuracy in ascertaining the age at death of crime victims, facial recognition and identification biometrics (e.g. fingerprints) using big-data search techniques.

Many positions such as lead investigator in a medical examiner’s office will require university degree(s). Registry certification however, requires only a high school diploma. The ABMDI’s registry recognizes that the certificate holder has acquired the knowledge and proficiency necessary to conduct a competent, thorough medicolegal death investigation. Required work experience is more challenging to obtain, yet it dovetails with the Health Care Talent Network’s paramedic career path.

The Department of Labor lists Crime Scene Technician as a program in its Registered Apprenticeship Partners Information Data System (RAPIDS.) The RAPIDS number is 1113CB corresponding to ONET 19-4092.00. It is a competency-based program.

Most companies in the forensics business are headquartered in Massachusetts or California. The one large NJ company in this sector is Spex Forensics in Edison. Website: www.spexforensics.com. They may be able to provide resources for upskilling classes.