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# Addressing Shortfalls in Forensic Science Education

## THE PROBLEM

Increasing interest in forensic science has led to a proliferation of academic programs in the United States and abroad. Unfortunately, the field of forensic science lacks a standard academic curriculum, an issue that creates problems for students and future employers.

"Students completing these programs expect to find employment in crime labs but are surprised to learn that lab management is not impressed by the curriculum," according to the Council of Forensic Science Education.<sup>1</sup>

Students who enter forensic science programs often expect to work in conditions similar to the television crime shows they watch. Many find they are unprepared for the reality of a career in the field. "A lot of new students come to our programs looking for an exciting career. Unfortunately, they often come with unrealistic expectations," says Charles Tindall, director of forensic science at the Metropolitan State College of Denver.

Worse, many students find that their undergraduate degrees in forensic science leave them unprepared to work in a crime lab.

## BACKGROUND

Most employers who run forensic science laboratories generally require analysts to have a bachelor's degree in a natural science or forensic science, but no nationally recognized standards exist for forensic science programs. Earl Wells, president of the American Society of Crime Laboratory Directors

(ASCLD), noted in 2005 that employers often look for applicants with a degree in chemistry and find that many "do not have a strong enough science background."

The lack of competent applicants means crime laboratories spend too much time and too many resources training new hires. If standardized forensic science education and training were applied to all new programs, laboratories could shorten training and conserve resources. As the number of new hires increases, reducing the drain on resources becomes more critical.

"One way to do that," says Jay Siegel, head of the forensic science program at Indiana-Purdue University in Indianapolis, "is to have a course of study that includes quality assurance, validations, and other topics essential for quality forensic science."

In short, educators need a mechanism for evaluating their forensic science programs. In 2001, the National Institute of Justice (NIJ) took steps to address this problem.

## THE SOLUTION

NIJ asked a panel of 47 experts to develop a guide for educating and training forensic scientists. The guide was published in 2004 and addressed problems such as the qualifications for a career in the forensic sciences, undergraduate and graduate curriculums, and training and continuing education for forensic science practitioners.<sup>2</sup>

After the guide was published, the American Academy of Forensic Sciences (AAFS), a professional association devoted to improving and achieving justice through science, stepped forward to develop an academic accreditation program for forensic science. The association created a committee on forensic science education, headed by Jose Almirall of Florida International University in Miami. The committee established the Forensic Educational Programs Accreditation Commission (FEPAC).

With financial assistance from both AAFS and NIJ, the committee developed standards and requirements for a formal evaluation and accreditation system for college-level academic programs that lead to a baccalaureate or graduate degree in forensic science. FEPAC accredited its first university program in 2004. By the end of its third accreditation cycle in February 2006, 11 programs had earned accreditation. With an estimated 140 forensic science programs across the Nation as of September 2005,<sup>3</sup> more work is needed.

### THE IMPACT

The accreditation process established by FEPAC brings “the seal of quality to an institution,” according to Max Houck, Director of the Forensic Science Initiative at West Virginia University and current FEPAC chair.

The accreditation process has helped faculty nationwide improve their curriculums. Siegel says FEPAC’s greatest contribution has been the creation of a standard for measuring the quality of forensic science educational programs. Lawrence Quarino, who directs the program at Cedar Crest College in Allentown, Pennsylvania, says that Cedar Crest, which has traditionally drawn mostly local students, started receiving inquiries and students from all over the country after it was accredited in 2005.

The accreditation program also benefits laboratories. Directors now have criteria for assessing applicants. Because academic programs are more relevant, in-house training programs can be shortened. As the number of graduates from accredited programs increases, more job applicants will meet laboratory standards.

Getting accredited is difficult, but program administrators believe the effort pays off in the end. Houck, whose program at West Virginia University was accredited in 2005, says accreditation allows students to pick universities with substantive forensic programs. “[They] now have criteria by which to judge a forensic science program.”

### FOR MORE INFORMATION

- Visit FEPAC’s Web site: [www.aafs.org](http://www.aafs.org). Click “AAFS,” then click “Committees,” then click “FEPAC.”
- National Institute of Justice, *Forensic Sciences: Review of Status and Needs, Issues and Practices*, Washington, DC: U.S. Department of Justice, National Institute of Justice, February 1999, NCJ 173412, available at [www.ojp.usdoj.gov/nij/pubs-sum/173412.htm](http://www.ojp.usdoj.gov/nij/pubs-sum/173412.htm).
- Peterson, Joseph L., and Matthew J. Hickman, *Census of Publicly Funded Forensic Crime Laboratories, 2002*, Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics, February 2005, NCJ 207205, available at [www.ojp.usdoj.gov/bjs/abstract/cpffcl02.htm](http://www.ojp.usdoj.gov/bjs/abstract/cpffcl02.htm).
- Technical Working Group for Education and Training in Forensic Science, *Education and Training in Forensic Science: A Guide for Forensic Science Laboratories, Educational Institutions, and Students*, Special Report, Washington, DC: U.S. Department of Justice, National Institute of Justice, June 2004, NCJ 203099, available at [www.ojp.usdoj.gov/nij/pubs-sum/203099.htm](http://www.ojp.usdoj.gov/nij/pubs-sum/203099.htm).

### NOTES

1. Source: [www.criminology.fsu.edu/COFSE/default.html](http://www.criminology.fsu.edu/COFSE/default.html).
2. Technical Working Group for Education and Training in Forensic Science, *Education and Training in Forensic Science: A Guide for Forensic Science Laboratories, Educational Institutions, and Students*, Special Report, Washington, DC: U.S. Department of Justice, National Institute of Justice, June 2004, NCJ 203099, available at [www.ojp.usdoj.gov/nij/pubs-sum/203099.htm](http://www.ojp.usdoj.gov/nij/pubs-sum/203099.htm).
3. Source: Carl Selavka, Director of the Massachusetts State Police Crime Laboratory, personal communication.

## Further Reading

### FORENSIC EDUCATION

Technical Working Group on Crime Scene Investigation, *Crime Scene Investigation: A Reference for Law Enforcement Training*, Special Report, Washington, DC: U.S. Department of Justice, National Institute of Justice, June 2004, NCJ 200160, available at [www.ojp.usdoj.gov/nij/pubs-sum/200160.htm](http://www.ojp.usdoj.gov/nij/pubs-sum/200160.htm).

Technical Working Group on Education and Training in Forensic Science, *Education and Training in Forensic Science: A Guide for Forensic Science Laboratories, Educational Institutions, and Students*, Special Report, Washington, DC: U.S. Department of Justice, National Institute of Justice, June 2004, NCJ 203099, available at [www.ojp.usdoj.gov/nij/pubs-sum/203099.htm](http://www.ojp.usdoj.gov/nij/pubs-sum/203099.htm).

### GENERAL FORENSICS

National Institute of Justice, *DNA in "Minor" Crimes Yields Major Benefits in Public Safety*, InShort, Washington, DC: U.S. Department of Justice, National Institute of Justice, November 2004, NCJ 207203, available at [www.ojp.usdoj.gov/nij/pubs-sum/207203.htm](http://www.ojp.usdoj.gov/nij/pubs-sum/207203.htm).

National Institute of Justice, Forensic Sciences Web page, available at [www.ojp.usdoj.gov/nij/topics/forensics/welcome.html](http://www.ojp.usdoj.gov/nij/topics/forensics/welcome.html).

National Institute of Justice, *Status and Needs of Forensic Science Service Providers: A Report to Congress*, Washington, DC: U.S. Department of Justice, National Institute of Justice, March 2006, NCJ 213420, available at [www.ojp.usdoj.gov/nij/pubs-sum/213420.htm](http://www.ojp.usdoj.gov/nij/pubs-sum/213420.htm).

Peterson, Joseph L., and Matthew J. Hickman, *Census of Publicly Funded Forensic Crime Laboratories, 2002*, Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics, 2002, NCJ 207205, available at [www.ojp.usdoj.gov/bjs/abstract/cpffcl02.htm](http://www.ojp.usdoj.gov/bjs/abstract/cpffcl02.htm).

Ritter, Nancy, "Preparing for the Future, Criminal Justice in 2040," *NIJ Journal* 255 (November 2006): 8–11, Washington, DC: U.S. Department of Justice, National Institute of Justice, NCJ 215456, available at [www.ojp.usdoj.gov/nij/journals/255/2040.html](http://www.ojp.usdoj.gov/nij/journals/255/2040.html).

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## **ADDRESSING SHORTFALLS IN FORENSIC SCIENCE EDUCATION**

Rising public interest in forensics has led to a sharp increase in students entering the field. Crime laboratories say many students with a degree in forensic science are not prepared for the workforce. To counter this problem, NIJ sponsored a committee that created educational standards for the field.

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