

Learning Collaborative for Higher Education Custom Research Report

November 2007

Demand for a Bachelor's Degree in Forensic Science in the Brooklyn, New York Area

Data Type	Key Sources
Labor Market Data	Bureau of Labor Statistics Key professional associations
Programmatic Features	Institutional Web sites

Key Questions

Is there local employer demand for this degree?

Which are the relevant regional competitors that offer forensic science programs?

What are the characteristics of successful forensic science programs?

Inquiry Overview

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undergraduate degree program in forensic science at its Brooklyn campus. Offering a forensic science program will enable LIU to leverage its strong science department and may provide an important degree opportunity for students. The school wants to confirm that this is a program that is in demand from employers and will prepare students to find employment in relevant occupations. Thus, the member requires an assessment of demand for forensic science program graduates from employers as well as a scan of the regional competitive environment.

Long Island University is considering launching a new

To obtain competitive program information, Eduventures conducted a secondary scan of existing programs on both a regional and a national level. Eduventures staff also examined secondary literature about the forensic science field to identify trends in the field. Lastly, staff interviewed key professional associations and employers to understand the nature and extent of demand for a forensic science degree.

Custom Research Reports - *In-depth analysis of issues of concern to individual members.* The CPE program maintains dedicated staff to support members' needs for detailed, quick-turnaround research. Requests may be prompted by issues raised in the CPE program's Collaborative Research investigations, may seek to leverage the collective experience of the CPE membership, or may take the form of small-scale primary research investigations or reviews of secondary literature. Requests are fulfilled on a first-come basis and generally take 10 weeks to complete subsequent to the receipt of an approved proposal. CPE staff works to deliver accurate, reliable data and information in all cases; however, we cannot guarantee the accuracy of data and information from all sources used.

Step 1	Step 2	Step 3	Step 4	Step 5
Define scope and objectives of inquiry, and formulate hypothesis	Identify secondary and/or primary sources to be investigated	Collect data and test research hypothesis	Summarize key findings with reference to supporting evidence	Recommend specific actions and areas for further research, if needed
 Interview LIU regarding objectives for inquiry Formulate research hypothesis: There is an opportunity to offer a bachelor's degree in forensic science in Brooklyn, NY 	 Bureau of Labor Statistics data Institution Web Sites National Center for Education Statistics Key employers and associations Eduventures data 	• Adjust hypothesis based on analysis of data, as necessary	 While student demand may be at an all-time high and growing, interviews reveal that supply in the marketplace exceeds demand Potentially successful program should have a strong science foundation 	 Offer a forensic science degree with LIU's science program Investigate offering a degree in one of the following specific areas: DNA analysis, toxicology, environmental forensics, and firearms examination

Key steps in this investigation included:

Findings

The objectives of this report are (1) to determine local employer demand for this program, (2) to identify competing undergraduate degree programs in forensic science in the Brooklyn area, and (3) to define the characteristics of successful forensic science programs. Thus, CPE staff first reviews key professional association data and labor statistics to document industry trends and growth. CPE staff then presents profiles of existing regional programs in forensic science using data from the American Academy of Forensic Sciences, the National Center for Education Statistics, and institution Web sites. Finally, interviews were conducted with representatives from industry and professional associations to assess what employers are looking for in forensic science undergraduate degree programs.

Among the key takeaways of this report are the following:

Local Employer Demand

- During the next several years, the number of forensic science technicians in the U.S. is projected to grow at a rate much faster than the average.
- LIU has a strong local reputation and local employers already hire LIU science program graduates to fill their forensic science positions.

- While student demand may be at an all-time high and growing, interviews reveal that supply in the marketplace exceeds demand.
- Master's and Ph.D. degrees are becoming more valuable.

Local and Regional Competitors

- Eleven regional competitor institutions in the target market area offer 12 forensic science programs.
- City University of New York: John Jay College of Criminal Justice appears to be the largest program; however, LIU has significant opportunity to offer programs in some specific, in-demand disciplines.
- Only two programs in the New York metropolitan area offer a forensic science program.
- Only two programs in the entire target region have natural science specific degrees that focus on forensic applications.

Characteristics of Successful Forensic Science Programs

- Programs that would meet market demand need to have a strong science backbone, as well as faculty who have significant expertise in forensic science.
- Lab experience, knowledge of lab equipment, and internships would be a great value-add for students in terms of aligning expectations and providing necessary experience and for employers by decreasing the necessary training on the job.
- Since crime labs often are or striving to be FBI accredited, programs that can make sure they align to FBI standards will be highly regarded by employers

The Field of Forensic Science: Background

A wide range of expertise is required in forensic investigations. Forensic investigators draw upon knowledge from the fields of chemistry, biochemistry, physics, molecular biology, botany, geology, metallurgy, pharmacology, toxicology, and others; they may specialize in any of a number of functions that make up the forensic process, including the analysis of remains, crime scenes, firearms, fingerprints, and documents. Membership sections at the American Academy of Forensic Sciences – the largest forensic science professional organization in the world – reflect the various forensic science occupations and areas of concentration. Sections relevant to the present inquiry are described in Figure 1.

Segment	Description
Criminalistics	Criminalists analyze, compare, identify, and interpret physical evidence. Forensic labs have two primary functions: identifying evidence, and linking suspect, victim, and crime scene through physical evidence. The main role of the criminalist is to objectively apply the techniques of the physical and natural sciences to examine physical evidence.
Engineering Sciences	Questions posed to forensic engineers are in subjects as varied as the specialties of the engineers themselves. Typical subjects include: failure analysis, accident reconstruction, causes and origins of fires or explosions, design review, quality evaluation of construction or manufacturing, maintenance procedures, and environment definition.
Odontology	Forensic dentists deal with a range of medico-legal problems. Identification of the human remains of natural disasters, terrorist activities, and missing and unknown persons is a central activity.
Pathology/ Biology	Forensic pathology is the application of the principles of pathology, and of medicine in general, to the legal needs of society. Forensic pathologists perform autopsies to determine what caused a person's death. They are also involved in the investigation of the circumstances surrounding the death. Knowing about these circumstances allows them to determine the manner of death – natural, accident, suicide, homicide, or undetermined.
Physical Anthropology	Forensic anthropologists are skilled in the identification of skeletal materials. In addition to their efforts to document age, sex, stature, race, and other characteristics of the specimens under investigation, they are familiar with various types of injuries and can work with forensic pathologists to establish cause of death. Many forensic anthropologists have training in archaeological methods and assist law enforcement agencies in the initial investigations of crime scenes.
Psychiatry and Behavioral Science	A broad range of legal issues is addressed by forensic psychologists and psychiatrists as they work with criminal and civil cases and other areas such as family and domestic relations law.
Questioned Documents	The document examiner discovers and proves the facts concerning documents and related material, such as ink, paper, toner from a copier or fax, and ribbons, such as from a typewriter.
Toxicology	Toxicology is the study of harmful effects of chemicals or drugs on living systems. Forensic toxicology is that branch of toxicology that deals with the medico-legal aspects of toxicology. Forensic toxicologists answer the question, "Did prescription or illegal drugs and/or alcohol lead or contribute to the person's death or intoxication?"

Figure 1. Selected Subfields of Forensic Science and Function Descriptions

Source: American Academy of Forensic Sciences

Figure 2 presents information on necessary educational attainment and certification requirements for the subfields listed above. All specializations require at least a bachelor's degree and at least half require further credentials. Nearly all practitioners must also become certified by an organization specific to the subfield.

		Key Certification Body or
Segment	Educational Attainment	Professional Association
Criminalistics	Bachelor's degree in chemistry, biology, physics, molecular biology, or a related science	Certified by American Board of Criminalistics
Engineering Sciences	Bachelor's degree in engineering or an allied science	Certification as a professional engineer (several organizations)
Odontology Doctor of Dental Science (D.D.S.)		Certification by American Board of Forensic Odontology
Pathology/ Biology	M.D.	Certification by American Board of Pathology
Physical Anthropology	Ph.D. in Anthropology	Certification by American Board of Forensic Anthropology
Psychiatry and Behavioral Science	M.D.	Certification by American Board of Forensic Psychology
Questioned Documents	Bachelor's degree, preferably in one of the sciences	Certification by American Board of Forensic Document Examiners
Toxicology	A bachelor's degree in a physical science including a solid background in chemistry and coursework in pharmacology	Society of Forensic Toxicologists

Figure 2.	Selected	Subfields	of Forensic	Science,	Educational	Requirements,	and Key
-		Certificat	ion Body or	r Professi	ional Organiz	zation	

Source: American Academy of Forensic Sciences

According to the Bureau of Labor Statistics (BLS), more than 10,000 individuals are employed as forensic science technicians in the United States. These positions pay reasonably well, and growth is expected to exceed that of other occupations in the United States during the period from 2004 to 2014, with an expected 6,000 additional employees needed. Figure 3 presents data on employee numbers, wages, projected growth, and projected need.

Figure 3.	Forensic Science	Technicians:	Numbers of	Employed,	Median	Wages,	and
-		Project	ted Growth			_	

3		
National Employment of Forensic Science Technicians		
Median wages (2005)	\$21.44 hourly, \$44,590 annual	
Employment (2004)	10,000 employees	
Projected growth (2004 – 2014)	Much faster than average	
	(36+%)	
Projected need (2004 – 2014)	6,000 additional employees	
Courses Demons of Labor Chatistics		

Source: Bureau of Labor Statistics

Salaries have been increasing for forensic science technicians: the median hourly wage, estimated at \$18.04 in 2000, rose to \$21.44 in 2005. Between 2004 and 2014 the number of jobs available is expected to increase approximately 36%, a rate much higher than the national average.

Jobseekers with a four-year degree in a forensic science will enjoy much better opportunities than those with only a two-year degree.

Number and Types of Credentials Awarded in Forensic Science

The majority of credentials awarded in the field of forensic science are at the master's or postbaccalaureate certificate level. This relative dearth may represent an opportunity for increased programming at the bachelor's degree level. Figure 4 indicates number and type of degrees conferred in forensic science in 2003–2004. These numbers do not reflect natural or social science degrees with a focus in forensics, such as forensic biology, forensic chemistry, and forensic psychology.

	0.5., 2005	-2004			
Classification of Instructional Programs (CIP) titles	Awards of less than 1 academic year	1- to 4- year awards	Associate degrees	Bachelor's degrees	Master's degrees or post- baccalaureate certificates
Criminal justice and corrections	16,734	3,909	17,152	29,193	3,753
Criminal justice/safety studies	344	430	4,332	18,137	1,396
Criminal justice/law enforcement administration	411	184	3,204	7,653	1,705
Criminal justice/police science	9,787	2,818	8,168	1,406	38
Corrections and criminal justice, other	481	67	304	990	175
Corrections	4,249	299	866	516	31
Forensic science and technology	265	24	173	243	379
Criminalistics and criminal science	185	43	-	135	-
Corrections administration	2	-	4	71	13
Security and loss prevention services	927	40	44	42	5
Juvenile corrections	83	4	6	-	_
Securities services administration/management	-	_	51	_	11

Figure 4. Number and Type of Forensic Science and Related Degrees Awarded in the U.S., 2003–2004

Source: National Center for Education Statistics

It is possible, however, that employers generally prefer to hire those with bachelor's degrees in basic science (chemistry, biology, physics, etc.) as opposed to applied science fields. Also, interviews revealed that a significant number of practitioners in forensic science disciplines are experts who offer consulting services to attorneys, prosecutors, and government agencies on a case-by-case basis. This suggests that the opportunity may be more limited than it appears at first.

Nonetheless, the number of forensic science bachelor's degrees conferred has grown significantly over the past five years; however, the total number awarded is still rather small. Figure 5 indicates degree numbers in the U.S. from 1999–2000 to 2003–2004.



Figure 5. Bachelor's Degrees Awarded in Forensic Science, 1999–2000 to 2003–2005

Source: National Center for Education Statistics

Regional Competitors

Eleven institutions in the New York region offer 12 programs or concentrations in forensic science and closely related areas: seven bachelor of science degrees, four bachelor of arts degrees, and one bachelor of technology degree. The program with the largest number of enrollments by far is the forensic science program offered by the John Jay College of Criminal Justice at the City University of New York (CUNY), which offers both a B.S. in forensic science and a B.A. in forensic psychology. Figure 6 lists location, degree designation, and number of bachelor's degrees awarded in 2005-2006 for each provider school in the target region.

A range of programs is available within this narrow category. In addition to the four schools awarding straightforward bachelor of science degrees in forensic science, Buffalo State College offers a B.S. in forensic chemistry, the Rochester Institute of Technology (RIT) offers a B.S. in biomedical sciences with a concentration in forensic science, and St. John's University offers a B.S. in criminal justice with a concentration in forensic psychology. The bachelor of science program at CUNY offers tracks in criminalistics and toxicology, and the program at Pace University has a five-year combined B.S./M.S. option. CUNY offers a bachelor of arts in forensic psychology, Utica College offers one in economic crime investigation, and the State University of New York at Canton offers a bachelor of technology in criminal investigation. This diversity could be viewed as proof of opportunity for the inquiring member to carve out its own specific niche; on the other hand, the already existing specificity and small numbers of degrees conferred may indicate that identifying a viable and effective niche would be difficult.

Institution Name	Location	Degree Name	Credentials Awarded
Buffalo State College	Buffalo, NY	B.S. Forensic Chemistry	NA
City University of New York: John		Forensic Science (B.S.)	38
Jay College of Criminal Justice	New York, NY	Forensic Psychology (B.A.)	390
Hofstra University	Hempstead, NY	B.S. Forensic Science	NA
Pace University	New York, NYForensic Science (B.S./M.S.)		3
Richard Stockton College of New Jersey	Pomona, NJ	Criminal Justice (B.A.) - Certificate in Forensics	148
Rochester Institute of Technology	Rochester, NY	(B.S.) Biomedical Sciences with concentration in Forensic Science	NA
Russell Sage College	Troy, NY	Forensic Science (B.A.)	4
St. John's University	Jamaica, NY	(B.S.) Criminal Justice w/ specialization in Forensic Psychology	NA
State University of NY at Canton	Canton, NY	(B.T.) Criminal Investigation	NA
University of New Haven	New Haven, CT	B.S. Forensic Science	15
Utica College	Utica, NY	Bachelor of Arts in Economic Crime Investigation	NA

Figure 6. Forensic Science Undergraduate Degree Provider Schools in the New York Area: Location, Degree Name, and Number of Bachelor's Degrees Awarded in 2005-2006

Source: National Center for Education Statistics

CPE staff were unable to obtain data on number of credentials awarded for most programs. It is worth noting that CUNY, which reports the highest numbers, maintains an enrollment policy with alternative credit provisions that enable applicants to earn academic credit for both work-related and non-work-related learning as well as for workplace training within; an example of this is the police academy at the New York City Police Department.

Figure 7 indicates four-year total tuition costs for the regional competitor schools. Pace University ranks as the most expensive school at \$120,000; is followed closely by three other private institutions – Hofstra University, St. John's University, and Russell Sage College – each at \$100,000 for four years. The least expensive programs are at the State University of New York at Canton (\$22,400 in state; \$34,000 out of state), CUNY (\$18,000; \$36,000), and Buffalo State College (\$24,000; \$48,000).

Institution Name	Estimated Total Tuition In-State	Estimated Total Tuition Out-of- State
Buffalo State College	\$24,000	\$48,000
City University of New York: John Jay College of Criminal Justice	\$18,000	\$36,000
Hofstra University	\$100,000	\$100,000
Pace University	\$120,000	\$120,000
Richard Stockton College of New Jersey	\$36,000	\$56,000
Rochester Institute of Technology	\$26,000	\$26,000
Russell Sage College	\$100,000	\$100,000
St. John's University	\$100,000	\$100,000
State University of NY at Canton	\$22,400	\$34,000
University of New Haven	\$96,000	\$96,000
Utica College	\$92,000	\$92,000
Average Tuition	\$66,764	\$73,455

Figure 7. Four-Year Tuition Costs for Schools in the Target Market

Figures 8 and 9 list summary information on the competitor schools' marketing messages and key target markets. Several schools claim to be one of only a few programs or a new and innovative program, and a few emphasize the interdisciplinary nature of their offerings. A number of programs point to the rigor and comprehensiveness of their curricula, whereas others focus on marketability and applicability. This last distinction does not necessarily divide the programs into clear camps of those with vocational versus those with academic orientation.

In fact, in keeping with the field's specificity, most programs are oriented toward careers rather than research and teaching. Those schools with curricula that encourage or enable students to pursue graduate education – CUNY, RIT, Pace University, Russell Sage College, and Richard Stockton College – emphasize that students may take either route: develop a successful vocation with just the undergraduate degree, or go on to further education for academia or the professions. Internships are required at all institutions except St. John's University, Pace University, and the Richard Stockton College of New Jersey; the University of New Haven requires either an internship or capstone thesis. Approximately half of the programs are administered by departments or divisions in the natural or physical sciences; those at CUNY and the University of New Haven are housed within colleges of criminal justice, those at Stockton College and Utica College are housed within social science divisions, the program at St. John's University is housed within the College of Professional Studies, and the program at SUNY Canton is administered by the School of Business and Public Service.

Institution Name	Marketing Message
Buffalo State College	"Welcome to the fascinating field of Forensic Chemistry at Buffalo State, one of only three institutions in New York State offering an undergraduate degree in the field of Forensic Science. The course requirements of our program will provide you with both a solid chemistry background and a proficient understanding of the criminal justice field."
City University of New York: John Jay College of Criminal Justice	"The Program allows students to receive a combination of detailed coursework knowledge and practical in-depth training with the 10-week long forensic science internship."
Hofstra University	"The program in Forensic Science is multidisciplinary and involves faculty from various scientific disciplines, Hofstra School of Law, and professionals from the New York, Nassau and the Suffolk County Police Departments. The program is designed to provide students with a strong foundation in physical and natural sciences and to acquaint them with various aspects of the legal system as they pertain to a forensic scientist."
Pace University	"Ever imagine yourself dusting for fingerprints and matching bullet markings? Forensic science is an exciting branch of medicine involved with determining cause of death and examination of injuries due to crime. Our program provides you with a firm understanding of general science and cutting-edge methods of crime scene investigation. You can test your skills through internships with major area crime labs and investigative teams in NYC."
Richard Stockton College of New Jersey	"The program provides students with an understanding of the criminal justice system from the perspective of the social sciences. Its focus is more academic, rather than training for specific roles in the criminal justice system. Students can pursue the forensics track which provides an overview of crime scene investigation and the careers associated with this field. The forensic psychology track allow students to explore the relationship between psychological and psychosocial factors in human development and the kinds of thinking that lead to criminal offending.
Rochester Institute of Technology	"Five key factors that make the program successful; core courses, specialized elective courses, laboratory exercises, abundant research and paid cooperative education and a teaching philosophy that provides students with the personal attention they need to maximize their chances of success in both the classroom and in their future careers."
Russell Sage College	"The new Forensic Science degree program at Russell Sage College is the only program of its kind in New York's Capital region. This interdisciplinary program is built on the foundation of our well-established programs in biology, chemistry and criminal justice."
St. John's University	"This program offers students training in the application of psychology principles within the legal system."
State University of NY at Canton	"Students receive advanced training in criminal investigations, learn to analyze forensic evidence, preserve crime scenes, collect and process evidence and spend an entire semester with selected criminal investigation units or work with a mentor to complete a senior project. It focuses on the necessary knowledge and skill sets required in criminal investigations."

Figure 8. Marketing Messaging at Selected Institutions

Institution Name	Marketing Message
University of New Haven	"The program is one of the first in the nation and is considered among the finest in the world. It is one of the few such under-graduate level programs in the world. It is designed to provide educational and scientific background (a more theoretical approach). Additionally, the curriculum provides sufficient flexibility to allow students to focus their studies in either chemistry or in biology."
Utica College	"The criminal justice-economic crime investigation major is the only academic program of its kind. It combines the study of criminal justice with that of accounting and computer science to provide further practitioners with an understanding of the evolving problems of business fraud and computer crime. As this is an area of increasing concern in today's technologically advanced society, students completing this innovative program earn a highly marketable degree."

Figure 8 (continued). Marketing Messaging at Selected Institutions

Institution Name	Key Target Market		
Buffalo State College	Forensic chemistry is a program of professional study whose graduates are prepared to assume entry-level positions as forensic chemists in police laboratories at the local, state, or federal level.		
City University of New York: John Jay College of Criminal Justice	The Program is designed to provide training for students to work in forensic science laboratories, or who are planning to pursue careers as scientists or as scientist-administrators		
Hofstra University	The program is intended for both traditional undergraduate students who desire a position in the law enforcement industry or as forensic scientists and for law enforcement personnel.		
Pace University	Prepares students for employment in forensic laboratories and criminal investigation units where demand for competent crime scene investigators is rapidly growing, as well as in biological and chemical research and in the pharmaceutical industry. Also, prepares students for graduate study in forensic science, biology, chemistry, and biochemistry and to apply to medical and dental schools.		
Richard Stockton College of New Jersey	Students interested in careers criminal justice, law enforcement and the legal profession will find forensics track unique and highly rewarding. Additionally, the forensic psychology track prepare students to continue at the graduate level or to pursue a variety of career opportunities.		
Rochester Institute of Technology	Prepares students interested in pursuing graduate studies, professional studies and also career paths including forensic science.		
Russell Sage College	Graduates of the program compete favorable for technical positions in any State or private forensics laboratory. The program is also suitable for students interested in secondary education in biology (students receive preparation to move into the M.A.T program) or law school. Additionally, suitable for med students or as preparation for graduate study in forensic biology or chemistry.		
St. Johns University	The program prepares students for career opportunities in the criminal justice system, which offers significant career opportunities in the public sector at all levels of government. Private sector organizations increasingly seek to hire criminal justice professionals.		
State University of NY at Canton	Prepares students for careers as criminal investigation officers for police departments, federal law enforcement agencies, private investigation agencies and the military police.		
University of New Haven	The program is ideal for individuals planning careers as physical evidence examiners in crime laboratories or for those currently working in forensic science laboratories and would be valuable for those interested in related areas whose professional work requires in-depth knowledge of science and scientific investigation methods.		
Utica College	Extensive career opportunities to those students who have an interest in criminal justice, accounting and computer science. Federal law enforcement and regulatory agencies, whose jurisdictions in specific economic crimes are rapidly expanding, are very interested in graduates of this program. With an integrated curriculum that combines intensive study in criminal justice, accounting, and computer science, this remarkable program the only one of its kind in the United States gives you the specialized investigative skills you need to pursue a rewarding career in: Law enforcement; Corporate security management; Forensic accounting; Private consulting and other professional opportunities that require a solid foundation in the principles of preventing and prosecuting economic crime.		

Figure 9.	Target	Market of	f Selected	Institutions
I 16 UI V / 1	1 11 600	TIMI INCU U		Institutions

Seven of the 11 competitor schools – CUNY, RIT, Pace, Hofstra, Buffalo State College, Russell Sage College, and University of New Haven – have programs clearly centered in the physical and natural sciences. These programs are of most relevance to the present inquiry, since the inquiring member's current forensic science offerings are similarly oriented.

Interviews with Industry Experts

To understand trends and educational needs in forensic sciences (both locally and nationally), staff conducted interviews with the American Board of Forensic Anthropology (ABFA), International Crime Scene Investigators Association (ICSIA), American Board of Forensic Entomology (ABFE), American Society of Crime Laboratory Directors (ASCLD), American Board of Forensic Odontology (ABFO), and the New York City Office of Chief Medical Examiner (NYCOME).

There were two main themes that emerged in virtually every interview:

- Despite increasing demand for forensic science graduates from employers, the supply of recent graduates from forensic science programs far exceeds demand, making the field very competitive. Due to the competition, many employers have an opportunity to hire experienced or highly educated individuals even for entry-level type positions.
- For most disciplines, master's and/or Ph.D. degrees are the industry norm, especially if the individual may be called upon to present his or her analysis in court. The areas where bachelor's degree graduates are highly valued are crime scene investigation and technician positions in crime labs.

From the degree program perspective, there were two different schools of thought on what components a successful program should have. The first school of thought believes that a bachelor's degree with a strong foundation in science and a thorough understanding of all the different areas of forensic science would be most valuable to graduates seeking to enter the forensic sciences field.

"Start a [bachelor's] degree as a survey program of all disciplines within forensic science... but you have to give prospective students the understanding that if they want a degree in any one of those areas, they have to go somewhere else or continue on to the masters. The program has to have a very solid scientific base and include psychology and sociology. You could also organize it as a few types of survey courses. One would focus on the legal aspects of forensic science – basic understanding of the legal system, the role of law in scientific examinations, etc. The other would focus on the scientific side, such as chemistry, biology, toxicology, etc."

- President, ABFE

The strong scientific background would not only differentiate these individuals in the eyes of potential employers, but would also give them the knowledge they need to pursue a more specialized field within forensic science, if they choose to do so. On the other hand, the challenge with such a program for the institution is the ability to recruit individuals for such a rigorous program.

":If I was going to design a [forensic science] program, I would make sure as a student went through that program there would be sufficient basic education. I would want the program to fix it so there would be enough in the way of fundamental science – at least to

organic chemistry. Also, I would want it to provide enough basic knowledge that if someone decides they don't want to be a crime scene investigator they can do that and if they go back to school, say, in a particular area of forensic science without having to take a year of remedial courses. Students also have to have an adequate amount of communication courses as well. With students, in many cases, if you give them an option to not take organic chemistry, they wouldn't. So for institutions looking to foster enrollment, requiring it would be killing the program, especially since other programs don't require it."

- President, ABFE

The second school of thought believes that institutions should focus on offering a specific science discipline with a concentration in forensic science. According to our source at the American Society for Crime Laboratory Directors, "a degree in forensic science is gaining a bad reputation among practitioners – too often it's just a mish mash of stuff." The concentration should arm graduates with the knowledge of forensic science methodology and the court system. The same source at the American Society of Crime Laboratory Directors justified this second school of thought by noting that "you can't teach science to people later," but they could always learn how to apply their skills in new directions.

Both groups value an internship as a helpful part of the educational experience that not only provides an understanding the forensic science environment, but also for future employment opportunities.

"Internship is quite important. A lot of stuff on television right now gives them the wrong impression. On the other hand, an internship gives them the idea of what work is really like and it gives the lab an opportunity to try people out. It may be a good employment prospect."

- Deputy Director, ASCLD

"I think an internship is going to be one of those aspects of a major that would be a real carrot for students. They may not fully appreciate the full value of laboratories. The hands-on experience in the education process is very valuable."

- President, ABFE

"An internship is part of many programs and it will count toward the one year experience required for most positions."

- NYCOME

However, most interviewees also forecasted challenges for any institution that may be considering having an internship as a requirement for graduation.

"The challenge would be trying to find either law enforcement agencies or university crime labs that would be willing to take the time. Having an intern at a bachelor's level requires a lot of time and commitment with little production. If you could find something they could do in a lab that does not require a lot of skills and does not take long to train in, it would be really helpful."

- President, ABFA

The source from New York City Office of Chief Medical Examiner admitted that they get a "huge number" of applications for their summer internship program, yet it is a lot more difficult to get interns during the academic year.

One source pointed out that programs that align with FBI accreditation is extremely valuable.

"We have to follow [FBI's] requirements for an accredited lab. It is a very tough accreditation standard. Accreditation is based on meeting a variety of quality assurance standards. Personnel must meet all those requirements to be hired and promoted. The requirement for an analyst includes a completion of nine lecture credits in molecular biology, genetics, and biochemistry. To make sure the applicants coursework completes that requirement we have to have inspections of the schools, read the specific syllabi, etc. LIU should make sure that classes cover all the material they are required to cover under these FBI standards. We do see a lot of programs that have forensic molecular biology courses that do not hold any water, because students need the basic science foundation." – NYCOME

An overview of the FBI's standards can be found at: <u>http://www.fbi.gov/hq/lab/codis/offender.htm</u>.

All sources eagerly expressed the areas in which they saw the biggest shortcomings in current programs, and, therefore, areas that could be a great opportunity for the inquiring member institution. The most commonly mentioned points were to have experts in forensics teaching the courses as opposed to experts in law and sciences and the needed inclusion of significant experience in the lab, perhaps through local partnerships. Other suggestions included offering a clear picture of what students will be doing post graduation, offering a good overview of the legal system and all areas of forensic science and including more statistics and/or genetics in the curriculum. One source emphasized a number of areas that schools should incorporate into the curriculum.

"Training and population statistics. Basic science is crucial. Internship is a good thing, but hard on the student on the financial side. A little bit of the DNA aspect. Current undergraduate programs deal more with other aspects of forensic science. Most students get a good historical basis. It's a very popular field because of the media. However, the media also gives them an unrealistic expectation of what the field is like and we see it even at a internship level. Most of what we do is routine and interns are sometimes turned off by that. Automation is more and more present in the field. I would urge institutions to educate their students on the kind of equipment they will find in the lab. Especially with a bachelor's degree, they are going to be doing entry-level positions where routine and basic equipment knowledge is essential... They need to have basic lab skills – setting up, cleaning up, disinfecting. It's a little bit expensive for school to set that up. Lab courses are expensive. But it's increasingly important for the student's competitive edge."

- NYCOME

When questioned about which areas of forensic science are most promising in terms of growth and employability, the need for more highly educated experts was expressed across all areas.

Interviewees cited the need for more knowledgeable faculty in forensic science programs as well as more experts who could be relied on to testify in court. Particular areas of forensic science that are in most demand are DNA analysis, toxicology, forensic firearms investigation, and environmental forensics. The area that is showing signs of decline is document examination, while crime investigation is showing signs of growth but is "swamped" with applications.

During the interviews, no particular forensic science program surfaced as the leader. The programs mentioned include those at Mercyhurst College, Michigan State University, John Jay College of Criminal Justice, Pace University, Cedar Crest College, University of Texas, George Washington University, University of Illinois, University of Connecticut, Columbia College in Missouri, St. Joseph's College, Purdue University, University of Florida, University of Ontario in Montreal, Indianapolis University, State University of California in Chico, State University of California in Los Angeles, Cornell University, and Ontario University of Technology. The main reason for the interviewer choosing a particular program was because it was run by experts in the field and/or because it had a strong science foundation. There were two challenges cited in naming leading programs:

- Institutions with leading programs are forced to discontinue them if the expert leaves
- Some institutions have strong programs that focus on very specific areas within forensic science and do not have a program that covers a variety of key forensic science areas
- Many programs are relatively new to the market

Analysis and Recommendations

Employment Trends and Forensic Science Education Trends

Employment trends indicate that the demand for forensic science technicians is going to continue to grow through 2014. The salaries have been increasing, potentially attracting more potential students to the field. However, the educational attainment requirements are growing, most likely due to high competition in the field and the willingness of employers to hire applicants with degrees in disciplines, such as psychology, biology, chemistry, and physics.

On the demand side, student demand is expected to exhibit continued growth in the next decade. Based on Eduventures' previous research on middle school and high school science, interviews with science chairs and publishers revealed that forensic science is the fastest growing science discipline. The biggest mentioned driver for growth of forensic science, both from our previous research and in interviews for this project, is a proliferation of TV shows, such as CSI.

Regional Competitive Environment

While there are eleven institutions in the target area offering forensic science programs, only two institutions are located in the New York metropolitan area making the opportunity for LIU's offering viable. Furthermore, only two programs in the target region offer a natural science degree with a forensic component – a program that could provide potential students with more employment opportunities and better prepare them for a master's degree or a job in a different field. City University of New York: John Jay College of Criminal Justice is positioned to be LIU's biggest competitor. It does not offer many concentrations, however, leaving a significant opportunity for LIU.

Opportunities for Differentiation

The strength and the local reputation of its science disciplines give LIU a significant advantage over other institutions in the area offering a forensic sciences degree. In fact, the New York City Office of the Chief Examiner remarked that they already hire LIU graduates into their forensic science positions and if LIU, in particular, would offer a forensic science degree with their sciences program it would be extremely valuable to them. Since LIU's campuses are located in a metropolitan area with lots of research institutions and potential employers, it also has the opportunity to form valuable partnerships to provide students with a wealth of opportunities including internships, networking, expert guest lecturers, and access to superior lab facilities.

Degrees or concentrations that focus on DNA analysis, toxicology, and environmental forensics are best aligned with LIU's strengths and are not yet offered at the undergraduate level in the New York metropolitan area. IN addition, the area of forensic firearms analysis may be in most demand.

"I would say that we really need a university program in firearms examinations. If the institution is really serious about doing something unique and it fits with their mission, this would probably be a very in demand niche. The labs are crying for a program in firearms examination."

Most importantly, LIU may want to consider launching a master's level program for its science undergraduates **before** launching a bachelor's program. This concept needs more investigation. Experts at associations note, however, that there is a greater supply of graduates than there are positions, while consultants who can testify in front of a jury are growing older and retiring. As universities are expanding or implementing their forensic science programs, there are less and less qualified instructors to educate potential students. Additionally, employers are constantly looking for qualified individuals for supervisory positions. This may be a particularly unique niche for LIU. It may also choose to develop an accelerated master's program that would be most attractive to individuals already in law enforcement or those holding a science degree who are looking to take their career in a new direction.

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O*Net OnLine, U.S. Department of Labor. <u>http://online.onetcenter.org/link/summary/19-4092.00#WagesEmployment</u>

President. American Board of Forensic Anthropology. Telephone interview. November 2007.

American Board of Forensic Entomology. Telephone interview. November 2007.

American Board of Forensic Odontology. Telephone interview. November 2007.

Diplomat. American Board of Forensic Anthropology. Telephone interview. November 2007.

The American Academy of Forensic Sciences. http://www.aafs.org

The American Society of Crime Laboratory Directors. http://www.ascld.org/visitors/

Training Manager. Department of Forensic Biology. NYC Office of Chief Medical Examiner. Telephone interview. November 2007.

Virginia Institute of Forensic Science & Medicine. http://www.vifsm.org/

Appendix

	Undergraduate Forensic Science Degree
Name of Institution	Pace University
City & State	New York, NY
Institution Type	Private
Program Website	http://appserv.pace.edu/execute/academic_psearch/display_program.cfm?School=A%26S&Cred =BS&Mai=FS&Location=NYC
Department or College	Chemistry and Physical Science
	Curriculum Format
Degree Name	Forensic Science
Concentration Area(s)	none
Total Number of Courses Required	17
Number of Core Courses Required	17
	Genetics
	Molecular and Cellular Biology
	Analytical Methods and Techniques
	Organic Chemistry I & II
	Introduction to Toxicology
	Biochemistry
	Introduction to Physical Chemistry
Core Courses	Instrumental Analysis
	Chemistry Seminar I & II
	Basic Criminalistics
	Crime Scene Processing
	Forensic Microscopy
	Recombinant DNA Techniques
	General Chemistry I and II
Number of Elective Courses Required	None required for the major
Thesis or Capstone?	None
Internship Component?	Ontional
	Admissions Requirements
	None
	Pricing
Estimated Total Cost	\$120,000
lí -	Marketing Message
Program Message	"Ever imagine yourself dusting for fingerprints and matching bullet markings? Forensic science is an exciting branch of medicine involved with determining cause of death and examination of injuries due to crime. Our program provides you with a firm understanding of general science and cutting-edge methods of crime scene investigation. You can test your skills through internships with main area crime labe and investigation. W/C =
Target Audience	Prepares students for employment in forensic laboratories and criminal investigation units where demand for competent crime scene investigators is rapidly growing, as well as in biological and chemical research and in the pharmaceutical industry. Also, prepares students for graduate study in forensic science, biology, chemistry, and biochemistry and to apply to medical and dental schools.
	Program Affiliations
key employers or professional associations	NYC crime labs
Other	

Undergraduate Forensic Science Degree		
Name of Institution	City University of New York - John Jay College of Criminal Justice	
City & State	New York, NY	
Institution Type	Public	
Program Website	http://www.jjay.cuny.edu/programsUndergraduate/progUndeGradMajo/progUndeGradMajoForeScie.asp	
Department or College	John Jay College of Criminal Justice	
	Curriculum Format	
Degree Name	Forensic Science	
	Criminalistics	
Concentration Area(s)	Toxicology	
	Molecular Biology	
Total Number of Courses Required	16	
Number of Core Courses Required	13	
	Modern Biology	
	General Chemistry	
	Organic Chemistry	
	Quantitative Analysis	
	Law and Evidence	
Core Courses	General Physics	
	Physical Chemistry II	
	Biochemistry	
	Instrumental Analysis I & II Foransic Science Internshin	
Number of Elective Courses Required	3 (depending on concentration track)	
	Forensic Pharmacology	
Semple Elective Courses	Genetics	
Sample Elective Courses	An Introduction of Criminalistics for Forensic Science	
	Molecular Biology	
Thesis or Capstone?	None	
Internship Component?	Required (10-week)	
	Admissions Requirements	
	None	
	Pricing	
Estimated Total Cost In-State	\$18,000	
Estimated Total Cost Out- of- State	\$36,000	
	Marketing Message	
Program Message	The Program allows students to receive a combination of detailed coursework knowledge and practical in-depth training with the 10-week long forensic science internship.	
Target Audience	The Program is designed to provide training for students to work in forensic science laboratories, or who are planning to pursue careers as scientists or as scientist-administrators	
Program Affiliations		
Key employers or professional associations	None	
Other	None	

Undergraduate Forensic Science Degree			
Name of Institution	Hofstra University		
City & State	Hempstead, NY		
Institution Type	Private		
Program Website	http://www.hofstra.edu/Academics/Colleges/HCLAS/CHEM/chem_forsci_home.html		
Department or College	College of Liberal Arts and Sciences: Chemistry Department		
	Curriculum Format		
Degree Name	B.S. Forensic Science		
Concentration Area(s)	None		
Total Number of Courses Required	23		
Number of Core Courses Required	18		
	General & Inorganic Chemistry		
	Analytic Geometry & Calculus		
	Methods of Trace Analysis		
	Introductory Cell Biology & Genetics		
	Quantitative Analysis and Laboratory		
	Survey in Forensic Science		
	General Physics I w/lab		
	Forensic Internship		
Core Courses	Instrumental Methods w/lab		
	Forensic Expert Witness Testimony		
	Crime Scene Investigation Methods		
	Legal Issues of Scientific Evidence		
	Molecular Blochemistry General Physics w/lab		
	Forensic Science Seminar		
	Biostatistics		
	Physical Chemistry		
Number of Elective Courses Required	5		
· ·	Cell Biology		
	Modicinal Chamistry		
Sample Elective Courses	Techniques in Molecular Biology		
	Ferensia Geology		
Thesis or Canstone?	Senior Seminar		
Internship Component?			
	Admissions Requirements		
	GPA 2 0		
	Pricing		
Estimated Total Cost	\$100.000		
	Marketing Message		
	The program in Forensic Science is multidisciplinary and involves faculty from various scientific		
Program Message	disciplines including; Hofstra School of Law, and professionals from the New York, Nassau and the Suffolk County Police Departments. The program is designed to provide students with a strong foundation in physical and natural sciences and to acquaint them with various aspects of the legal system as they pertain to a forensic scientist.		
Target Audience	The program is intended for both traditional undergraduate students who desire a position in the law enforcement industry or as forensic scientists and for law enforcement personnel.		
	Program Affiliations		
key employers or professional associations	American Board of Criminalistics		
Other	Upon successful completion of the program, students will be eligible to sit for the American Board of Criminalistics General Knowledge Examination.		

Undergraduate Forensic Science Degree		
Name of Institution	Utica College	
City & State	Utica, NY	
Institution Type	Private	
Program Website	http://www.utica.edu/academic/ssm/economic_crime_investigation/	
Department or College	Social Sciences and Management Division	
	Curriculum Format	
Degree Name	Criminal Justice - Economic Crime Investigation	
Concentration Area(s)	Financial Investigations (6 electives)	
	Computer Security (7 electives)	
Total Number of Courses Required	17/18	
Number of Core Courses Required	11	
	Introduction to Criminal Justice Research Methods	
	Introduction to Criminal Justice	
	Criminology	
	Jurisprudence of the Criminal Law	
	Economic Crime Investigation	
Core Courses	Cybercrime Law and Investigations	
	Statistics	
	Senior Seminar	
	Law of Economic Crime	
Number of Elective Courses Required	6 or 7 depending on concentration	
	Object-Oriented Programming	
Sample Elective Courses	Computer Forensics	
	Financial Accounting	
	Fraud Accounting and Fraud Auditing	
Thesis or Capstone?	Senior Seminar	
Internship Component?	Required	
	GPA of 2.5 (Cumulative and Major)	
Estimated Total Cost	Fileing	
	Marketing Message	
Program Message	"The criminal justice-economic crime investigation major is the only academic program of its kind. It combines the study of criminal justice with that of accounting and computer science to provide further practitioners with an understanding of the evolving problems of business fraud and computer crime. As this is an area of increasing concern in today's technologically advanced society, students completing this innovative program earn a highly marketable degree."	
Target Audience	Extensive career opportunities to those students who have an interest in criminal justice, accounting and computer science. Federal law enforcement and regulatory agencies, whose jurisdictions in specific economic crimes are rapidly expanding, are very interested in graduates of this program. With an integrated curriculum that combines intensive study in criminal justice, accounting, and computer science, this remarkable program the only one of its kind in the United States gives you the specialized investigative skills you need to pursue a rewarding career in: Law enforcement; Corporate security management; Forensic accounting; Private consultingand other professional opportunities that require a solid foundation in the principles of preventing and prosecuting economic crime.	
	Program Affiliations	
Key employers or professional associations	Chase Bank, CTIA, Equitable, First Data Resources, The Hartford, MasterCard International, MBNA America, Metropolitan Property and Casualty, National Insurance Crime Bureau, OSO Group Ltd, National Fraud Center, SAIC and the United States Secret Service. (Students participate in internships/Co-op programs)	
Other	The College has established a computer-assisted learning lab, where students gain hands-on experience through solving a series of case studies dealing with specific economic crimes, including credit card, cellular and medical fraud.	

Undergraduate Forensic Science Degree		
Name of Institution	University of New Haven	
City & State	West Haven, CT	
Institution Type	Private	
Program Website	http://www.newhaven.edu/show.asp?durki=426	
Department or College	Henry C. Lee College of Criminal Justice and Forensic Sciences	
	Curriculum Format	
Degree Name	B.S. Forensic Science	
Concentration Area(s)	none	
Total Number of Courses Required	42	
Number of Core Courses Required	37	
	Introduction to Criminal Justice	
	Criminal Law	
	Principles of Criminal Investigation	
	Introduction to Forensic Science	
	Advanced Forensic Science Lab I & II	
	Crime Scene Investigation and Pattern Evidence	
	Seminar in Forensic Science	
	General Biology for Science Majors with Lab L& II	
	Immunology with J ab or Calculus III	
	Molecular Biology with Lab or Physical Chem Lw/ lab	
Core Courses	Biochemistry with Lab or physical chem II with lab	
	Physical Chemistry with lab	
	General Chemistry and	
	General Chemistry Lab &	
	Organic Chemistry &	
	Introduction to Data Processing	
	Calculus &	
	Mechanics, Heat and Waves with Lab	
	Electromagnetism and Optics with Lab	
	Organic Chemistry Lab I & II	
	Quantitative Analysis with Lab	
	Instrumental Methods of Analysis with Lab	
Number of Elective Courses Required	5	
	Fingerprints with Lab	
	The Police and Crime Control	
Sample Elective Courses		
	Londership and Managament Human Saniaga	
Thesis or Canstone?	Persoarah Draiast required if no internahin	
Internation Component?	Research Project required in to internship	
Internant Component:	Admissions Requirements	
	none	
Estimated Total Cost	1996,000 Marketing Massage	
	Marketing message	
Program Message	The program is one of the first in the nation and is considered among the finest in the world. It is one of the few such under-graduate level programs in the world. It is designed to provide educational and scientific background (a more theoretical approach). Additionally, the curriculum provides sufficient flexibility to allow students to focus their studies in either chemistry or in biology.	
Target Audience	The program is ideal for individuals planning careers as physical evidence examiners in crime laboratories or for those currently working in forensic science laboratories and would be valuable for those interested in related areas whose professional work requires in-depth knowledge of science and scientific investigation methods.	
	Program Affiliations	
Key employers or professional associations	None	
Other	Offer Forensic Computer Investigation Certificate and Information Protection and Security Certificate	
	i nis is a very specialized scientific program, little emphasis on actual hands on training. Many students who are biology/chem have a double major in Forensic Science.	

Undergraduate Forensic Science Degree			
Name of Institution	State University of New York at Canton		
City & State	Canton, NY		
Institution Type	Public		
Program Website	http://www.canton.edu/business/ci/description.html		
Department or College	School of Business and Public Service		
	Curriculum Format		
Degree Name	Bachelor of Technology in Criminal Investigations		
Concentration Area(s)	None		
Total Number of Courses Required	19		
Number of Core Courses Required	NA		
	Introduction to Criminal Justice		
	Correctional Philosophy		
	Criminal Procedure		
	Critical Issues in Criminal Justice		
	Police Services		
Core Courses	Societal Ethics and Criminal Investigation		
	Culminating Experience in CJ or Senior Project		
	Forensic Photography		
	The Investigation of Death		
	Introduction to Culminating Experience		
	Crime Scene Investigation		
	Arson Investigation		
	Introduction to Forensic Science		
Thesis or Canstone?	Law Enroitement Communications		
Internshin Component?	Required		
internomp component:	Admissions Requirements		
	Successful pass of MATH A and MATH B Regents exam and the Chemistry Regents Exam.		
	Admission priority will go to the SUNY Canton CJ students.		
	Cumulative GPA of 2.5 (if CJ major and would like to transfer to this degree)		
	Pricing		
Estimated Total Cost In-State	\$22,400		
Estimated Total Cost Out- of- State	\$34,000		
	Marketing Message		
Program Message	Students receive advanced training in criminal investigations, learn to analyze forensic evidence, preserve crime scenes, collect and process evidence and spend an entire semester with selected criminal investigation units or work with a mentor to complete a senior project. It focuses on the necessary knowledge and skill sets required in criminal investigations.		
Target Audience	Prepares students for careers as criminal investigation officers for police departments, federal law enforcement agencies, private investigation agencies and the military police.		
	Program Affiliations		
Key employers or professional associations	Internships opportunities include Interpol Headquarters in Washington, DC, International War Crime Tribunals, state and federal law enforcement agencies.		
Other	I his program has a very applied focus offering international opportunities for internships and the curriculum is aimed at career-oriented students with real-life application experiences.		

Undergraduate Forensic Science Degree		
Name of Institution	SUNY Buffalo State	
City & State	Buffalo, NY	
Institution Type	public	
Program Website	http://www.buffalostate.edu/undergradprog.xml?bpid=73	
Department or College	Chemistry	
	Curriculum Format	
Degree Name	BS Forensic Chemistry	
Concentration Area(s)	none	
Total Number of Courses Required	18	
Number of Core Courses Required	All courses are required for major	
	Organic Chemistry I, II	
	Organic Chemistry Lab I, II	
	Analytical Chemistry	
	Chemistry and Criminalistics	
	Principles of Physical Chemistry	
	Instrumental Analysis	
	Internship in Criminalistics	
Cara Cauraa	Forensic Chemistry Lab	
Core Courses	Biochemistry	
	Biochemistry Techniques	
	Introduction to Criminal Justice	
	Criminal Law and Procedures	
	Introduction to Cell Biology and Genetics	
	Genetics	
	Calculus	
	Introduction Probability and Statistics	
Number of Elective Courses Required	None	
Thesis or Capstone?	None	
Internship Component?	Required	
	Admissions Requirements	
	C or better in prerequisite courses	
	Pricing	
Estimated Total In State Cost	\$24,000	
Estimated Total Out of State Cost	\$48,000	
	Marketing Message	
Program Message	Welcome to the fascinating field of Forensic Chemistry at Buffalo State, one of only three institutions in New York State offering an undergraduate degree in the field of Forensic Science. The course requirements of our program will provide you with both a solid chemistry background and a proficient understanding of the criminal justice field.	
Target Audience	Forensic chemistry is a program of professional study whose graduates are prepared to assume entry- level positions as forensic chemists in police laboratories at the local, state, or federal level.	
	Program Affiliations	
Key employers or professional associations	none	

Undergraduate Forensic Science Degree			
Name of Institution	The Rochester Institute of Technology		
City & State	Rochester, NY		
Institution Type	Private		
Program Website	http://www.rit.edu/~932www/ugrad_bulletin/colleges/cos/biomed.html		
Department or College	Biomedical Sciences		
	Curriculum Format		
Degree Name	BS Biology		
Concentration Area(s)	Forensic Science		
Total Number of Courses			
Required	37		
Number of Core Courses Required	31		
	Introduction to Biology I, II, III		
	General and Analytical Chemistry I, II, III		
	Chemical Principles Lab I, II		
	Elementary Calculus I, II		
	Molecular Biology		
	Evolutionary Biology		
Cara Cauraa			
Core Courses	Organic Chemistry Lab I, II, III		
	Data Analysis I		
	Comparative Physiology		
	Genetics		
	Developmental Biology		
	Biology Seminar		
	College Physics I, II, III		
	College Physics Lab I, II, III		
Number of Elective Courses			
Required	6		
	Introduction to Forensic Science		
	Criminal Justice LA		
Sample Elective Courses	Scanning Electronic Micro		
Sample Elective Courses	Bioinformatics		
	Internship		
	Hematology/Immunohematology		
Thesis or Capstone?	none		
Internship Component?	Required for concentration		
	Admissions Requirements		
	none		
	Pricing		
Estimated Domestic Student Total Cost	\$36,000		
Estimated International	\$64,000		
Student Total Cost	Marketing Message		
	Indi Keung message		
Program Message	5 key factors that make the program successful; core courses, specialized elective courses, laboratory exercises, abundant research and paid cooperative education and a teaching philosophy that provides students with the personal attention they need to maximize their chances of success in both the classroom and in their future careers.		
Target Audience	Prepares students interested in pursuing graduate studies, professional studies and also career paths including forensic science.		

Undergraduate Forensic Science Degree			
Name of Institution	Russell Sage College		
City & State	Troy, NY		
Institution Type	Private - Women's College		
Program Website	http://www.sage.edu/academics/schoolofartsandsciences/chemistryandphysics/programs/forensicscienc e.php		
Department or College	Chemistry and Physics		
	Curriculum Format		
Degree Name	Forensic Science		
Concentration Area(s)	None		
Total Number of Courses Required	20 or 21		
Number of Core Courses Required	18		
	Foundations of Biology &		
	Internship in Forensic Science		
	General Chemistry &		
	Organic Chemistry &		
	Chemical Analysis		
	Evidence		
Core Courses	Statistics		
	Physics &		
	Introduction to Forensic Science I		
	Instrumental Analysis		
	Biochemistry		
	Molecular Genetics		
	Criminal Justice Functions & Processes		
	Criminal Law and Procedure		
Number of Elective Courses Required	2 or 3 (depending on credit value)		
	Genetics		
Sample Elective Courses	Proseminar		
oumple Elective obulses	Microbiology		
	Advanced Lab Methods in Organic Chemistry		
Thesis or Capstone?	Project optional		
Internship Component?	Required		
	Admissions Requirements		
	None		
	Pricing		
Estimated Total Cost	\$100,000		
	Marketing Message		
Program Message	Unique description: "The new Forensic Science degree program at Russell Sage College is the only program of its kind in New York's Capital region. This interdisciplinary program, is built on the foundation of our well-established programs in biology, chemistry and criminal justice." Want to convey that their program is unique with integration of the 3 above majors and applied hands - on experience at their in- house lab and internship opportunity.		
Target Audience	Graduates of the program compete favorable for technical positions in any State or private forensics laboratory. The program is also suitable for students interested in secondary education in biology (students receive preparation to move into the M.A.T program) or law school. Additionally, suitable for med students or as preparation for graduate study in forensic biology or chemistry.		
	Program Affiliations		
Key employers or professional associations	INVEST; their on site incubator for nanotechnology ventures, emerging sciences and technologies is an option for students to do their internships.		
	Dual degree in Chemistry (Non-certified) and Forensic Science available		
Other	2 of the required courses are offered in the evenings and one of them are online		
Uner	An ean take dasses through the Hudson-Mohawk Consortium on a space quailable besis		
	men van take wasses tillough tile Huuson-monawk Consolituitt on a space-available basis.		

Undergraduate Forensic Science Degree		
Name of Institution	The Richard Stockton College of New Jersey	
City & State	Pomona, NJ	
Institution Type	Public	
Program Website	http://talon.stockton.edu/eyos/page.cfm?siteID=14&pageID=83&program=CRIM	
Department or College	Social and Behavioral Sciences	
	Curriculum Format	
Degree Name	Criminal Justice	
Concentration Area(s)	Forensic Psychology track (optional)	
Concentration Area(s)	Forensics track (optional)	
Total Number of Courses Required	10 for CJ Major (16 if following specialized track)	
Number of Core Courses Required	7 Criminal Justice Courses	
Forensic Track Required Courses	Introduction to Forensics	
	Criminal Procedure Investigations	
	Forensic Behavior Analysis	
	Special Research Project	
Forensic Psychology Track	Advanced Forensic Science utorial	
Required Courses	Introduction to Criminal Justice	
	Introduction to Psychology	
	Theories of Criminality	
	Abnormal Psychology	
	Forensic Behavior Analysis	
	Sex Crimes	
	Personality	
Number of Elective Courses Required	3	
	Crime Behavior	
Sample Elective Courses	Psychology and the Law	
	Judicial Process	
	Criminal Procedure Investigations	
Thesis or Capstone?	Yes	
Internship Component? Optional		
Admissions Requirements		
Upon completion of the required coursework and training, you must apply for the certificate		
Pricing		
Estimated Total Cost In-State	\$36,000	
State	\$56,000	
Marketing Message		
Program Message	The program provides students with an understanding of the criminal justice system from the perspective of the social sciences. It's focus is more academic, rather than training for specific roles in the criminal justice system. Students can pursue the forensics track which provides an overview of crime scene investigation and the careers associated with this field. The forensic psychology track allow students to explore the relationship between psychological and psychosocial factors in human development and the kinds of thinking that lead to criminal offending.	
Target Audience	Students interested in careers criminal justice, law enforcement and the legal profession will find forensics track unique and highly rewarding. Additionally, the forensic psychology track prepare students to continue at the graduate level or to pursue a variety of career opportunities.	
Program Affiliations		
Key employers or professional associations	None	
Other	Dual BA/MA program offered in CJ	

Undergraduate Forensic Science Degree	
Name of Institution	St. John's University
City & State	Queens, NY
Institution Type	Private
Program Website	http://www.stjohns.edu/academics/undergraduate/professionalstudies/departments/cjls/degrees/cj.sju
Department or College	College of Professional Studies
Curriculum Format	
Degree Name	Criminal Justice, specialization in Forensic Psychology
Concentration Area(s)	Forensic Psychology
Total Number of Courses Required	12
Number of Core Courses Required	5
Core Courses	An Introduction to Criminal Justice System
	Crime and the Criminal
	The Police and the Community
	The American Judicial System
	American Correctional Systems
Number of Elective Courses Required	7
Sample Elective Courses	Forensic Psychology
	Introduction to Forensic Science
	Organized Crime
	Advanced Forensic Psychology
Thesis or Capstone?	none
Internship Component?	optional
Admissions Requirements	
	None
Pricing	
Estimated Total Cost	\$100,000
Marketing Message	
Program Message	This program offers students training in the application of psychology principles within the legal system.
Target Audience	The program prepares students for career opportunities in the criminal justice system, which offers significant career opportunities in the public sector at all levels of government. Private sector organizations increasingly seek to hire criminal justice professionals.
Program Affiliations	
Key employers or professional associations	Internship and Co-op opportunities with NYPD, state and federal level law enforcement agencies.