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## Review of: *Forensic Science—The Basics*

**REFERENCE:** Siegel JA. *Forensic science: the basics*, 1st ed. Boca Raton, FL: CRC Press, Taylor and Francis Group, 2007, 548 pp.

With the growing popularity of Forensic Science course offerings at the high school level, a textbook providing introductory and survey content geared toward high school students is greatly needed. By any objective measure, Dr. Jay Siegel has been successful in designing a high school text that is both comprehensive and instructive. The textbook assumes that students have a basic knowledge of chemistry and biology allowing it to be written at a more advanced level. *Forensic Science: The Basics* differs from other texts of this type because in addition to providing instruction in criminalistics-based disciplines typical of similar texts, it provides instruction in other areas of forensic science (such as forensic pathology, anthropology, entomology) making it the most comprehensive of its type available. The textbook also does not use depictions of excessive violence. All photographs and case studies are age appropriate.

The textbook is divided into six parts. Part 1 focuses on foundational aspects of forensic science, the nature of evidence and crime scene investigation. The chapter dealing with the nature of evidence is significant for high school instruction because it speaks to correct scientific procedure by its emphasis on positive and negative controls in analytical testing and comparative testing between known and unknown evidence. The foundational principles of Forensic Science such as classification, identification and individualization are also discussed in this chapter. Analytical techniques commonly used in Forensic Science are discussed in Part 2. Of particular note, is the chapter on separating complex mixtures by chemical and physical methods. It is important not only for the student to get a sense of how forensic scientists often have to manipulate samples, but also for the demonstration on the role that foundational chemistry plays in forensic analysis. For instance, Dr. Siegel discusses at

length the role that pH and solubility play in chemical separations. In addition, Part 2 offers a chapter on light and matter providing instruction on spectroscopic methods of analysis. Although written for high school students, the discussion of analytical techniques does not lack conceptual informational content in areas such as infrared spectrophotometry and mass spectrometry. Parts 3, 4, and 5 are discipline-specific offering chapters in areas comprising Patterns and Impressions, Forensic Biology and Forensic Chemistry, respectively. Although the expected chapter on DNA testing is present in Part 5, it is preceded by a chapter on Serology that discusses in part antigen and enzyme genetic marker testing as the precursor to the modern molecular biology typing methods. Some discussion on older methods is an added benefit to the text because it gives the reader a historical perspective of the profession. Part 6 concludes the text by discussing legal aspects of Forensic Science including courtroom testimony. *Forensic Science: The Basics* starts with the crime scene and ends with the courtroom mirroring the flow of a typical forensic science investigation.

Several aspects of the text make it particularly suitable for use by science high school teachers and students. Each chapter begins with learning objectives and a chapter outline. Within each chapter, key terms are in bold and a list of “test yourself” questions are given at the end. The graphics are outstanding and most chapters offer a “something for you to do” section whereby students are provided an exercise that can be easily performed using common materials to illustrate aspects of the instruction provided in the chapter.

*Forensic Science: The Basics* is a major step forward in the evolution of Forensic Science textbooks particularly for the target audience intended. High school students will not only find it instructive but also easy to read keeping this often difficult demographic interested in the material. Even after the television show CSI has been cancelled, this textbook will help keep young people interested in Forensic Science.

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