

State of Florida Instructional Materials Adoption Publisher Questionnaire (Form IM8)

BID #: 778
SUBMISSION TITLE: Forensic Science: Fundamentals and Investigations
GRADE LEVEL: 09-12
COURSE TITLE: Forensic Science 1
COURSE CODE #: 2002480
ISBN #: 9780357926963 Print SE; 9798214093024 Ebook SE
PUBLISHER: Cengage Learning, Inc.
AUTHOR: Bertino/Bertino
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AUTHORS & CREDENTIALS: LIST FULL NAME OF AUTHOR(S), WITH MAJOR OR SENIOR AUTHOR LISTED FIRST. BRIEFLY PROVIDE CREDENTIALS FOR EACH AUTHOR.

Anthony J. Bertino

Anthony (Bud) Bertino taught high school and community college science to students for over 40 years. He has taught biology, chemistry, physical science, ecology, and AP Biology and has served as a science supervisor at Canandaigua Academy. His awards include Outstanding Biology Teacher (NY, NABT), Woodrow Wilson Fellowship Award, Tandy Scholars' Award, and Outstanding Teaching Award from the University of Rochester. He has served as an AP Biology reader, consultant, and trainer for the College Board presenting week-long workshops around the country. Bud has presented week-long coursework for John Hopkins Center for Talented Youth (CTY) program and has served as an adjunct professor at Finger Lakes Community College and as a clinical supervisor for both the University of Albany (NY) Graduate School of Education and the College of St. Rose. Bud has been an attendee, curriculum developer, and presenter for the Cornell Institute for Biology Teachers (CIBT) and the Howard Hughes Medical Institute (HHMI). He is co-author of "Where's the CAT," and author of "The Cookie Jar Mystery" (forensic activities for elementary and afterschool programs). His activities on money-saving techniques have been published in The Science Teacher (NSTA publication) and The Forensic Teacher magazine.

Patricia Bertino

Patricia Nolan Bertino taught high school science for over 34 years at Scotia- Glenville High School. She developed curricula and taught high school biology and forensic science biology. Her awards include Outstanding Biology Teacher (NY, NABT), Woodrow Wilson Fellowship Award, and the Tandy Scholars' Award. She served as a scientific consultant for Video Discovery, Neo Sci, Prentice Hall Biology Review books, and several other publishers. Patricia has had numerous articles published in magazines including the NSTA Reports, STANYS Science Bulletin, The Forensic Teacher, and Women in Engineering. Patricia attended, developed curricula, and was a frequent presenter for the Cornell Institute of Biology Teachers (CIBT) and the Howard Hughes Medical Institute (HHMI). Patricia's professional involvement includes memberships in numerous professional organizations. She served as a corresponding secretary for her local teacher's union and served as the Subject Area Representative in Biology for the Eastern section of Science Teachers Association of New York State (STANYS).

STUDENTS: DESCRIBE THE TYPE(S) OF STUDENTS FOR WHICH THIS SUBMISSION IS INTENDED.

Forensic Science: Fundamentals and Investigations was created specifically for high school students.

1.LIST THE FLORIDA DISTRICTS IN WHICH THIS PROGRAM HAS BEEN PILOTED INTHE LAST EIGHTEEN MONTHS.

Forensic Science: Fundamentals and Investigations has not been piloted in Florida districts in the last 18 months.

2.HOW ARE YOUR DIGITAL MATERIALS SEARCHABLE BY FLORIDA'S ACADEMIC STANDARDS (SECTION 1006.33(1)(e), FLORIDA STATUTES)?

The eBook for *Forensic Science: Fundamentals and Investigations, 3e* has the Florida academic standards listed in the front of the book with associated page numbers next to the standard. The page numbers have active links to

direct the student/teacher directly to the content in the eBook. The Search feature in the eBook can also be used for key word searches. MindTap, National Geographic Learning/Cengage's online platform for teaching and learning with readings, assessments and interactivity has a Search feature to find content using language from the standard.

3. IDENTIFY AND DESCRIBE THE COMPONENTS OF THE MAJOR TOOL. The Major Tool is comprised of the items necessary to meet the standards and requirements of the category for which it is designed and submitted. As part of this section, include a description of the educational approach of the submission.

Educational Approach: (The information provided here will be used in the instructional materials catalog in the case of adoption of the program. Please limit your response to 500 words or less.)

Forensic Science: Fundamentals and Investigations, 3e reveals the science behind forensic techniques. Following introductory chapters on the fundamentals of forensic science and crime scene investigation, each chapter explores a specific type of evidence, illustrating how its analysis has evolved over time, describing how science plays a role in understanding its significance at a crime scene, walking through how forensic investigators and scientists collect it, examine it, and analyze it, and reporting how technological advances are enhancing the analysis of the evidence. Chapters are also intentionally scaffolded to introduce basic information in narrative content, and more advanced information where relevant, such as in the application of forensic techniques in lab activities. Nine capstone projects follow the chapters, building upon activities in the chapters to focus on specific forensic techniques or skills. Learning objectives intentionally align to all narrative content, activities, and assessments, while opportunities for further support and extended learning through collaboration between teacher and peers creates an engaging, personalized, and accessible learning experience for students.

SE (Student Edition) Pedagogical Features include:

- **Aligned to Florida standards**
- **Academic Connections** highlight relevant cross-curricular content. Science connections include biology, chemistry, earth science, and physics, along with connections in literacy, mathematics, and technology to illustrate to students how core courses relate to forensic science
- **Current Cases** pulled directly from the headlines open each chapter, while **Case Studies** revisit past cases, and **Careers in Forensics** highlight prolific forensic scientists, offering students an opportunity to authentically view the forensic science profession through the lens of actual cases and forensic professionals
- **Did You Know?** shares trivia-like facts related to chapter content to further engage students in what they are learning
- **Digging Deeper** and **Going Further** identify relevant topics for students to explore further and extend their learning

SE (Student Edition) Activities and Assessments include:

- **Think Critically** evaluates students' ability to connect Case Studies with what they learned in the chapter
- **Review Questions** evaluate students' understanding of the key concepts presented in each chapter
- **Lab Activities** evaluate students' ability to apply specific forensic science techniques related to key concepts within the context of a specific fictional or real case
- **Capstone Projects** offer students the opportunity to demonstrate knowledge and skills they have learned across chapters by participating in a specific project

Course Component Offerings

- To support learning and teaching, course components consist of a Student Edition, Wraparound Teacher's Edition, a robust Companion Site, including Testing powered by Cognero, and an accompanying MindTap.

Major Tool - Student Components Describe each of the components, including a format description.

The major tool for students is comprised of a hard cover print student book, an eBook, and the MindTap digital platform.

Print Student Book and eBook

The dynamic, visually powerful print text and eBook has been carefully crafted to ensure solid scientific content and an approach that delivers precisely what is needed for high school courses. The print book and eBook include 18 chapters, each with several case studies, background on the science, new an innovative forensic science technology and techniques, and multiple hands-on Activities. The print students book and eBook also include Captstone Projects, three Appendices, and a Spanish/English Glossary.

MindTap Digital Platform

MindTap is a cloud-based, highly personalized, digital online learning environment that combines student learning tools-readings, multimedia, activities, and assessments-into a single Learning Path.

Students have highly engaging digital resources available including chapter Interactive Labs and a full Virtual Lab experience where students collect and analyze evidence of a crime to solve the case.

Major Tool - Teacher Components Describe each of the components, including a format description.

Print Wraparound Teacher's Edition

The print Wraparound Teacher's Edition guides teachers through each chapter and activity using the many teaching notes found on the margins. Throughout the teacher's edition, headings in the side margins identified as *engage, explore, teach, apply, or access* with suggestions on:

- How to start a lesson that will captivate and engage students
- How to teach a lesson
- How to extend forensic lessons by providing interesting websites, books, tutorials for students to explore
- How to integrate math, history, politics and public speaking into forensic lessons
- How to encourage and motivate students to dig deeper and explore beyond what is described in the text
- When to apply what the students have learned by noting at what point in the lesson to introduce one of the many activities located at the end of each chapter
- How to provide learning opportunities for accelerated students and for students who need additional support. Look for the **Differentiated Learning** headings found in the teacher's edition and the **Digging Deeper** and **Going Further** sections found in the student edition

The Wraparound Teacher's Edition helps to prepare and conduct the hands-on activities by offering suggestions on:

- Inexpensive materials to use instead of purchasing expensive kits
- What materials need to be prepared in advance
- How to engage students to stimulate interest in the activity
- How to organize students and lab materials
- How to set-up and deliver the activities
- How to avoid and prevent common "pitfalls" of the activity
- How to present the information to students to ensure understanding
- Instructions on how to create inexpensive forensic kits

Answers to the end-of-chapter questions and the activity questions are also provided.

MindTap Digital Platform for Teachers

Teachers have access to all of the student materials in the MindTap digital platform. Teachers can also easily customize learning tools for their students, seamlessly introducing their own content, and also have access to powerful class reports and analytics to help save time, measure progress, and improve outcomes. Teachers can hide content from student view to allow students to see only the content teachers want them to see, and teachers can re-order or edit existing content and activities to make the digital resources match exactly how they teach.

4. IDENTIFY AND DESCRIBE THE ANCILLARY MATERIALS. Briefly describe the ancillary materials and their relationship to the major tool.

Ancillary Materials - Student Components Describe each of the components, including a format description.

There are no student ancillary materials.

Ancillary Materials - Teacher Components Describe each of the components, including a format description.

Teacher Companion Site

The Teacher Companion Site is accessible from the NGLSync portal and from the NGL.Cengage.com website on the page for the 3rd edition program. The materials on the Teacher Companion Website are essential for completing the hands-on activities at the end of each chapter, help teachers create a classroom and teach in a way that is accessible for all students, and helps teachers plan and conduct daily lessons and activities for the best effectiveness for student learning. These materials are in direct support of the content in the printed Wraparound Teacher's Edition. The Teacher Companion Site includes the following teacher resources and downloadable files:

- Additional Activities for some chapters that are not available in the print book (23 Activities total)
 - These additional activities are available in the MindTap platform
- Teacher Notes and Student Worksheets for each Activity at the end of every chapter
- Teacher Notes and Student Worksheets for each Capstone Project
- Student Learning Objectives for each chapter
- Lesson Plans
- PowerPoint Lecture Slides
- Test Banks
 - Test Bank (Blackboard)
 - Test Bank (Desire2Learn via Blackboard)
 - Test Bank (Moodle via Blackboard)

- Test Bank (Canvas)
- Test Bank (Microsoft Word)
- Additional Activity Ideas and Resources
 - includes high interest, non-fiction readings arranged by chapter

Cognero

Cognero is an online test generator including a large bank of questions aligned to each chapter of the program. Teachers can customize quizzes and tests including the ability to:

- author, edit, and manage test bank content from multiple sources
- create multiple test versions in an instant
- deliver tests from teacher/school-specific learning management systems (LMS)

5. IDENTIFY WHICH INDUSTRY STANDARD PROTOCOLS ARE UTILIZED FOR INTEROPERABILITY?

MindTap, National Geographic Learning/Cengage's online portal for teaching and learning, has been certified by IMS Global at the v1.3 LTI Advantage interoperability level.

6. HOW MUCH INSTRUCTIONAL TIME IS NEEDED FOR THE SUCCESSFUL IMPLEMENTATION OF THIS PROGRAM? Identify and explain the suggested instructional time for this submission. If a series, state the suggested time for each level. The goal is to determine whether the amount of content is suitable to the length of the course for which it is submitted.

The content in the *Forensic Science: Fundamentals and Investigations* program is designed for a semester-long elective science course. The program has a lot of flexibility in the chapters and content taught making it easy to customize for a variety of forensic science instruction and the MindTap digital platform is customizable to re-order or hide certain chapters, content, or activities. With the new 3rd Edition, many more activities have been added to allow teachers to choose the quantity of activities that best meets their allotted time for forensic science.

7. WHAT PROFESSIONAL DEVELOPMENT IS AVAILABLE? Describe the ongoing learning opportunities available to teachers and other education personnel that will be delivered through their schools and districts as well as the training/in-service available directly from the publisher for successful implementation of the program. Also provide details of the type of training/in-service available and how it may be obtained. (The information provided here will be used in the instructional materials catalog in the case of adoption of the program.)

Please refer to a separate detailed document called the Florida Customer Care Package which describes all the product implementation training that is available based on the purchased products and quantities. The training ranges from multiple day, in-person training with several scheduled follow up trainings over multiple years to individual 1 on 1 online/remote training sessions. There are also many online on-demand training modules available to keep teachers successful any time of the day or week to ensure successful implementation and use of our products in the classroom.

8. WHAT HARDWARE/EQUIPMENT IS REQUIRED? List and describe the hardware/equipment needed to implement the submission in the classroom. REMEMBER: Florida law does not allow hardware/equipment to be included on the bid; however, schools and districts must be made aware of the hardware/equipment needed to fully implement this program.

MindTap features (reading the eBook, studying flashcards) are available on a mobile smartphone.

MindTap System Requirements

Operating Systems

- Windows - Windows 7, 8, 8.1, 10
- Macintosh - OS X 10.10 -10.11
- Chrome - Chrome OS
- Mobile - iOS 6+, Android (see below note for browsers)

Browsers

- Windows - Firefox (latest and next-to-latest version, Chrome (latest and next-to-latest version), Internet Explorer 11 (For Win 7 and 8.1 only), Microsoft Edge 13-14
- Macintosh - Firefox (latest and next-to-latest version, Chrome (latest and next-to-latest version), Safari 9.x+
- Mobile - Safari 9+ (may provide limited functionality). Firefox and Chrome are valid browsers for Android use, however usage is too low to warrant functionality testing. Thus, Android devices are not officially supported at this time.

Plug-Ins and Browser Settings

- First and third party cookies must be enabled within the browser.
- Popups must be enabled within the browser.
- Adobe Flash - While you can use MindTap without the Flash plugin, if possible, install the latest version of the Flash Player on your system.
- Java is no longer required for MindTap, however there may be some older legacy content that still requires this plugin.
- Please Note: Beginning with version 45, Chrome no longer supports NPAPI plugins like Java or Silverlight. Users needing to run Java-based content in MindTap will be required to use an alternate browser.
- JavaScript must be enabled within the browser, which most browsers have installed and enabled by default.
- Adobe Reader is needed to print MindTap assignments and other content.

Hardware Requirements

- Minimum screen resolution of 1024 x 768.
- Intel® or AMD® CPU at 1.8GHz or better
- 1 GB of RAM

Bandwidth Requirements

- Minimum - 1Mbps Download
- Recommended - 5Mbps Download
- Users can test their connection speed by visiting the following link: <http://www.speedtest.net/index.php>

9. WHAT LICENSING POLICIES AND/OR AGREEMENTS APPLY? If software is being submitted, please attach a copy of the company's licensing policies and/or agreements.

Attached are two National Geographic Learning/Cengage policies: the MindTap licensing policy and the privacy policy.

[Cengage-Group-School-Terms_of-Use-January-2022.pdf](#)

[cengage-privacy-notice-october-2020-1508150.pdf](#)

10. WHAT STATES HAVE ADOPTED THE SUBMISSION? List any states in which this submission is currently adopted.

Previous edition was previously under contract in the State of Florida.

11. WHAT OPEN EDUCATIONAL RESOURCES RELATED TO THIS BID DO YOU MAKE AVAILABLE(S)? List and describe each of the components, including a format description. (Open Educational Resources (OER) are high-quality, openly licensed, online educational materials that offer an extraordinary opportunity for people everywhere to share, use and reuse knowledge.)

Open Educational Resources (OER) are not included in the National Geographic Learning/Cengage bid.

12. ALTHOUGH NOT CALLED FOR IN THE STATE ADOPTION, DO YOU HAVE ADVANCED PLACEMENT (AP) OR ACCELERATED PROGRAM INSTRUCTIONAL MATERIALS AVAILABLE FOR THE COURSE(S) BID FOR ADOPTION?

National Geographic Learning/Cengage offers the following Advanced Placement and accelerated program instructional materials for high school science:

- AP Chemistry: Zumdahl, Chemistry, 11e (AP Edition) ©2024
- AP Biology: Starr, Biology: The Unity and Diversity of Life, 15e (Updated AP Edition) ©2023
- AP Physics 1 & 2: Serway, College Physics, 11e (AP Edition) ©2018
- AP Physics C: Serway, Physics for Scientists and Engineers, 10e (High School) ©2019
- Honors Environmental Science: Miller, Environmental Science, 16e ©2019
- AP Environmental Science: Miller, Exploring Environmental Science for AP®, 1e Enhanced Edition ©2024

13. WHAT, IF ANY, FOREIGN LANGUAGE TRANSLATIONS DO YOU HAVE AVAILABLE?

The Glossary in the back of the print book is provided in both English and Spanish.

14. DO YOU PROVIDE ACCESS POINT SCAFFOLDING OR AN ACCESS POINT CORRELATION UPON REQUEST?

Access Point Correlations will be provided upon request.

15. ESSA LEVELS OF EVIDENCE: To be considered an evidence-based program (or practice), it is required to have evidence to show that the program is in fact effective at producing results and improving outcomes in reading when implemented. Identification of evidence level alignment, Levels 1-4 (as outlined in the specifications), for the entirety of the program, part of the program, or individual practices within the program is required. Please explain how your product meets these requirements.

National Geographic Learning/Cengage is committed to providing results-driven solutions to improve student outcomes. The Science editorial department believes in providing rigorous, challenging, engaging content that is accessible by every student.

The National Geographic Learning Science programs are developed with the expertise of highly regarded authors, subject matter experts, program consultants, editorial staff, and teacher reviewers who ensure the implementation of the most recent research studies and pedagogy to promote student achievement. It is the goal of National Geographic Learning to ensure we reach every Florida student in every National Geographic Learning classroom.

In addition to strategies incorporated in the student edition, MindTap, National Geographic Learning's online platform for teaching and learning, is rich in formative and summative assessment to measure reading and content comprehension and employs multiple modes of assessment. After each lesson, formative assessment measure comprehension of the content of the lesson as well as the building of literacy skills. Formative assessment is a mix of multiple choice and constructed responses. The entire chapter is reviewed.

National Geographic Learning is committed to providing results-driven solutions to improve student outcomes. National Geographic Learning focuses on the effective use of technology, strong student support, experienced and talented authors and consultants, frequent assessment, and student engagement through print and digital resources. With this foundation, National Geographic Learning supports the goals and outcomes of ESSA.