INSTRUCTIONAL MATERIALS PUBLISHERS

Bid Item

Course: Chemistry 1 (2003340)
Title: HMH Florida Modern Chemistry , Edition: First
Copyright: 2019
Author: Sarquis, et al
Grade Level: 9 - 12

Publisher Questionnaire

AUTHORS & CREDENTIALS: LIST FULL NAME OF AUTHOR(S), WITH MAJOR OR SENIOR AUTHOR LISTED FIRST. BRIEFLY PROVIDE CREDENTIALS FOR EACH AUTHOR.

Arlyne “Mickey” Sarquis CEO, Terrific Science Professor Emerita of Chemistry and Biochemistry and Director Emerita of the Center for Chemistry Education at Miami University (Ohio) Arlyne “Mickey” Sarquis is the creator and CEO of Terrific Science, an internationally recognized provider of professional development and developer of chemistry education resources for teachers and students. With her retirement from Miami University, she has been named Professor Emerita of Chemistry and Biochemistry and Director Emerita of Miami’s Center for Chemistry Education, which she founded in 1993. Sarquis is an internationally recognized leader in chemical education whose chemistry-based teacher enhancement and curriculum development efforts have become national and international models. She has developed research-based protocols for professional development and for the development of instructional materials. Sarquis has explored dimensions of inquiry-based instruction, technology conversion of courses, visualization techniques to support understanding, methods to bridge formal and informal science education, and more. Honored with Miami’s most prestigious award, the Benjamin Harrison Medallion for her extraordinary efforts in national and international outreach, Sarquis has also been given more than $16 million in external grants to support her efforts. She has authored more than 80 books, monographs, chapters, and articles. Her publications have received honors including a Teachers’ Choice Award and Parents’ Choice Recommended Award. Sarquis received her B.S. in Chemistry from the University of California, and her M.S. in Chemistry from Texas A & M University. Jerry L. Sarquis, Ph.D. Professor Emeritus, Department of Chemistry and Biochemistry, Miami University (Ohio) Dr. Jerry Sarquis, Professor Emeritus of Chemistry and Biochemistry at Miami University, Oxford, Ohio, is an active member of the American Chemical Society and its Division of Chemical Education. He has been involved in two recent NSF initiatives, Process-Oriented Guided Inquiry Learning (POGIL) and Peer-Led Team Learning (PLTL). Dr. Sarquis has made numerous presentations, both domestic and international, on PLTL, POGIL, using toys to teach science, and the use of polling system pedagogy in general chemistry. He is an advocate and a mentor for groups traditionally underrepresented/underserved in the STEM (Science, Technology, Engineering, and Math) disciplines and currently is a member of the American Chemical Society’s Committee on Minority Affairs. Dr. Sarquis received his Ph.D. from Texas A&M University.

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

HMH Florida Modern Chemistry © 2018 is a core science curriculum designed for all learners in the high school general education setting, including those who perform on grade level, below grade level, and above grade level, as well as English Language Learners.

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

Not Applicable

2. HOW ARE YOUR DIGITAL MATERIALS SEARCHABLE BY FLORIDA STATE STANDARDS (SECTION 1006.33(1)(E), FLORIDA STATUTES)?

HMH Florida Science is a comprehensive science curriculum designed specifically for Florida. Built to meet 100% of the Next Generation Sunshine State Standards (NGSSS), HMH Florida Science delivers unparalleled learning experiences shaped by the Big Ideas of the NGSSS. Full-text standards correlations and standards citations are provided in the print and digital Teacher Editions, Student Editions, print and digital lesson planning tools, and online assessment reports. With this Florida-specific curriculum, teachers can easily and quickly track standards coverage and progression – the information is already organized into the HMH Florida Science print and digital materials.

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.)

HMH Florida Modern Chemistry is a comprehensive science curriculum designed specifically for Florida. Built to meet 100% of the Next Generation Sunshine State Standards (NGSSS), HMH Florida Modern Chemistry delivers unparalleled learning experiences shaped by the Big Ideas of the NGSSS. With inquiry, critical thinking, and problem-solving as its framework, HMH Florida Modern Chemistry raises levels of involvement and

interest through HTML5-formatted interactive texts, dynamic resources, and a mixture of hands-on and virtual learning experiences. The Florida Standards Guide provides supplemental student activities that directly address each of the Florida standards for chemistry. With fresh activities in the Engineering Design Guide, students actively engage in the Engineering Design Process and the Disciplinary Core Idea (DCIs), Science and Engineering Practices (SEPs), and Crosscutting Concepts (CCCs). Integration of the three dimensions is especially evident in the labs component. Along with the program's suite of traditional hands-on labs, students can experience labs that they may not be able to under normal classroom conditions. The HMH Florida Modern Chemistry program's Virtual Labs give students a state-of-the art virtual lab experience, without any need for materials, set-up, or advance planning. Students can play and replay the Virtual Labs, simulations, and animations at their own pace to enhance their comprehension. All of the program's labs are organized by chapter, available online, and editable. Students develop enhanced conceptual understanding through the HMH Florida Modern Chemistry program's multiple representations of the content. They connect to the captivating narrative that capitalizes on real-world scenarios, while vibrant visuals and animations like Animated Chemistry, Teaching Visuals, PhET Simulations, and Why It Matters videos bring concepts to life. Each chapter also includes an Interactive Concept Map, which challenges students to complete an interactive advanced organizer that shows the connections among the concepts covered. Support for problem-solving is also built into the HMH Florida Modern Chemistry program, with components such as the Solution Tutor, Interactive Demonstrations, and Learn It! tutorial videos. These components provide step-by-step guidance for solving problems, tips and strategies, and interactive practice opportunities. Problem-solving skills are further reinforced with the program's bank of Sample Problem Sets and the printable and portable Solve It! Cards. HMH Florida Modern Chemistry leads students to deep conceptual understanding of chemistry and prepares them for college and careers. Exploration, engagement, and curiosity continue with dynamic components such as Google Expeditions virtual reality field trips, On the Job STEM career-related videos, and Thing Explainer comic strips by Randall Munroe of xkcd webcomics fame. These features of HMH Florida Modern Chemistry not only spark discussions, they also inspire students on their path to college and careers. The program includes superior levels of reading support, as well as challenging Pre-AP material, so all learners can have meaningful and successful connections with the core content.

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

Student Edition • Student Edition: Print edition: The HMH Florida Modern Chemistry print Student Edition is well-organized, visually appealing, and easily portable. This core text is a hardcover book with full-color pages. The reader-friendly layout includes manageable chunks of text, vibrant images that directly connect to the lesson content, and helpful headings. • Student Edition: Online interactive edition: The HTML5-formatted HMH Florida Modern Chemistry Student Edition invigorates learning by delivering a completely interactive experience. The online interactive textbook includes an embedded natural-voice text reader, an interactive table of contents, and numerous embedded lesson-specific materials and multimedia features that can be launched directly from the lesson pages. Tools for note-taking, highlighting, annotating, and bookmarking are built into the online interactive textbook. • Student Edition: HMH eTextbooks App: An offline-ready version of the HMH Florida Modern Chemistry Student Edition is available in downloadable EPUB3 format from the HMH eTextbooks App. This digital version of the print textbook delivers increased portability and embedded interactive features for use on desktops, laptops, Chromebooks, and Apple and Android tablets. The Student Edition from the HMH eTextbooks App includes links to resources at point-of-use and digital note-booking, highlighting, and annotation tools. Additional information about the HMH eTextbooks App is at http://www.hmhco.com/classroom/classroom-solutions/digital-and-mobile-learning/hmh-etextbooks. • Student Edition: Downloadable PDF: A downloadable PDF of the print version of the HMH Florida Modern Chemistry Student Edition is available from HMH's online platform. It can be downloaded to any compatible device for offline use. • Student Edition: Common Cartridge: HMH Florida Modern Chemistry is also available in the IMS Global Common Cartridge Standard. This offering combines the high-quality curriculum with the IMS interoperability standards to deliver digital content that can be accessed in an IMS-conformant Learning Management System (LMS). The content in Common Cartridge consists of digital components such as the online textbooks and resources. It is all packaged for maximum flexibility to allow for individualization that meets the needs of all students. Houghton Mifflin Harcourt's Common Cartridge delivers the quality, consistency, reliability, and flexibility that optimize students' digital learning experience. Information about Common Cartridge is available at http://www.hmhco.com/classroom/classroom-solutions/digital-and-mobile-learning/common-cartridge.

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

Teacher Edition • Teacher Edition: Print edition: The HMH Florida Modern Chemistry print Teacher Edition is well-organized, easily portable, and teacher-friendly. This hardcover text provides high-quality instructional support, robust differentiation, strategies and activities for all levels and styles of learners, and structured support for labs. • Teacher Edition: Online interactive edition: The HTML5-formatted HMH Florida Modern Chemistry Teacher Edition enhances instruction and includes layers of support built into every page. The online interactive textbook have an interactive table of contents, lesson-specific professional development supports, and resources and multimedia features that can be launched directly from the lesson pages. Tools for note-taking, highlighting, annotating, and bookmarking are built into the online interactive textbook. • Teacher Edition: Downloadable PDF: A downloadable PDF of the print version of the HMH Florida Modern Chemistry Teacher Edition is available from HMH's online platform. It can be downloaded to any compatible device for offline use. • Teacher Edition: Common Cartridge: HMH Florida Modern Chemistry is also available in the IMS Global Common Cartridge Standard. This offering combines the high-quality curriculum with the IMS interoperability standards to deliver digital content that can be accessed in an IMS-conformant Learning Management System (LMS). The content in Common Cartridge consists of digital components such as the online textbooks and resources. It is all packaged for maximum flexibility to allow for individualization that meets the needs of all students. Houghton Mifflin Harcourt's Common Cartridge delivers the quality, consistency, reliability, and flexibility that optimize students' digital learning experience. Information about Common Cartridge is available at http://www.hmhco.com/classroom/classroom-solutions/digital-and-mobile-learning/common-cartridge.

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.

Hands-On & Virtual Labs • QuickLabs (Word, PDF) allow students to encounter key concepts in the classroom. • Open Inquiry Labs (Word, PDF) require students to drive the lab activity, making decisions about topics to research and their research processes and methods. • STEM Labs (Word, PDF) are project-based labs that integrate science, technology, engineering, and mathematics; incorporate team inquiry methodologies; emphasize the Engineering Design Process; and promote multimodal learning. • Probeware Labs (Word, PDF) integrate Vernier electronic data-collection

technology into exciting activities that enhance hands-on learning. • Challenge Labs (Word, PDF) let students extend their understanding and lab expertise with advanced techniques, equipment, and content. • Virtual Labs (HTML/mp4) deliver highly interactive multimedia representations of investigations and experiments that typically could not be performed in a school lab setting or require equipment/materials that are often expensive or difficult to acquire. • Virtual Investigations and Video Labs (HTML/mp4): The Virtual Investigations and Video Labs are engaging presentations, interactive activities, and simulated scientific investigations that reinforce students' understanding of chemistry and science skills and strengthen inquiry skills. With these virtual hands-on activities, students have the opportunity to Watch It!, Practice It!, and Apply It! Animations, Simulations, & Videos • Animated Science (HTML5): These simulation-based activities bring chemistry concepts and principles to life. Each of these includes three parts: an overview of the concept, an interactive simulation, and an assessment. • PhET Simulations (HTML5): These online interactive science simulations, produced under Creative Commons licensing by the University of Colorado at Boulder, engage students in fun experiences based on real-life phenomena. • Learn It! tutorial videos (mp4): Master chemistry tutors guide students through challenging chemistry problems that model problems in the textbook. • Why It Matters videos (mp4): These 17 videos engage students by making real-world connections to new chapter content. Each video relates the content to everyday objects/scenarios that are familiar to students. • Google Expeditions (VR/HTML and Javascript coding): In partnership with Google, HMH brings you Google Expeditions virtual reality field trips that immerse students in captivating 3D, 360-degree panoramic explorations. With Google Expeditions virtual reality field trips and connected curricular resources, students are taken to various places in the real world through a simple Google Cardboard viewer and a mobile phone. Teachers guide students through each inquiry-based virtual reality field trip by using a tablet, the Google Expeditions App, and the HMH Florida Modern Chemistry-Google Expeditions Teacher's Guide with course-specific lesson resources. The Google Expeditions App is available for Apple and Android phones. Reading & Comprehension Supports • Interactive Reader (print consumable and digital PDF): This worktext delivers essential lesson content with text written at two grade levels below the Student Edition. It includes scaffolded Skill Builder pages and graphic organizers. Florida Standards Guide • Florida Standards Guide (PDF, print): The Florida Standards Guide provides supplemental student activities that directly address each of the Florida standards for chemistry. Engineering Design Guide • Engineering Design Guide (PDF, print): This resource provides an overview of the Engineering Design Process along with unique activities and checklists that bolster students' critical-thinking and problem-solving skills. Student Resources & Tools • Study Guides (PDF, print): With an organized format, these help students review and retain the key information. • Interactive Review Games (HTML5): These fun and motivating games encourage students to study and review chapter content. Math-Focused Materials & Resources • Sample Problem Sets I & II (Word, PDF): These editable worksheets offer problem-solving strategies and meaningful practice for every type of problem in the textbook. • The Solution Tutor (HTML5): This helpful resource gives students step-by-step support for key problems. It gives immediate feedback, helpful hints, and targeted remediation. • Solve It! Cards (PDF): The Solve It! Cards relate to problem types in the lessons and help students master core problem-solving strategies. • Interactive Demonstrations (HTML5): Given for every sample problem in the SE, these audio-enhanced multimedia features show problem-solving techniques in action and give extra practice. The Try It Yourself activity helps students apply what was learned in the Interactive Demonstration.

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

Teacher Materials for Labs • Labs with Teacher Notes (Word, PDF): This resource contains editable versions of the student labs along with focused guidance for instruction and planning. • Laboratory Manager's Professional Reference (PDF): This is a 150-page resource for valuable guidelines and suggestions for managing labs. • Professional Reference for Teachers (PDF): This 180-page resource offers valuable strategies from experts in science education. • Classroom Management Resources (PDFs): This contains a collection of useful teacher and student pieces in one place, available immediately. Animations, Simulations, & Videos • Google Expeditions (VR/HTML and Javascript coding): Teachers guide these virtual reality field trips by using the HMH Florida Modern Chemistry-Google Expeditions Teacher's Guide. The ready-made questions and corresponding activities guide students to think analytically and critically about what they have experienced and make connections to concepts presented in the HMH Florida Modern Chemistry lessons. Teacher's Guides and Other Resources • Interactive Reader Teacher's Guide (PDF, print) • Florida Standards Guide Teacher's Guide (PDF, print) • Engineering Design Guide Teacher Edition (PDF, print) • Sample Problem Sets I & II Answer Keys (Word, PDF) • Textbook Solutions (PDF) • PDFs on the platform: The HMH Florida Modern Chemistry program includes PDF versions of activities and worksheets, such as the Reinforcement Worksheets and Study Guides. Teacher Presentation Tools • Interactive Whiteboard Resources: Interactive Whiteboard Resources for each chapter are formatted for SMART Notebook and ActivInspire Flipchart. • PowerPresentations (PPT): PowerPresentations are pre-built PowerPoint slides (Inquiry-based format, Outline format, and Test Prep format) covering the core material of each chapter. • Teaching Visuals (PDF): These are digital versions of key illustrations/diagrams. Teaching Strategies Resources • Teacher Toolkit (PDFs): This resource on the platform's Teacher Resources page has more than 200 lesson resources and tools. • Teaching Strategies (PDF): This resource includes select strategies from the Teacher Edition. Teacher Planning Tools • mySmartPlanner (HTML5): With the time-saving mySmartPlanner tool on HMH's online platform, teachers can quickly search for, choose, and schedule lessons and resources with just a few clicks. An auto-schedule function automatically populates the schedule for specific date ranges or for the entire year. It synchronizes with all HMH programs that a teacher may use, serving as a one-stop scheduling tool for all lessons, resources, assignments, and assessments. • Correlation to the Next Generation Sunshine State Standards (PDF): This resource shows the correlations between HMH Florida Modern Chemistry content and the NGSSS. Online Assessment System • ExamView Assessment Suite (HTML5): ExamView Assessment Suite (HTML5) increases the ease of planning, administering, scoring, and reporting. It includes a test item bank and pre-made program assessments, and it has scoring and reporting capabilities. Assessments can be edited, and teachers may customize them in a number of ways. Complexity levels for items on pre-loaded tests and test bank items are shown. Assessments can be scheduled and administered online, and they can also be downloaded and printed. • Online Assessment with Remediation (HTML5): The HMH Florida Modern Chemistry program includes Online Assessment with Remediation, which allows teachers to easily assign Section Quizzes and Chapter Tests. The system can automatically score responses, and performance data are recorded for the teacher. Automated remediation and reassessment are provided for Section Quizzes. • Assessment Guide (PDF and print): The Assessment Guide includes Section Quizzes, Leveled Chapter Tests, Alternative Assessments, and more. It also includes scoring rubrics and answers with explanations.

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

HMH's educational technology supports the standards set forth by the IMS Global Learning Consortium.

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.

This program is intended for use throughout one school year, in either a traditional daily schedule or a block schedule

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.)

Supporting Initial Program Implementation To ensure teachers have the knowledge to begin implementing their new HMH program, professional learning is provided with purchase. We understand that schools and districts need choices regarding delivery options; as a result, we offer a variety of delivery methods for this initial program learning. Clients may choose from courses listed below. Getting Started with Florida Modern Chemistry Participants engage in a variety of hands-on experiences to learn about Florida Chemistry organization, design, and resources, through direct instruction, guided practice, and cooperative exploration, participants will experience the program's resources both from a student and teacher perspective. The goal is to build deeper understanding and confidence to begin implementing Florida Chemistry in their respective learning environments. Learning Outcomes: • Enrich daily instruction by applying knowledge of Florida Chemistry program organization and pedagogy • Support differentiation, assessment, and effective whole and small group instruction using HMH program resources and instructional tools • Enhance instructional delivery and student learning using HMH technology Audience: Teachers, Coaches, Administrators Delivery: In-person Time: Full-day, Half-day or Webinar Getting Started with Florida Chemistry Train the Trainer As an alternative to Getting Started, leaders and educators can choose to build capacity internally. Our specialized team of consultants helps school and district trainers deliver initial program training at their respective sites. Learning Outcomes: • Enrich daily instruction by applying knowledge of Florida Chemistry program organization and pedagogy • Support differentiation, assessment, and effective whole and small group instruction using HMH program resources and instructional tools • Enhance instructional delivery and student learning using HMH technology Audience: Teachers, Coaches, Administrators Delivery: In-person Time: Full-day Getting Started Leadership Webinar Designed specifically for district and school leaders and instructional coaches, the Getting Started Leadership Webinar provides an overview of the Florida Chemistry program organization, lesson design, and support resources. The goal is to build deeper understanding of the program's alignment to standards as well as identify key teacher and student behaviors to observe in their learning environments. Learning Outcomes • Recognize program alignment to national standards • Understand program organization and resources that support differentiation, assessment, and effective whole and small group instruction • Identify teacher and student behaviors that positively impact student achievement when observing Florida Chemistry classroom implementation and delivery Audience: Teachers, Coaches, Administrators Delivery: Webinar Time: 1 hour

8. WHAT HARDWARE/EQUIPMENT IS REQUIRED? Briefly 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.

Districts that choose to use the program's technology-based textbooks and components can use any of the following hardware/equipment: Operating systems: Chromebooks Windows 7, 8.1 desktop/touch tablet, 10 Mac 10.9, 10.10, 10.11 iOS 8 and 9.7"+ screen Android 4.4 and 5.7"+ screen Minimum RAM: 512 MB Hard drive space needed: Core program: less than 1 GB ExamView Assessment Suite: 32 MB on PC, 28 MB on Mac

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.

See Attached

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

This program is brand new and has not been adopted in other states as of this time.

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 are not included in the HMH Florida Modern Chemistry program.

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?

HMH Florida Modern Chemistry includes support and materials for advanced learners, such as Differentiated Instruction: Pre-AP strategies and Pre-AP Activities. The program also includes other challenging extension and enrichment activities.

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

The HMH Florida Modern Chemistry program is available in Spanish. The English-language program includes a multi-language glossary (with audio) that presents key terms and definitions in English and Spanish.