International Society for Technology in Education

ISTE SEAL OF ALIGNMENT REVIEW FINDINGS REPORT

Oracle Academy

SEPT 2013

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ABOUT

ABOUT ISTE

The International Society for Technology in Education (ISTE) is the premier nonprofit membership organization serving educators and education leaders. ISTE is committed to empowering connected learners in a connected world and serves more than 100,000 education stakeholders throughout the world.

As the creator and steward of the definitive education technology standards, our mission is to empower learners to nourish in a connected world by cultivating a passionate professional learning community, linking educators and partners, leveraging knowledge and expertise, advocating for strategic policies, and continually improving learning and teaching

ISTE SEAL OF ALIGNMENT

Resources and products designed with the ISTE Standards in mind are choosing to demonstrate their commitment to support critical digital age learning skills and knowledge. Regardless of a solution's intended grade level, purpose or content area, by addressing the ISTE Standards and earning a Seal of Alignment, a solution is shown to consciously, purposefully and meaningfully support best practices for digital age teaching and learning.

ISTE considers a solution aligned to the ISTE Standards only after an extensive review conducted by trained ISTE Seal of Alignment reviewers, and it has been determined to meet all critical elements of a particular standard indicator in accordance with specific review criteria.

By earning a Seal of Alignment, ISTE verifies that this product:

- Promotes critical technology skills
- Supports the use of technology in appropriate ways
- Contributes to the pedagogically robust use of technology for teaching and learning
- Aligns to the ISTE Standards in specific ways as described in the review finding report

RESOURCE DESCRIPTION

WHAT IS ORACLE ACADEMY?

Oracle Academy offers professional development courses for teachers who wish to become certified to teach corresponding high-school level computer science courses at their institution. The courses focus primarily on teaching basic programming languages and skills necessary for the design and construction of databases. Despite the highly technical nature of the courses, each course is structured in a way that addresses skills important for real-world implementation and are appropriate for learners with novice to intermediate technology skills.

Each course takes approximately 10-12 weeks (or 90-180 instructional hours) to complete and are facilitated by Oracle instructors who interact with participants throughout the process. At the end of the series, participants attend a two- or three-day face-to-face event to conduct their final project and complete the certifying exams (participants must meet or exceed a 60% threshold) to become certified to offer the high-school level courses at their institution.

Oracle Academy first underwent a Seal of Alignment review in 2013. In 2017, the courses underwent an audit review. Between 2013 and 2017, the following courses were reviewed:

a. Data Base Foundations
b. Java Foundations
c. Java Programming
d. Apex Foundations
e. Big Data Foundations.
f. Database Design and Programming with SQL
g. Database Programming with PL/SQL
h. Java Fundamentals

ISTE SEAL OF ALIGNMENT REVIEW

Product: Oracle Academy
Company: Oracle
Date of Award: April 2017

REVIEW METHODOLOGY

ISTE Seal of Alignment reviews are conducted by a panel of education and instructional experts. Reviewers use data collected both separately and collectively to determine how a solution addresses specific elements described in each of the indicators of the ISTE Standards. Special instruments are used by reviewers to collect data on potential alignment across all resource materials. Alignment is determined based on the extent to which all or some of specific elements are addressed within the materials. Reviewers conduct regular calibrations to assure the validity and reliability of the results and final review findings are combined for an overall score for alignment on each individual indicator.

ISTE reviewers conducted a review using a sampling approach to locate and identify lessons focused on particular content and skills directly related to the ISTE Standards for Computer Science Educator indicators. Throughout the courses, reviewers found learning objectives, implementation plans, and embedded tools that align to the standards.

SCOPE OF REVIEW

During the review process for Oracle Academy, reviewers:

- collected data on when and how each activity addressed specific skills and knowledge described in the ISTE Standards for Educators.
- compiled findings to determine overall alignment across all ISTE Educator standards and indicators.
- used aggregate findings to form the basis of the overall alignment results.

After a careful review of the Oracle Academy online courses, the curriculum and their associated materials, ISTE reviewers determined that there is substantial support for Mastery of the ISTE Standards for Computer Science Educators. Indicators for which a Seal of Alignment for Mastery within the ISTE Standards for Computer Science Educators are presented below.

REVIEW FINDINGS

The Oracle Academy courses align to the ISTE Standards for Computer Science Educators at the Mastery level in the following ways:

Meets:

1. Knowledge of content

a. Demonstrate knowledge of and proficiency in data representation and abstraction

i. Effectively use primitive data types

ii. Demonstrate an understanding of static and dynamic data structures

iv. Effectively use modeling and simulation to solve real world problems

b. Effectively design, develop, and test algorithms

i. Using a modern, high-level programming language, construct correctly functioning programs involving simple and structured data types; compound Boolean expressions; and sequential, conditional, and iterative control structures

ii. Design and test algorithms and programming solutions to problems in different contexts (textual, numerica, graphic, etc.) using advanced data structures

iv. Demonstrate knowledge of two or more programming paradigms

v. Effectively use two or more development environments

Supports:

1. Knowledge of content

a. Demonstrate knowledge of and proficiency in data representation and abstraction

iii. Effectively use, manipulate, and explain various external data stores: various types (text, images, sound, etc), various locations (local, server, cloud), etc.

b. Effectively design, develop, and test algorithms

iii. Analyze algorithms by considering complexity, efficiency, aesthetics, and correctness

vi. Demonstrate knowledge of varied software development models and project management strategies

CONCLUSION

Within each course, participants have access to high-quality, detailed, multi-media instructional materials that are both well-organized and visually appealing. In addition, participants are given opportunities to practice and implement newly acquired skills in real world settings while benefitting from expert feedback and instruction.

Based on this high level of engagement and instruction, ISTE recommended a Seal of Alignment review for Mastery. This most rigorous review type requires documented evidence showing that a resource helps meet the complex, skills-based indicators of the ISTE Computer Science Educator Standards.