VR Development pathway

Standards alignment

# International Society for Technology in Education (ISTE)

From the [ISTE Standards webpage](https://www.iste.org/standards): The ISTE Standards are a framework for students, educators, administrators, coaches, and computer science educators to rethink education and create innovative learning environments.

| **Domain** | **#** | **Standard** | **Full: ✓**  **Partial: ◑** |
| --- | --- | --- | --- |
| **1**  **Empowered learner** | 1a | Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them, and reflect on the learning process itself to improve learning outcomes. | ✓ |
| 1c | Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. | ✓ |
| 1d | Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use, and troubleshoot current technologies, and are able to transfer their knowledge to explore emerging technologies. | ✓ |
| **3**  **Knowledge constructor** | 3b | Students evaluate the accuracy, perspective, credibility, and relevance of information, media, data, or other resources. | ◐ |
| 3c | Students curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions. | ✓ |
| 3d | Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions. | ✓ |
| **4**  **Innovative designer** | 4a | Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems. | ✓ |
| 4b | Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks. | ✓ |
| 4c | Students develop, test, and refine prototypes as part of a cyclical design process. | ✓ |
| 4d | Students exhibit a tolerance for ambiguity, perseverance, and the capacity to work with open-ended problems. | ✓ |
| **5**  **Computational thinker** | 5a | Students formulate problem definitions suited for technology-assisted methods, such as data analysis, abstract models, and algorithmic thinking in exploring and finding solutions. | ✓ |
| 5c | Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. | ✓ |
| **6**  **Creative communicator** | 6b | Students create original works or responsibly repurpose or remix digital resources into new creations. | ✓ |
| **7**  **Global collaborator** | 7b | Students use collaborative technologies to work with others, including peers, experts, or community members, to examine issues and problems from multiple viewpoints. | ◐ |

# Unity Certified User: VR Developer

| The [Unity Certified User VR Developer certification exam](https://unity.com/products/unity-certifications/vr-developer) will test the  candidate’s ability to create VR experiences and programs within Unity software. The exam objectives are aligned with current industry standards set by professionals and educators. The VR Developer certification exam can only be taken by individuals who have previously earned their [Unity Certified User Programmer certification.](https://unity.com/products/unity-certifications/user-programmer) The [Create with Code](https://learn.unity.com/) course prepares students for this exam and includes additional educator resources to help you prepare and deliver this course efficiently. |  |
| --- | --- |

| **Domain** | **#** | **Standard** | **Full: ✓**  **Partial: ◑** |
| --- | --- | --- | --- |
| **1**  Setup | 1.1 | Implement Package Management for enabling VR including, but not limited to, the Package Manager and the Asset Store. | ✓ |
| 1.2 | Configure Project Settings according to VR platform requirements. | ✓ |
| 1.3 | Given a scenario, determine the appropriate render pipeline to use for a low- and/or a high-powered headset including, but not limited to, the High Definition Render Pipeline (HDRP) and Universal Render Pipeline (URP). | ✓ |
| 1.4 | Identify the default Unity object scale in relation to real-world scale. | ✓ |
| **2**  Interaction | 2.1 | Assess a VR UI based on Unity VR Best Practice including, but not limited to, comfort, menu creation and projection, and physical UI interaction. | ✓ |
| 2.2 | Given a scenario, determine the components needed for a user to physically manipulate objects, such as using colliders, triggers, and rigid bodies. | ✓ |
| 2.3 | Compare the multiple types of head tracking found in common VR equipment and the Degrees of Freedom allowed by the equipment. | ✓ |
| 2.4 | Given a scenario, determine the appropriate locomotion techniques to be used including, but not limited to, teleporting, constant movement, room-scale, and stationary. | ✓ |
| 2.5 | Explain the use of Spatialized Sound and how to implement it. | ✓ |
| **3**  Optimization | 3.1 | Given a scenario, determine how to optimize a texture. | ✓ |
| 3.2 | Identify the effect of poly count on run time. | ✓ |
| 3.3 | Identify the effect of particles and visual effects on run time. | ✓ |
| 3.4 | Identify the effect of lighting and shadows on run time. | ✓ |
| 3.5 | Predict the effect of latency to the user experience. | ✓ |