

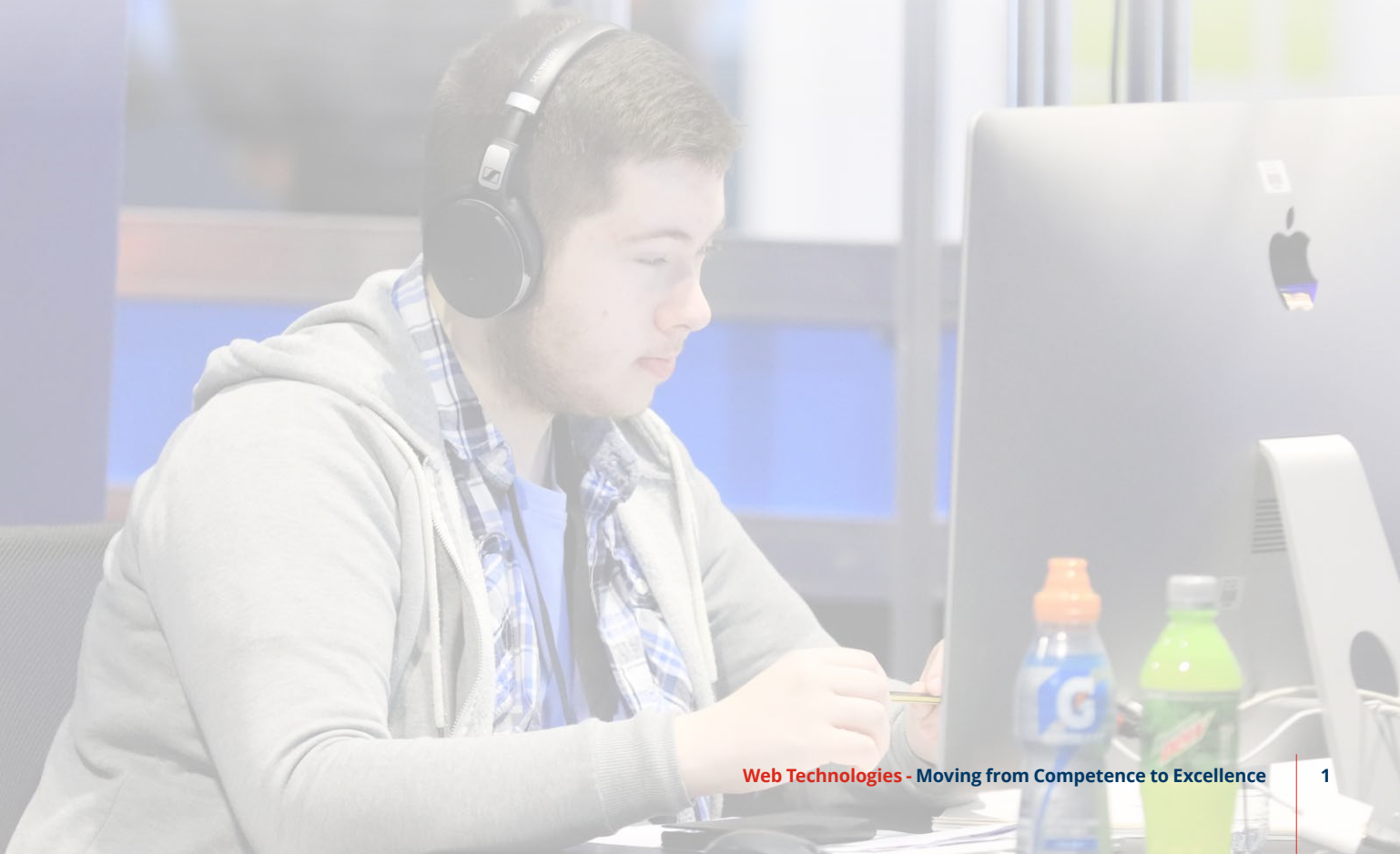
## Section one

# Moving from Competence to Excellence

A closer look at three key aspects of the Web Technologies World Occupational Standard.

Aspect:	Total number of Marks (%)
A: Design implementation	25
B: Frontend Development	25
C: Backend Development	40

The WorldSkills Occupational Standard (WSOS) specifies the knowledge, understanding, and specific skills that underpin international best practice in technical and vocational performance. It should reflect a shared global understanding of what the associated work role(s) or occupation(s) represent for industry and business.



## A: Design Implementation

### What does competence look like in this area?

- **Design Principles:** Apply design principles and patterns for creating visually appealing, creative, and accessible interfaces.
- **Contextual Awareness:** Understand cognitive, social, cultural, accessible, technological, and economic contexts in design.
- **Graphic Formats:** Use appropriate graphic formats for implementing designs effectively.
- **Target Markets:** Tailor design elements to satisfy different target markets.
- **Corporate Identity:** Follow protocols for maintaining corporate identity, brand, and style guides.
- **Technical Standards:** Adhere to W3C standards for HTML, CSS, and WCAG, ensuring usability, cross-browser, and multi-device compatibility.
- **SEO and Optimization:** Implement SEO, performance optimization, and integrate animations, audio, and video as needed.
- **Accessibility:** Ensure accessibility for users with special needs.

### What does excellence look like in this area?

- **Visual Communication:** Develop visual responses to communication problems, focusing on hierarchy, typography, aesthetics, and composition.
- **Image Optimization:** Create, manipulate, and optimize images for the internet.
- **Target Market Concepts:** Identify target markets and design concepts tailored to them.
- **Responsive Design:** Implement responsive designs that work on multiple screen resolutions and devices.
- **User Experience Design:** Create wireframes, interactive prototypes, and user interfaces considering user experience, including colour and typography choices
- **Standards Compliance:** Write code that conforms to W3C standards and accessibility guidelines.
- **Web Accessibility:** Develop accessible and usable web interfaces for various devices and screen resolutions.
- **CSS Usage:** Use CSS and pre/post-processors to modify web interfaces, create animations, and improve user experience and search engine performance.

## B: Frontend Development

### What does competence look like in this area

- **JavaScript:** Good understanding of ECMAScript (JavaScript).
- **Integration:** Integrate libraries, frameworks, and other systems or features with JavaScript.
- **Workflow Optimization:** Use JavaScript pre/post processors and task running workflows.
- **Coding Best Practices:** Apply best practices, including troubleshooting, unit testing, and test-driven development.
- **Deployment:** Follow best practices for application deployment.
- **Linux CLI:** Utilize the basic Linux command line interface effectively

### What does excellence look like in this area?

- **Website Animations:** Create animations and functionalities to enhance context explanations and visual appeal.
- **JavaScript Enhancement:** Develop and update JavaScript code to improve website functionality, usability, and aesthetics.
- **Data and Media Manipulation:** Use JavaScript to manipulate data and custom media.
- **Modular Code:** Create modular and reusable JavaScript code.
- **Documentation:** Write comprehensive documentation, including comments in code.
- **Libraries Utilization:** Use open-source JavaScript libraries.
- **Element Manipulation:** Manipulate graphical and content elements using JavaScript.
- **Automated Testing:** Write test cases and perform automated testing for JavaScript implementations.
- **Error Handling:** Handle errors, debug code, and fix bugs.
- **Linux CLI for Deployment:** Use the Linux CLI to interact with remote servers and deploy applications.
- **Deployment Documentation:** Document deployment steps for applications as required.

## C: Backend Development

### What does competence look like in this area

- **Object-Oriented Programming:** Good understanding of object-oriented programming principles.
- **Server-Side Scripting:** Skilled in PHP and/or NodeJS.
- **Libraries and Frameworks:** Utilize open-source server-side libraries and frameworks.
- **Server Connectivity:** Connect to servers through SSH, including sFTP.
- **File System Management:** Manage file system permissions and ownership.
- **Database Design:** Design and implement databases.
- **Data Exchange:** Manage data exchange between server and client systems.
- **Software Design Patterns:** Apply software design patterns, including MVC (Model View Controller).
- **Web Security:** Implement web application security practices.
- **Coding Best Practices:** Follow best practices in coding, troubleshooting, unit tests, and test-driven development.
- **Application Deployment:** Adhere to best practices for application deployment.
- **Linux CLI:** Proficient in using the Linux command line interface.

### What does excellence look like in this area?

- **Data Manipulation:** Use programming skills to manipulate data effectively.
- **Security:** Protect against security exploits.
- **API Integration:** Integrate with existing code using APIs, libraries, and frameworks.
- **Database Management:** Create and maintain database tables, ensuring data normalization, key constraints, and correct data types.
- **Modular Code:** Develop modular and reusable code.
- **Documentation:** Write comprehensive documentation and code comments.
- **Automated Testing:** Write test cases and execute automated testing for back-end implementations.
- **Debugging:** Handle errors, debug code, and fix bugs.
- **Linux CLI for Deployment:** Use the Linux CLI to interact with remote servers and deploy applications.
- **Deployment Documentation:** Document application deployment steps as required.
- **Webserver Configuration:** Configure the webserver for given applications.