

Foundations of User Experience (IMRA26)

Subject: Career Development and Career and Technical Education

Grade: 10

Expectations: 61

Breakouts: 180

Career and Technical Education Employability Skills

- (a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.
- (b) General requirements. These standards may not be offered as a standalone course. These standards shall be offered together with the essential knowledge and skills for career and technical education (CTE) courses in this chapter.
- (c) Introduction.
 - (1) CTE instruction provides content aligned with challenging academic standards, industry-relevant technical knowledge, and college and career readiness skills for students to further their education and succeed in current and emerging professions.
 - (2) The goal of the employability skills standards is to ensure that students develop essential skills for effective performance in the workplace, regardless of the occupation.
 - (3) These standards are required to be addressed in their entirety as part of each CTE course based on the level of the course in a CTE program of study.
 - (4) CTE courses identified as Level 1 or Level 2 courses in a CTE program of study must address the employability skills standards identified in subsection (d)(1) of this section.
 - (5) CTE courses identified as Level 3 or Level 4 courses in a CTE program of study must address the employability skills standards identified in subsection (d)(2) of this section.
 - (6) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

Foundations of User Experience

- (a) Implementation.
 - (1) The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.
 - (2) School districts shall implement the employability skills student expectations listed in §127.15(d)(1) of this chapter (relating to Career and Technical Education Employability Skills, Adopted 2025) as an integral part of this course.
- (b) General requirements. This course is recommended for students in Grades 9-12. Students shall be awarded one credit for successful completion of this course.
- (c) Introduction.
 - (1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
 - (2) The Information Technology (IT) Career Cluster focuses on building linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia,

and systems integration services. This career cluster includes occupations ranging from software developer and programmer to cybersecurity specialist and network analyst.

- (3) In Foundations of User Experience (UX), students analyze and assess current trends in a career field that creates meaningful, approachable, and compelling experiences for users of an array of products, services, and/or initiatives of companies, governments, and organizations. Students gain knowledge of introductory observation and research skills, basic design thinking and applied empathy methodologies, collaborative problem-solving and ideation, and interaction design and solution development. The knowledge and skills acquired from this course enable students to identify real-world problems through research and data-driven investigation and to design solutions while participating in collaborative problem solving. Students are introduced to agile practices and methodologies to develop skills to take solutions from conceptual sketch to digital designs using professional software tools. Students explore how to improve the quality of user interactions and perceptions of products, experiences, and any related services.
- (4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other organizations that foster leadership and career development in the profession such as student chapters of related professional associations.
- (5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and Skills Statements

- (0) Employability skills--Levels 1 and 2. In a CTE course identified as a Level 1 or Level 2 course in a CTE program of study, the student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - (A) explain the importance of dressing appropriately, speaking politely, and conducting oneself in a manner appropriate for the profession and work site;
 - (i) explain the importance of dressing appropriately for the profession
 - (ii) explain the importance of speaking politely for the profession
 - (iii) explain the importance of conducting oneself in a manner appropriate for the profession
 - (iv) explain the importance of dressing appropriately for the work site
 - (v) explain the importance of speaking politely for the work site
 - (vi) explain the importance of conducting oneself in a manner appropriate for the work site
 - (B) describe teamwork, group dynamics, and conflict resolution and how they can impact the collective outcome;
 - (i) describe teamwork
 - (ii) describe group dynamics
 - (iii) describe conflict resolution
 - (iv) explain how [teamwork] can impact the collective outcome
 - (v) explain how [group dynamics] can impact the collective outcome
 - (vi) explain how [conflict resolution] can impact the collective outcome
 - (C) present written and oral technical communication in a clear, concise, and effective manner for a variety of purposes and audiences;

- (i) present written technical communication in a clear manner for a variety of purposes
 - (ii) present written technical communication in a concise manner for a variety of purposes
 - (iii) present written technical communication in a[n] effective manner for a variety of purposes
 - (iv) present written technical communication in a clear manner for a variety of audiences
 - (v) present written technical communication in a concise manner for a variety of audiences
 - (vi) present written technical communication in a[n] effective manner for a variety of audiences
 - (vii) present oral technical communication in a clear manner for a variety of purposes
 - (viii) present oral technical communication in a concise manner for a variety of purposes
 - (ix) present oral technical communication in a[n] effective manner for a variety of purposes
 - (x) present oral technical communication in a clear manner for a variety of audiences
 - (xi) present oral technical communication in a concise manner for a variety of audiences
 - (xii) present oral technical communication in a[n] effective manner for a variety of audiences
- (D) identify time-management skills such as prioritizing tasks, following schedules, and tending to goal-relevant activities and how these practices optimize efficiency and results;
- (i) identify time-management skills
 - (ii) identify how [time-management] practices optimize efficiency
 - (iii) identify how [time-management] practices optimize results
- (E) define work ethic and discuss the characteristics of a positive work ethic, including punctuality, dependability, reliability, and responsibility for reporting for duty and performing assigned tasks;
- (i) define work ethic
 - (ii) discuss the characteristics of a positive work ethic, including punctuality
 - (iii) discuss the characteristics of a positive work ethic, including dependability
 - (iv) discuss the characteristics of a positive work ethic, including reliability
 - (v) discuss the characteristics of a positive work ethic, including responsibility for reporting for duty
 - (vi) discuss the characteristics of a positive work ethic, including responsibility for performing assigned tasks
- (F) demonstrate respect for differences in the workplace;
- (i) demonstrate respect for differences in the workplace
- (G) identify the importance and benefits of meritocracy, a hard work ethic, and equal opportunity in the workplace;
- (i) identify the importance of meritocracy in the workplace
 - (ii) identify the importance of a hard work ethic in the workplace
 - (iii) identify the importance of equal opportunity in the workplace
 - (iv) identify the benefits of meritocracy in the workplace

- (v) identify the benefits of a hard work ethic in the workplace
 - (vi) identify the benefits of equal opportunity in the workplace
- (H) identify consequences relating to discrimination and harassment;
 - (i) identify consequences relating to discrimination
 - (ii) identify consequences relating to harassment
- (I) demonstrate knowledge of personal and occupational health and safety practices, including first aid, in the workplace;
 - (i) demonstrate knowledge of personal health practices in the workplace
 - (ii) demonstrate knowledge of personal safety practices, including first aid, in the workplace
 - (iii) demonstrate knowledge of occupational health practices in the workplace
 - (iv) demonstrate knowledge of occupational safety practices, including first aid, in the workplace
- (J) describe the roles and responsibilities of managers;
 - (i) describe the roles of managers
 - (ii) describe the responsibilities of managers
- (K) identify career development and entrepreneurship opportunities in the field;
 - (i) identify career development opportunities in the field
 - (ii) identify entrepreneurship opportunities in the field
- (L) identify appropriate training, education, or certification in the field; and
 - (i) identify appropriate training, education, or certification in the field
- (M) identify legal and ethical responsibilities in relation to the field.
 - (i) identify legal responsibilities in relation to the field
 - (ii) identify ethical responsibilities in relation to the field
- (1) The student applies professional communications strategies. The student is expected to:
 - (A) revise presentations for audience, purpose, situation, and intent
 - (i) revise presentations for audience
 - (ii) revise presentations for purpose
 - (iii) revise presentations for situation
 - (iv) revise presentations for intent
 - (B) interpret and clearly communicate information, data, and observations
 - (i) interpret information
 - (ii) interpret data
 - (iii) interpret observations

- (iv) clearly communicate information
- (v) clearly communicate data
- (vi) clearly communicate observations
- (C) apply active listening skills to obtain and clarify information
 - (i) apply active listening skills to obtain information
 - (ii) apply active listening skills to clarify information
- (D) identify multiple viewpoints of potential diverse users
 - (i) identify multiple viewpoints of potential diverse users
- (E) define and exhibit public relations skills that are used by UX designers
 - (i) define public relations skills that are used by UX designers
 - (ii) exhibit public relations skills that are used by UX designers
- (2) The student describes the field of UX and common elements in user-centered design. The student is expected to:
 - (A) analyze the current trends and challenges of the UX field
 - (i) analyze the current trends of the UX field
 - (ii) analyze the current challenges of the UX field
 - (B) analyze and describe the diversity of roles and career opportunities across the UX field
 - (i) analyze the diversity of roles across the UX field
 - (ii) analyze the diversity career opportunities across the UX field
 - (iii) describe the diversity of roles across the UX field
 - (iv) describe the diversity of career opportunities across the UX field
 - (C) define terminology associated with UX, including user, user experience, human-centered design, design thinking, persona, user journey, empathy map, mind maps, roadmaps, wireframes, prototypes, and portfolios
 - (i) define terminology associated with UX, including user
 - (ii) define terminology associated with UX, including user experience
 - (iii) define terminology associated with UX, including human-centered design
 - (iv) define terminology associated with UX, including design thinking
 - (v) define terminology associated with UX, including persona
 - (vi) define terminology associated with UX, including user journey
 - (vii) define terminology associated with UX, including empathy map
 - (viii) define terminology associated with UX, including mind maps
 - (ix) define terminology associated with UX, including roadmaps
 - (x) define terminology associated with UX, including wireframes

- (xi) define terminology associated with UX, including prototypes
- (xii) define terminology associated with UX, including portfolios
- (D) identify and explain the differences between relevant, friendly, and useful experience design
 - (i) identify relevant experience design
 - (ii) identify friendly experience design
 - (iii) identify useful experience design
 - (iv) explain the differences between relevant, friendly, and useful experience design
- (E) identify and explain the connection between psychology and behavior with regard to usability
 - (i) identify the connection between psychology and behavior with regard to usability
 - (ii) explain the connection between psychology and behavior with regard to usability
- (F) explain the components of the design thinking methodology for ideation, iteration, co-creation, development, and execution
 - (i) explain the components of the design thinking methodology for ideation
 - (ii) explain the components of the design thinking methodology for iteration
 - (iii) explain the components of the design thinking methodology for co-creation
 - (iv) explain the components of the design thinking methodology for development
 - (v) explain the components of the design thinking methodology for execution
- (G) explain how UX design affects everyday lives
 - (i) explain how UX design affects everyday lives
- (3) The student discusses and applies the legal and ethical practices that UX designers follow when working with technology, designs, and clients. The student is expected to:
 - (A) identify and explain ethical use of technology
 - (i) identify ethical use of technology
 - (ii) explain ethical use of technology
 - (B) explain intellectual property laws, including copyright, trademarks, and patents, and consequences of violating each type of law
 - (i) explain intellectual property laws, including copyright
 - (ii) explain intellectual property laws, including trademarks
 - (iii) explain intellectual property laws, including patents
 - (iv) explain intellectual property laws, including consequences of violating [copyright] law
 - (v) explain intellectual property laws, including consequences of violating [trademark] law
 - (vi) explain intellectual property laws, including consequences of violating [patents] law
 - (C) identify violations of intellectual property laws

- (i) identify violations of intellectual property laws
- (D) explain the consequences of plagiarism
 - (i) explain the consequences of plagiarism
- (E) demonstrate ethical use of online resources, including using proper citations and avoiding plagiarism
 - (i) demonstrate ethical use of online resources, including using proper citations
 - (ii) demonstrate ethical use of online resources, including avoiding plagiarism
- (4) The student identifies and demonstrates introductory observation and research methods. The student is expected to:
 - (A) describe the difference between qualitative and quantitative data
 - (i) describe the difference between qualitative and quantitative data
 - (B) conduct user interviews to gather insights into what users think about a site, an application, a product, or a process
 - (i) conduct user interviews to gather insights into what users think about a site, an application, a product, or a process
 - (C) organize ideas and user data using software tools
 - (i) organize ideas using software tools
 - (ii) organize user data using software tools
 - (D) analyze and draw conclusions from qualitative user data collection
 - (i) analyze qualitative user data collection
 - (E) observe and document how users perform tasks through task analysis observations
 - (i) observe how users perform tasks through task analysis observations
 - (ii) document how users perform tasks through task analysis observations
 - (F) define affinity and explain the benefits of affinity and customer journey maps
 - (i) define affinity
 - (ii) explain the benefits of affinity maps
 - (iii) explain the benefits of customer journey maps
 - (G) use data summaries from user interviews to create personas
 - (i) use data summaries from user interviews to create personas
 - (H) create a report or presentation, including user interview and observation data summaries, data analysis, and additional findings, for a target audience
 - (i) create a report or presentation, including user interview summaries for a target audience
 - (ii) create a report or presentation, including user observation data summaries for a target audience
 - (iii) create a report or presentation, including data analysis for a target audience
 - (iv) create a report or presentation, including user additional findings for a target audience

(5) The student applies an understanding of psychological principles used in user-centered design. The student is expected to:

- (A) identify and define design principles
 - (i) identify design principles
 - (ii) define design principles
- (B) describe how visceral reactions inform the creation of a positive user experience
 - (i) describe how visceral reactions inform the creation of a positive user experience
- (C) select colors to influence human behavior, the human mind, and reactions toward an intended outcome
 - (i) select colors to influence human behavior toward an intended outcome
 - (ii) select colors to influence the human mind toward an intended outcome
 - (iii) select colors to influence reactions toward an intended outcome
- (D) explain recognition and scanning patterns and their importance in user-centered design
 - (i) explain recognition patterns
 - (ii) explain [the] importance [of recognition patterns] in user-centered design
 - (iii) explain scanning patterns
 - (iv) explain [the] importance [of scanning patterns] in user-centered design
- (E) define Hick's Law and Weber's Law and explain their impact on UX design decisions
 - (i) define Hick's Law
 - (ii) define Weber's Law
 - (iii) explain [the] impact [of Hick's law] on UX design decisions
 - (iv) explain [the] impact [of Weber's law] on UX design decisions
- (F) describe sensory adaptation phenomenon and perceptual set
 - (i) describe sensory adaptation phenomenon
 - (ii) describe perceptual set
- (G) explain the stages of human information processing, including sensing, perceiving, decision-making, and acting
 - (i) explain the stages of human information processing, including sensing
 - (ii) explain the stages of human information processing, including perceiving
 - (iii) explain the stages of human information processing, including decision-making
 - (iv) explain the stages of human information processing, including acting

(6) The student creates effective, accessible, usable, and meaningful solutions for the end user by using UX design principles. The student is expected to:

- (A) identify end-user problems and needs in real-world environments
 - (i) identify end-user problems in real-world environments

- (ii) identify end-user needs in real-world environments
- (B) identify principles of accessibility such as perceivable, operable, understandable, and robust (POUR)
 - (i) identify principles of accessibility
- (C) identify and discuss the differences and connections between UX Design, Visual Design, and User Interaction in regard to usability
 - (i) identify the differences between UX Design, Visual Design, and User Interaction in regard to usability
 - (ii) identify the connections between UX Design, Visual Design, and User Interaction in regard to usability
 - (iii) discuss the differences between UX Design, Visual Design, and User Interaction in regard to usability
 - (iv) discuss the connections between UX Design, Visual Design, and User Interaction in regard to usability
- (D) communicate potential solutions and ideas with a storytelling approach
 - (i) communicate potential solutions with a storytelling approach
 - (ii) communicate ideas with a storytelling approach
- (E) sketch and refine designs within wire-framing and prototypes
 - (i) sketch designs within wire-framing
 - (ii) refine designs within wire-framing
 - (iii) sketch designs within prototypes
 - (iv) refine designs within prototypes
- (F) implement iterations for a design solution using structured testing protocols
 - (i) implement iterations for a design solution using structured testing protocols
- (7) The student collaborates with others to apply UX project management methods. The student is expected to:
 - (A) identify the relationship between UX research and design-thinking methods
 - (i) identify the relationship between UX research and design-thinking methods
 - (B) explain three different stages and roles of UX project management methods such as agile methods
 - (i) explain three different stages of UX project management methods
 - (ii) explain roles of UX project management methods
- (8) The student applies UX design practices and uses technology to create digital assets. The student is expected to:
 - (A) use design elements such as typeface, color, shape, texture, space, and form to create a visual narrative
 - (i) use design elements to create a visual narrative
 - (B) implement design principles such as unity, harmony, balance, scale, novelty, hierarchy, alignment, and contrast to create visual narratives
 - (i) implement design principles to create visual narratives
 - (C) identify and explain common elements of Hyper Text Markup Language (HTML) such as tags, style sheets, and hyperlinks

- (i) identify common elements of Hyper Text Markup Language (HTML)
 - (ii) explain common elements of Hyper Text Markup Language (HTML)
- (D) apply UX design techniques in order to: create effective user interfaces for browser-based, native, and hybrid mobile applications; demonstrate proper use of vector and raster-based design software; explain the difference between back-end and front-end development in UX; and (iv) create a web page containing links, graphics, and text using appropriate design principles;
 - (i) apply UX design techniques in order to create effective user interfaces for browser-based applications
 - (ii) apply UX design techniques in order to create effective user interfaces for native applications
 - (iii) apply UX design techniques in order to create effective user interfaces for hybrid mobile applications
 - (iv) apply UX design techniques in order to demonstrate proper use of vector design software
 - (v) apply UX design techniques in order to demonstrate proper raster-based design software
 - (vi) apply UX design techniques in order to explain the difference between back-end and front-end development in UX
 - (vii) apply UX design techniques in order to create a web page containing links using appropriate design principles
 - (viii) apply UX design techniques in order to create a web page containing graphics using appropriate design principles
 - (ix) apply UX design techniques in order to create a web page containing text using appropriate design principles
- (E) demonstrate basic sketching skills
 - (i) demonstrate basic sketching skills
- (F) create wireframes using design software
 - (i) create wireframes using design software
- (G) explain how design fidelity, from sketch to wireframe to prototype to visuals, aligns with and supports agile methodology
 - (i) explain how design fidelity, from sketch to wireframe to prototype to visuals, aligns with agile methodology
 - (ii) explain how design fidelity, from sketch to wireframe to prototype to visuals, supports agile methodology
- (H) produce digital assets
 - (i) produce digital assets