

**Course Title: Middle School Coding 1a/1b**

**State: WA**

**State Course Title: Middle School Coding**

**State Standards: Career and Technical Education Program Standards**

**Percentage of Course Aligned: 100%**

Standards	Course Title (a or b), if applicable, e.g. Game Design 1a	Unit Name(s)	Lesson(s) Numbers	How Standard is Taught	How Standard is Assessed	Standard Rating (Fully Met / Partially Met / Not Met)
<b>1. Demonstrate application of the state and national core content standards in the context of preparing for living, learning and working.</b>						
1.1 Each CTE course will apply and contextualize state and national core content standards.	Middle School Coding 1a and 1b	All Units	All Lessons	This course is built around core national and state standards applicable to Coding at the middle school level	All Assessments	Fully Met
<b>2. Demonstrate foundational and career cluster specific skills required to meet current industry or nationally defined standards.</b>						
2.1 Each CTE course will teach to current industry or nationally defined standards, as evidenced in the curriculum frameworks, endorsed by local program specific advisory committees, and approved by the CTE program supervisors at OSPI.	Middle School Coding 1a: Introduction	Unit 1: Crack the Code!	Lessons 1-5	Introduce the subject of coding defining and using computer systems, algorithms, the basics of programming, teamwork and collaboration, and basic responsibilities of using the internet.	Critical Thinking #1,2,3,4,5; Activity 1; Activity 2; Activity 3; Discussion 1; Discussion 2	Fully Met

2.2 CTE courses will incorporate curriculum focused on the interrelationships of family, career, and community roles and responsibilities.	Middle School Coding 1a: Introduction	Unit 1: Crack the Code!	Lesson 5	Discuss that an important concept in technology is collaboration, people working together to find solutions.	Critical Thinking #3	Fully Met
2.3 Each CTE course will include extended learning into the, community/family, and business/industry. Extended learning is managed and supervised by certified CTE teachers.	Middle School Coding 1b: Learning Python and JavaScript	Unit 3: Build A Webpage	Activity 1	Students are asked to choose a topic to research and develop a plan using a word processing document, write one paragraph about the chosen topic and using online communication send it to a family member or friend.	Activity 1	Fully Met
<b>2.4 CTE courses must be taught by a certified CTE teacher with appropriate certification, knowledge, skills and occupational experience</b>						
2.4.a After initial certification and five years of teaching, certified CTE teachers should gain additional experience in one or more of the jobs or careers in their teaching area. This experience should take place every five years.	Middle School Coding 1a and 1b	All Units	All Lessons	All eDynamic courses are taught by certified CTE instructors as per individual state requirements	All Assessments	Fully Met
<b>2.5 Each CTE course will provide safe and appropriate environments that support CTE program standards.</b>						
2.5.a Laboratories and equipment are appropriate to and support the OSPI approved curriculum framework and industry training procedures.	Middle School Coding 1a and 1b	All Units	All Lessons	All eDynamic courses are taught online requiring appropriate technology equipment, such as a desktop or laptop computer and access to the internet, as well as providing apps to download when required in a unit of study.	All Assessments	Fully Met
2.5.b Facilities and equipment meet or exceed the related federal, state and county safety standards.	Middle School Coding 1a and 1b	All Units	All Lessons	All eDynamic courses are taught online requiring appropriate technology equipment, such as a desktop or laptop computer and access to the internet, as well as providing apps to download when required in a unit of study.	All Assessments	Fully Met

2.5.c Learning and training stations are of sufficient quantity to assure safe and appropriate supervision, delivery of instruction and student skill development.	Middle School Coding 1a and 1b	All Units	All Lessons	All eDynamic courses are taught online requiring appropriate technology equipment, such as a desktop or laptop computer and access to the internet, as well as providing apps to download when required in a unit of study. Key safety knowledge is taught to students.	All Assessments	Fully Met
2.6 Curriculum is based on occupational needs and is developed and maintained in consultation with program specific advisory committees.	Middle School Coding 1a and 1b	All Units	All Lessons	All eDynamic courses are taught online requiring appropriate technology equipment, such as a desktop or laptop computer and access to the internet, as well as providing apps to download when required in a unit of study. This course aligns with occupational	All Assessments	Fully Met
<b>3. Demonstrate knowledge of career options within the related career clusters.</b> <b>3.1 Curriculum related to foundational knowledge and skills of a broad range of career options in a related program of study.</b>						
3.1.a These learning experiences include exploration of traditional and nontraditional careers in the program of study ranging from entry to professional level positions.	Middle School Coding 1a and 1b	Unit 6: Become a Master Exterminator	Lesson 4	Describe and explain the tasks associated with such technology related careers as computer programmer, information Security Analyst, IT Project Manager, and Tech Support	Critical Thinking #1; Discussion 2	Fully Met
<b>4. Demonstrate leadership skills and employability skills.</b> <b>4.1 Leadership and employability skill development for all students is a required and integral component of all CTE courses.</b>						
4.1.a These leadership and employability skills are identified in the CTE Core Leadership Skills document, the CTE Core Employability Skills document and/or 21st Century Skills document.	Middle School Coding 1a and 1b	All Units	All Lessons	This course is aimed at preparing students in leadership and employability skills necessary to achieve success in all CTE related occupations.	All Assessments	Fully Met

4.1.b All students demonstrate leadership and employability skills integrated in the approved curriculum framework and applied in real-world family, community, business/industry applications.	Middle School Coding 1a and 1b	All Units	All Lessons	This course is aimed at preparing students in leadership and employability skills necessary to achieve success in all CTE related occupations.	All Assessments	Fully Met
4.1.c These skills are developed and practiced at the highest professional level through integration of aligned state-recognized Career and Technical Student Organizations (CTSOs).	Middle School Coding 1a and 1b	All Units	All Lessons	This course is aimed at preparing students in leadership and employability skills necessary to achieve success in all CTE related occupations.	All Assessments	Fully Met
4.1.d Locally developed leadership plans must demonstrate that these skills are developed and practiced at the highest level through classroom integration of individual, group and community programs and activities.	Middle School Coding 1a and 1b	All Units	All Lessons	This course is aimed at preparing students in leadership and employability skills necessary to achieve success in all CTE related occupations.	All Assessments	Fully Met
<b>CORE LEADERSHIP SKILLS</b>						
<b>Leadership: Individual Skills</b>						
1.1 The student will analyze, refine, and apply decision-making skills through classroom, family, community, and business and industry (work-related) experiences.	Middle School Coding 1a: Introduction	Unit 1: Crack the Code!	Lesson 1	Describe the job of a super computer to plan flight routes at the same time known as parallelization running hundreds of different routes in seconds and figuring out distance in each combination.	Critical Thinking #5	Fully Met
1.2 The student will identify and analyze the characteristics of family, community, business, and industry leaders.	Middle School Coding 1b: Learning Python and JavaScript	Unit 2: Plan the Code, Code the Plan	Discussion 2	Students are asked to provide their opinion to a social and mental health question of a statement made by the World Health Organization referring to the responsibility of a game designer when creating a video game.	Discussion 2	Fully Met
1.3 The student will demonstrate oral, interpersonal, written, and electronic communication and presentation skills and understands how to apply those skills	Middle School Coding 1a: Introduction	Unit 2: There's Nothing "Soft" about Software!	Activity 1	Students are asked to watch a video, "Big Data Is Better Data" and answer a series of five questions in a word processing document analyzing the information in the video.	Activity 1	Fully Met

1.4 The student will be involved in activities that require applying theory, problem-solving, and using critical and creative thinking skills while understanding outcomes of related decisions.	Middle School Coding 1a: Introduction	Unit 2: There's Nothing "Soft" about Software!	Activity 2	Students are asked to research potential problems with big data by reading two articles, and following and addressing in a word processing document five bulleted points.	Activity 2	Fully Met
1.5 The student will demonstrate self-advocacy skills by achieving planned, individual goals.	Middle School Coding 1a: Introduction	Unit 5: Snake Charmer	Activity 3	Students are asked to complete a table and add two milestones of a project using technical writing strategies and formatting.	Activity 3	Fully Met
1.6 The student will conduct self in a professional manner in practical career applications, organizational forums, and decision-making bodies.	Middle School Coding 1b: Learning Python and JavaScript	Unit 6: Become a Master Exterminator	Lesson 4	Discuss some of the skills needed in developing a career in coding such as honesty, integrity, dependability, accountability, and responsibility, and appropriate business behavior and appearance.	Critical Thinking #1; Discussion 2	Fully Met
<b>Leadership: Group Skills</b>						
2.1 The student will communicate, participate, and advocate effectively in pairs, small groups, teams, and large groups to reach common goals.	Middle School Coding 1a: Introduction	Unit 1: Crack the Code!	Activity 3	Students are asked to design an image, write down the commands used and submit them in order to allow someone else to re-create the algorithm.	Activity 3	Fully Met
2.2 The student will demonstrate knowledge of conflict resolution and challenge management.	Middle School Coding 1a: Introduction	Unit 1: Crack the Code!	Activity 1	Students are asked to use a virtual version of "Tower of Hanoi" to solve a puzzle and challenge themselves using multiple discs, take a screenshot, write an algorithm from results for others to follow, write a self-reflection, and search for another puzzle online similar to puzzle and write a summary of the findings.	Activity 1	Fully Met

2.3 The student will analyze the complex responsibilities of the leader and follower and demonstrate the ability to both lead and follow.	Middle School Coding 1a: Introduction	Unit 2: There's Nothing "Soft" about Software	Discussion 1	Students are asked to describe how to diagnose and solve a problem with technology so that a presentation can be given to a group of people.	Discussion 1	Fully Met
2.4 The student will demonstrate skills that assist in understanding and accepting responsibility to family, community, and business and industry.	Middle School Coding 1a: Introduction	Unit 1: Crack the Code!	Critical Thinking #2	Students are asked to demonstrate in a word processing document how to assist a sibling in setting up the internet and safety on social media and avoid cyberbullies.	Critical Thinking #2	Fully Met
2.5 The student will demonstrate a working knowledge of parliamentary procedure.	Middle School Coding 1a	Unit 1: Crack the Code!	Lesson 5	Discuss the importance of collaborating and working with others through blog posts, social media, email, messaging apps, or the publication of a website including video conferencing.	Critical Thinking #3,5; Discussion 1	Fully Met
2.6 The student will use knowledge, build interest, guide and influence decisions, organize efforts, and involve members of a group to assure that a pre-planned group activity is completed.	Middle School Coding 1a: Introduction	Unit 5: Snake Charmer	Lesson 4	Explain the role and purpose of a project manager in leading and guiding a team in work scheduling, meeting goals and communication.	Critical Thinking #4; Activity 3	Fully Met
2.7 The student will demonstrate the ability to train others to understand the established rules and expectations, rationale, and consequences and to follow those rules and expectations.	Middle School Coding 1a: Introduction	Unit 2: There's Nothing "Soft" about Software	Critical Thinking #5	Students are asked to teach a family member software basics of word processing, spreadsheets, databases and presentation software.	Critical Thinking #5	Fully Met
2.8 The student will demonstrate the ability to incorporate and utilize the principles of group dynamics in a variety of settings.	Middle School Coding 1a: Introduction	Unit 5: Snake Charmer	Lesson 4	Explain and illustrate the process a project manager can create and communicate milestone expectations for a team.	Critical Thinking #4; Activity 3	Fully Met

**Leadership: Community and Career Skills**

3.1 The student will analyze the roles and responsibilities of citizenship.	Middle School Coding 1a: Introduction	Unit 1: Crack the Code!	Lesson 5	Discuss the downsides of technology use such as internal crimes, network crimes, computer manipulation crimes, and theft which are not only unethical but against the law.	Critical Thinking #1, 2	Fully Met
3.2 The student will demonstrate social responsibility in family, community, and business and industry.	Middle School Coding 1a: Introduction	Unit 2: There's Nothing "Soft" about Software	Discussion 2	Students are asked to discuss how virtual reality can be used as a benefit to society and what might be some drawbacks as well.	Discussion 2	Fully Met
3.3 The student will understand their role, participate in and evaluate community service and service learning activities.	Middle School Coding 1b: Learning Python and JavaScript	Unit 2: Plan the Code, Code the Plan	Activity 1	Students are asked in this activity to practice information analysis skills by watching a Ted Talk video and using a word processing document argue both the positive and negative effects of technology on teenagers.	Activity 1	Fully Met
3.4 The student will understand the organizational skills necessary to be a successful leader and citizen and practices those skills in real life	Middle School Coding 1b: Learning Python and JavaScript	Unit 5: Buttons and Gadgets	Lesson 3, Lesson 4	Discuss the topic of security and safety when creating a webpage such as the use of data verification to help prevent errors and make certain that password date is accurate.	Critical Thinking #3; Discussion 1; Discussion 2	Fully Met
3.5 The student will understand and utilize organizational systems to advocate for issues on the local, state, and international level.	Middle School Coding 1b: Learning Python and JavaScript	Unit 5: Buttons and Gadgets	Lesson 4	Discuss the importance of safety and security not only for the one creating a website but for those who are using the website.	Discussion 1; Discussion 2	Fully Met
3.6 The student will understand the importance of and utilize the components and structure of community-based organizations.	Middle School Coding 1a and 1b	All Units	All Lessons	This course is aimed at preparing students in leadership and career skills necessary in the various types of coding and technology careers.	All Assessments	Fully Met

3.7 The student will participate in the development of a program of work or strategic plan and will work to implement the organization's goals	Middle School Coding 1a: Introduction	Unit 5: Snake Charmer	Lesson 4	Explain the role and purpose of a project manager in leading and guiding a team in work scheduling, meeting goals and communication.	Critical Thinking #4; Activity 3	Fully Met
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