Content Area: Mathematics (NJSLM-M) Grades K-12
Grade: 9-12

Established 14-15
Revised 19-20
Revised 20-21
Revised 21-22
Revised August 2023

Marking Period: 4	Unit Title: Software Entrepreneurial Process	Recommended Instruction Days: 30

Standard-New Jersey Student Learning Standards:
Standard 8.1 Computer Science
Standard 8.2 Design Thinking

Strand:
N.J.A.C. 6A:8-2.
N.J.A.C.6A:8-3.1(c).
N.J.A.C.6A:8-1.1(a)3).
N.J.A.C.18A:26-2.26
N.J.A.C.18A:7C-1.1
N.J.A.C.18A:7C-2.1
9.4.2.CT.1:
9.4.2.CT.2:
9.4.2.CT.3:
9.4.2.DC.1
9.4.2.DC.2
9.4.2.DC.3
9.4.2.DC.4
9.4.2.DC.5
9.4.2.DC.6
9.4.2.DC.7

LGBT and Disabilities Law: *N.J.S.A. 18A:35-4.35*

Alan Turning:

Social and Emotional Learning: ***Competencies***	**Social and Emotional Learning:** ***Sub-Competencies***
Self-Awareness Social Awareness Self-Management	• Recognizing the importance of self-confidence in handling daily tasks and challenges. • Demonstrate an awareness of the expectations for social interactions in a variety of ways.

Relationship Skills Responsible Decision-Making	• Demonstrate an understanding of the need for mutual respect when viewpoints differ. • Recognize the skills needed to establish and achieve personal and educational goals. • Utilize positive communication and social skills to interact effectively with others. • Develop, implement, and model effective problem solving and critical thinking skills.

Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-CLKS within Unit

Essential Questions	Progress Indicators	Activity Description
What is robot class? How does the monitor work? What is a cookie clicker? How to test programs?	• Tests • Quizzes • Practice problems for homework • Worksheets • Projects • programs	• Independent studies • Independent research • Program to make mouse move by itself • Program to make keyboard type itself • Students will play cookie clicker • Program to play cookie clicker on its own • Final project, students are allowed to make any program they want, but has to use everything they learned in the class except for Robot Class **Spot Light On:** *Show students the why behind how things are done when possible.*

Computer Science Practices

1. **Make sense of problems and persevere in solving them.**
2. **Reason abstractly and quantitatively.**
3. **Construct viable arguments and critique the reasoning of others.**
4. **Model with mathematics.**
5. **Use appropriate tools strategically.**
6. **Attend to precision.**
7. **Look for and make use of structure.**
8. **Look for and express regularity in repeated reasoning.**
9. **There is always a better solution to a problem.**
10. **Bugs take perseverance.**

Assessments (Formative) ***To show evidence of meeting the standard/s, students will successfully engage within:***	**Assessments (Summative)** ***To show evidence of meeting the standard/s, students will successfully complete:***
Formative Assessment: ● Entry and Exit Slips ● Quizzes ● Self Assessments ● Focus Packets ● research reports	**Benchmarks:** ● Chapter Tests ● Projects **Summative Assessments:** ● District assessments ● Standardized test

Differentiated Student Access to Content:
Teaching and Learning *Resources/Materials*

Core Resources	**Alternate Core Resources** ***IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core Resources**
Codechef **Ideone** **Repl it** **Khan academy** **Gipod** **Tutorial spoon**	Reteaching Skill building workbook Online Tutorials Leveled practice worksheets	Dictionary for native language Video tutorial in native language Success for English Learners worksheets	Higher level Projects Art of Problem Solving Leveled assessments

Coding ground **Codes and box**		Leveled Strategies for English Learners Linguistic Support	

Supplemental Resources

- Technology: Chromebooks, Graphing Calculators, Smartboards, Computers, VR, 3d Printer, Game Systems
- Other: Zoom and Google Meets, Schoology, Google Classroom

Differentiated Student Access to Content:
Recommended *Strategies & Techniques*

Core Resources	**Alternate Core Resources** ***IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core Resources**
Deliver instruction utilizing varied learning styles including audio, visual, and tactile/kinesthetic, provide individual instruction as needed, modify assessments and/or rubrics, repeat	Utilize a multi-sensory (VAKT) approach during instruction, provide alternate presentations of skills by varying the method (repetition, simple explanations, additional examples, modeling, etc.), modify test content and/or format, allow students to retake test for additional credit, provide additional times and preferential seating as needed, review, restate and repeat directions, provide study guides, and/or break assignments into segments of shorter tasks.	Extend time requirements, preferred seating, positive reinforcement, check often for understanding/review, oral/visual directions/prompts when necessary, supplemental materials including use of an online bilingual dictionary, and modified assessment and/or rubric.	Create an enhanced set of introductory activities, integrate active teaching/learning opportunities, incorporate authentic components, propose interest-based extension activities, and connect student to related

New Jersey Legislative Statutes and Administrative Code (place an "X" before each law/statute if/when present within the curriculum map)									
	Amistad Law: *N.J.S.A. 18A 52:16A-88*		Holocaust Law: *N.J.S.A. 18A:35-28*	**x**	LGBT and Disabilities Law: *N.J.S.A. 18A:35-4.35*	**x**	Diversity & Inclusion: *N.J.S.A. 18A:35-4.36a*		Standards in Action: *Climate Change*