COURSE: Introduction to JAVA Programming	GRADE(S): 9-12
UNIT 1: Introduction to Applets	

NATIONAL STANDARDS:
ALL STUDENTS…

- Demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.
- Apply digital tools to gather, evaluate, and use information.
- Use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
- Understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
- Demonstrate interpersonal, teamwork, problem solving, and leadership skills
- Develop career awareness, make career choices, and become employable in a variety of careers
- Prepare for further education and lifelong learning

STATE STANDARDS:	UNIT OBJECTIVES:
2.5.11A. Select and use appropriate mathematical concepts and techniques from different areas of mathematics and apply them to solving non-routine and multi-step problems. **2.5.11B.** Use symbols, mathematical terminology, standard notation, mathematical rules, graphing and other types of mathematical representations to communicate observations, predictions, concepts, procedures, generalizations, ideas and results. **2.5.11C.** Present mathematical procedures and results clearly, systematically, succinctly and correctly. **2.5.11D.** Conclude a solution process with a summary of results and evaluate the degree to which the results obtained represent an acceptable response to the initial problem and why the reasoning is valid.	**1.1 Write and run JAVA applets that generate output to the screen** **1.2 Use variables for input and storage** **1.3 Write and run JAVA applets accepting input from the user textfields** **1.4 Use simple Java math operators for calculations**
ACTIVITIES: **1.1 Use graphics objects to generate output on screen** **1.2 1.3 1.4** **Write and run applets…** **Accepting input and manipulating numbers** **Write and run applets using graphics to output design, pictures and text** **RESOURCES:** **JAVA Programming - Farrel**	**ASSESSMENTS :** **Applet to output specific images** **REMEDIATION:** **Work with partners** **Examine well written programs of other students** **ENRICHMENT:** **If and if/else statements to determine selection**

COURSE: Introduction to JAVA Programming	GRADE(S): 9-12
UNIT 2: Control Structures	

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ACTIVITIES: **2.1 – 2.5** **Write and run applets…** **Accepting numbers and outputting if positive or negative, odd or even, integer or float** **Prompting user for input, then using the input to determine what code to execute** **Days in a month applet** **RESOURCES:** **JAVA Programming - Farrell**	**ASSESSMENTS :** **Converting Fahrenheit to Celsius Applet** **REMEDIATION:** **Work with partners and** **Examine other programmers code** **Smaller numbers program** **ENRICHMENT:** **Easter Sunday Program** **ISBN Program**

COURSE: Introduction to JAVA Programming	GRADE(S): 9-12
UNIT 3: Introduction to Objects	

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ACTIVITIES: **3.1 – 3.3** **Business Applications Applet** **Fertilizer Applet** **Xmas Lights Applet** **Magic 8 Ball Applet** **RESOURCES:** **JAVA Programming - Farrell**	**ASSESSMENTS :** **SAT Acceptance Applet** **Multiple Choice Quiz Applet** **Date Conversion Applet** **REMEDIATION:** **Work with partners and** **Examine other programmers code** **ENRICHMENT:** **Error proof the Date Conversion Applet** **Add colors, AudioClips, Images, etc. to any program**

COURSE: Introduction to JAVA Programming	GRADE(S): 9-12
UNIT 4: Advanced Applets	

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- Understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
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STATE STANDARDS:	UNIT OBJECTIVES:
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ACTIVITIES: **4.1 4.2** **The Shape Builder Applet** **Advanced NIM Game** **Mastermind Tutorial Applet** **RESOURCES:** **JAVA Programming - Farrell**	**ASSESSMENTS :** **Mastermind Game** **Mid Term Exam** **Pong** **REMEDIATION:** **Work with partners and** **Examine other programmers code** **NIM Game** **ENRICHMENT:** **Add colors, AudioClips, Images, etc. to any program**

	The Guessing Game Program (Artificial Intelligence) **Use the MouseMotionListener Interface**

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UNIT 5 : Arrays	

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STATE STANDARDS:	UNIT OBJECTIVES:
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ACTIVITIES: **5.1 5.2** **Array Activities –** **Initializing, outputting, find high, find low, linear searching, sorting** **Hangman Program** **Mancala Program** **Olympic Diving Program** **RESOURCES:** **JAVA Programming – Joyce Farrell**	**ASSESSMENTS :** **Array Assignment with 5 different methods** **Array Quiz** **Final Test (2 versions)** **Trivia Challenge Program** **Final Project** **REMEDIATION:** **Modify previous programs to use arrays** **Who Wants to be a Millionaire Program**

	ENRICHMENT: **Add graphics to hangman and mancala program** **Use Threads and the Runnable Interface to create games with movement**