SPRING GROVE AREA SCHOOL DISTRICT

PLANNED INSTRUCTION

Course Title:	**Science Lab Assistant**	**Length of Course:**	**30 Cycles (maximum)**
Grade Level(s):	**11 - 12**	**Periods Per Cycle:**	**6 (maximum)**
Units of Credit:	**1/6 per available period during a 6 day cycle (maximum 1 credit)**	**Length of Period:**	**43 Minutes**
		Total Instructional Time:	**129 Hours (maximum)**
Required:	**Elective: X**		

Course Description: **The purpose of this course is to enhance students' laboratory experiences and abilities prior to post-secondary education, and to provide additional science enrichment for students who have completed all science courses offered at Spring Grove High School. The course will offer additional educational experiences for students who have study hall time that they do not use for academic purposes.**

Objectives of Planned Course:

1. **The student will analyze and explain the nature of science in the search for understanding the natural world and its connection to technological systems.**
2. **The student will identify and analyze the scientific or technological challenges of societal issues; propose possible solutions and discuss implications.**
3. **The student will apply knowledge of scientific investigation or technological design to develop or critique aspects of the experimental or design process.**
4. **The student will evaluate appropriate technologies for a specific purpose, or describe the information the instrument can provide.**
5. **The student will gain additional laboratory experience that will enrich their high school science experience.**

Relationship to Academic Standards and Strategic Plan:

PA Academic Anchors
S11.A.1 – Reasoning and Analysis
S11.A.3 – Systems, Models and Patterns

Materials/Resources: Science Laboratory procedures and equipment as provided by the science instructor, Technology resources and equipment

Adopted: 8/20/07

CONTENT Science Lab Asst. – Gr. 11-12	**STANDARDS**	**GRADE-LEVEL BENCHMARKS** **GRADE SPECIFIC CRITERIA**	**INSTRUCTIONAL STRATEGIES, LEARNING PRACTICES, ACTIVITIES AND EXPERIENCES**	**ASSESSMENTS**
• Laboratory Research • Technology Research • Lab equipment and material handling • Laboratory trials for sample data • Lab equipment testing • Peer laboratory assistance **TIME:** To be determined by student schedules	S11.A.1.1 S11.A.1.3 S11.A.3.1 S11.A.3.2	**S11.A.1.1.3** Evaluate the appropriateness of research questions **S11.A.1.1.4** Explain how specific scientific knowledge or technological design concepts solve practical problems **S11.A.1.3.1** Use appropriate quantitative data to describe or interpret change in systems **S11.A.3.1.1** Apply systems analysis, showing relationships such as input and output, and measurements to explain a system and its parts **S11.A.3.2.1** Compare the accuracy of predictions represented in a model to actual observations and behavior	Internet, Textbook, and Scientific Journal Research Hands on laboratory activities, such as: • Preparing and removing lab equipment and materials • Running trial labs for sample data • Testing lab equipment • Assisting other students in completing in - class or make-up labs • Aiding in the sharing of equipment between teachers and classrooms	Teacher Observation Teacher – Student Conference Laboratory Activities Log
MATERIALS AND RESOURCES: Laboratory Procedures and Equipment				
ENRICHMENT AND EXPANDED OPPORTUNITIES: Critical Thinking Activities, Laboratory and Technology Research, Laboratory Set Up and Problem Solving				
REMEDIATION AND INTERVENTION STRATEGIES: Additional Laboratory Experiences				