

Southern Research STEM Education Outreach
High School Field Trip Experiences
2015 Alabama Course of Study Alignment

	Green Engineering	Infectious Diseases	Antibiotic Resistance
	Physical Science Standards		
11. Design and conduct investigations to verify the law of conservation of energy, including transformations of potential energy, kinetic energy, thermal energy, and the effect of any work performed on or by the system.	✓		
12. Design, build, and test the ability of a device to convert one form of energy into another form of energy.	✓		
	Physics Standards		
5. Construct models that illustrate how energy is related to work performed on or by an object and explain how different forms of energy are transformed from one form to another.	✓		
	Environmental Science Standards		
1. Investigate and analyze the use on nonrenewable energy sources and renewable energy sources and propose solutions for their impact on the environment.	✓		
	Human Anatomy & Physiology Standards		
12. Obtain and communicate information to explain the lymphatic organs and their structure and function. a. Develop and use a model to explain the body's lines of defense and immunity.		✓	
	Biology Standards		
2. Obtain, evaluate, and communicate information to describe the function and diversity of organelles and structures in various types of cells.		✓	✓
14. Analyze and interpret data to evaluate adaptations resulting from natural and artificial selection that may cause changes in populations over time.			✓
	Science and Engineering Practices		
Asking Questions and Defining Problems	✓	✓	✓

Developing and Using Models	✓		
Planning and Carrying Out Investigations	✓	✓	✓
Analyzing and Interpreting Data	✓	✓	✓
Using Mathematics and Computational Thinking	✓		
Constructing Explanations and Designing Solutions	✓	✓	✓
Engaging in Argument from Evidence			
Obtaining, Evaluating, and Communicating Information			
	Cross-Cutting Concepts		
Patterns	✓	✓	✓
Cause and Effect			
Scale, Proportion, and Quantity	✓		
Systems and System Models	✓		
Energy and Matter	✓		
Structure and Function	✓	✓	✓
Stability and Change			