NORTHERN BURLINGTON COUNTY REGIONAL SCHOOL DISTRICT
[revision year] Course Map

Department	Applied Technology	**Course**	**Applied Technology Grade 8**

Source of Standards

- New Jersey Student Learning Standards 2014
  - Technology
  - Career and Technical
  - Mathematics
- 21st Century Skills/Career Ready Practices
- ITEEA Standards for Technological Literacy
- Next Generation Science Standards

Sequence- Unit Titles and Number of weeks per unit

Unit 1: Technological Systems: How They Work - 4 weeks
Unit 2: Technological Systems: Issues and Impacts - 4 weeks
Unit 3: Technological System Interactions - 4 weeks
Unit 4: Designing and Materials - 4 weeks

Enduring Understanding (link to guide)

Unit 1: A system is a group of interrelated components that collectively achieve a desired result.

New products and systems can be developed to solve problems or to help do things that could not be done without the help of technology

Invention is a process of turning ideas and imagination into devices and systems. Innovation is the process of modifying an existing product or system to improve it.

Systems thinking involves understanding how a whole is expressed in terms of its parts and, conversely, how the parts relate to each other and to the whole.

Unit 2: Information about the performance of technological systems can be collected and analyzed in order to identify positive and negative impacts.

Technology affects humans in various ways, including their safety, comfort, choices, and attitudes about technology's development and use.

The use of technology affects humans in various ways, including their safety, comfort, choices, and attitudes about technology's development and use.

Unit 3: Relationships between parts that work together help to describe a system.

Systems are usually connected to other systems, both internally and externally. Thus a system may be thought of as containing subsystems and as being a subsystem of a larger system.

Controls are mechanisms or activities that use information to cause systems to change.

Unit 4: System failures can be prevented through maintenance and corrected through troubleshooting.

A variety of resources and procedures are needed to properly maintain technological systems.

A technologically literate person is able to select and safely operate technological systems in order to achieve a given purpose.

Troubleshooting is a problem–solving method used to identify the cause of a malfunction in a technological system.

Essential Questions (link to guide)

How does every part in a system relate to one and other?

How does accuracy impact a system?

How do we use different types of technology in everyday life?

How can someone invent something new or solve real-world issues?

How can technologies be used to repair damage caused by natural disasters or to break down waste from the use of various products and systems?

How does the development and use of technology put environmental and economic concerns in direct competition with one another?

How can we use power plants to keep our environment and power supply stable?

What is systems thinking?

What are the major parts of a system?

How can the use of robotics be helpful in everyday life?

How can electrical systems differ from mechanical systems?

Why is understanding properties of different materials important? What is a troubleshooting procedure? How can we analyze and troubleshoot how well a design works?
Reporting Student Progress (link to pyramid)
All courses follow a balanced assessment system with Practice, Assessments, Evaluations.
Accommodations and Modifications (link to menu) need hyperlink
Integrated accommodations and modifications for special education students, English language learners, students at risk of school failure, gifted and talented students, and students with 504 plans
Resources (Text and Technology)
• *LCD projector* • *Computers* • Microsoft office • Color Printer • Internet access • *ElectroCity program* • *Demonstration tools* • *Ozobots* • *West Point Bridge Designer computer application* • *3D printer* • *TinkerCad (3D printing software)* • *OnShape (3D printing software - more advanced)*