

## ROLESVILLE HIGH SCHOOL

1099 E. Young Street, Rolesville, NC 27571  
Phone: 919-554-6303

PREETHI RAM MOHAN,  
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Teacher  
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## *Technology, Engineering and Design*

**Technology, Engineering and Design:** This course focuses on the nature and core concepts of technology, engineering, and design. Through engaging activities and hands-on project-based activities, students are introduced to the following concepts: elements and principles of design, basic engineering, teaming, and problem solving. Students apply research and development skills and produce physical and virtual models. Activities are structured to integrate physical and social sciences, mathematics, English language arts, and art. Work-based learning strategies appropriate for this course include mentorship, school-based enterprise, service learning, and job shadowing. Apprenticeship and cooperative education are not available for this course. Technology Student Association (TSA) competitive events, community service, and leadership activities provide the opportunity to apply essential standards and workplace readiness skills through authentic experiences.

### **Class Website**

<https://msrammohan.weebly.com/>

### **Supplies/Materials/Equipment Needed:**

Flash Drive  
Ear Buds

### **Grading:**

#### **Nine-week grades in this class are calculated from:**

- 30% Class work
- 40% Projects
- 30% Test

#### **Final Grades:**

- 40% First Nine Weeks
- 40% Second Nine Weeks
- 20% CTE Post Assessment

### **Progress Reports:**

- Every 3-4 weeks

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### Teacher Hours:

- Conference Times: please make an appointment  
Tutoring/Make up: Daily from 6:45am to 7:15am

### Course Objectives:

#### Unit 1: Technological Innovations and Inventions

This unit is designed to teach students that most inventions and innovations are the result of an evolutionary process and have students understand how a series of refinements leads to an improvement in a technological device; that new technologies create new processes and have students be able to explain how a change in technology would change the process of creating a product; teach the students all the factors that lead to changes in technology; and that research and development is a problem-solving approach used by companies to prepare products and systems for the marketplace.

#### Unit 2: History of Technology

Unit 2 prepares students to analyze the historic significance of technological advancements and to gain an understanding of the influences of technology on history. The use of technology has had profound effects on the course of history. This unit looks into some of those occurrences that have affected society and the environment. Additionally the unit encourages students to think about our future with technology. Students will research some of the major technological developments from ancient history to the present time.

#### Unit 3: Systems

This unit will enable students to identify the core technologies, subsystems, and systems that make up technological devices, reverse engineer a product, and to diagnose problems when they occur through troubleshooting techniques.

#### Unit 4: Design

The Engineering Design process is a systematic, iterative problem solving method that produces solutions to meet human wants and desires.

#### Unit 5: The Designed World

The designed world is the product of a design process, which provides ways to turn resources - materials, tools and machines, people, information, energy, capital, and time - into products and services.

Purpose of the Unit: This unit will enable students to learn to apply a design process, to a variety of resources - materials, tools and machines, people, information, energy, capital, and time - to produce products and services in the technologies of energy and power, construction, manufacturing, information and communication, agriculture and transportation, and telemedicine

#### Unit 6: Integrated Transportation System (NASA)

Space exploration employs an integrated intermodal system of transportation to move people and equipment on the earth, between the earth and other planets, and on other planets

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