

## **STEM Class**

Crown Point Christian School is proud to introduce a brand new class completely dedicated to STEM (Science, Technology, Engineering, and Mathematics). This class will focus on 21st century skills that will prepare the students for this ever changing world with creativity on their minds and God in their hearts. Each grade level will build upon the skills established the year before. Below you will find a general overview of what each grade will be exposed to.

### **First Grade**

- Engineering
  - Design Process and concepts
- Electricity
  - Circuits and conductivity
- Inventions
  - Application of design process and creating designs
- Recycling
  - Resources and the environment
- Coding
  - Code logic commands and processes
- Connections
  - Text that connects STEM topics to real world events, jobs, and experiences.

### **Second Grade**

- Physics
  - Gravity, Light, and Motion
- Digital Media
  - Taking video, interviews, and creating shorts
- Robotics
  - Modular robotics with varying functions
- Geometry
  - Polygons, area, perimeter, and angles
- Connections
  - Text that connects STEM topics to real-world events, jobs, and experiences.

### **Third Grade**

- Physics
  - Inertia, Friction, and Newton's laws
- Digital Media

- Taking video, commercials, infomercials, and adding music
- Robotics
  - Modular robotics with varying functions
- Geometry
  - Triangles, prisms, and diameter
- Connections
  - Text that connects STEM topics to real world events, jobs, and experiences.

#### **Fourth Grade**

- Robotics and Physics
  - Pneumatic forces, drag and drop programming, motor commands, and energy transfer
- Robotics and Programming
  - Robot build, advanced motor commands, and connecting microcontroller
- Engineering
  - Simple machines, gears, and power transfer
- Geometry
  - Nesting squares, polyhedrons, quadrilaterals and fractions
- Connections
  - Text that connects STEM topics to real world events, jobs, and experiences.
- Design
  - Introduction to game design, level structure, and logic commands

#### **Fifth Grade**

- Robotics and Physics
  - Velocity, Acceleration, Kinematics, and Sensor programming
- Robotics and Programming
  - Logic commands, subroutines, and procedures
- Engineering
  - Complex machines, power and speed ratios, and gears
- Geometry
  - Fractions, polynomials, and patterns
- Connections
  - Text that connects STEM topics to real world events, jobs, and experiences
- Design
  - Build upon game design, level structure, and logic commands

## **Sixth Grade**

- Engineering
  - Design mazes, roller coasters, and environments
- Programming
  - Create arduino and robotic functions
  - Video game design and logic commands
- Digital Media
  - Create how to videos, flyers, and advertisements
- Industrial Engineering
  - Design and create wooden puzzle boxes
- Robotics
  - Build a functioning programmable robot
  - Program functions and sensors on various robots
- Connections
  - Text that connects STEM topics to real world events, jobs, and experiences.

## **Seventh and Eighth Grade**

- Programming Languages
  - HTML, CSS, and web page design
- Autocad
  - Understanding CAD tools and basics
- 3D Printing and Design
  - Design and slicing software, troubleshooting, and printing prosthetics
- Robotics
  - Programming movements and exploring sensors and servos
- Industrial Engineering
  - Mastery of design process and tools used for 3D print assembly
- Programming and Design
  - Designing games on various engines and platforms
- Connections
  - Text that connects STEM topics to real world events, jobs, and experiences.