Crescent High School STEM Action Plan

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1. Big Ideas:
   - The integration of S.T.E.M. into the curriculum will be piloted by selected teachers at Crescent. The goal of S.T.E.M. is to:
     - Improve the ability of students to “think outside the box” and be good problem solvers. To do this, students will:
       o Use practices to improve critical thinking;
       o Work cooperatively with each other;
       o Think critically and have the ability to communicate these thoughts.
     - Assist students to think like engineers, designers, and other professional problem solvers.
     - The teachers will implement the Engineering Design Process in class. This process is important for students to practice creative problem solving.

2. Timeline:
   - At the beginning of the year, teachers will introduce the Engineering Design so students understand the process by which they will solve problems throughout the year.
   - Teachers will continue to implement the Engineering Design through S.T.E.M. practices throughout the year.

3. Assessment:
   - Teachers should accommodate students with innovative micro-assessments for the purpose of improving instruction and helping each student reach his/her highest potential.
   - In S.T.E.M.-based projects, the teacher will use the following tools:
     o Notes
     o Diagrams
     o Graphs
     o Pictures
     o Journal
   - Rubrics will also be used to evaluate student success in each individual S.T.E.M. activity.

4. Resources:
   - S.T.E.M. resource literature/ websites
   - Local business partners (Upstate SC Area)
   - Internet Resources
   - Engineering Design Process

5. Learning Experiences:
• Overall: Implementation of the Engineering Design Process in the curriculum.
• Specific Goals: Include S.T.E.M. projects in each 6 week grading period

6. Examples:

• Teachers will present real-life problems for students to solve in groups. Students will use the Engineering Design in the process of solving these problems related to previously-taught material.
• Teachers will assist the School-to-Work Coordinator in setting up technology and engineering professions to speak at Career Day.
• Single-gender classes will have T & E speakers, especially female professionals to help reinforce the importance of S.T.E.M.
• A Science/ Engineering Day will allow students to showcase the independent work on a short-term project addressing specific solutions to a student-chosen project.