South Texas Preparatory Academy
Instructor: Kathy Starr
Conference: 2A, 4B

Course Syllabus 2016 - 2017
Course: Gateway to Technology
Room Number: 204

COURSE DESCRIPTION:

Gateway to Technology (GTT) provides engineering curriculum for middle school students that challenges, inspires, and offers schools variety and flexibility. Students get rigorous and relevant experiences through activity-, project-, and problem-based learning. GTT uses industry-leading technology to solve problems while gaining skills in communication, collaboration, critical-thinking, and creativity.

Throughout GTT, students acquire knowledge and skills in problem solving, teamwork and innovation as well as explore STEM careers. Taught in conjunction with a rigorous academic curriculum, the program is divided into five instructional units; *Design and Modeling*, Science *of Technology*, *Automation and Robotics*, *Magic of Electrons and Medical Detectives.*

- **Design and Modeling (DM)**

Students apply the design process to solve problems and understand the influence of creativity and innovation in their lives. They work in teams to design a pegboard toy and CO2 dragster car, capturing research and ideas in their engineering notebooks. Using Autodesk® design software, students create a virtual image of their designs and produce a portfolio to showcase their innovative solutions.

- **Science of Technology (ST)**

Science impacts the technology of yesterday, today, and the future. Students apply the concepts of physics, chemistry, and nanotechnology to STEM activities and projects, including making ice cream, and discovering the properties of nano-materials.

- ***Automation and Robotics (AR)***

Students trace the history, development, and influence of automation and robotics as they learn about mechanical systems, energy transfer, machine automation, and computer control systems. Students use the VEX Robotics® platform to design, build, and program real-world objects such as traffic lights, toll booths, and robotic arms.

- **Magic of Electrons (ME)**

Through hands-on projects, students explore electricity, the behavior and parts of atoms, and sensing devices. They learn knowledge and skills in basic circuitry design, and examine the impact of electricity on the world around them.

- **Medical Detectives (MD)**

Students play the role of real-life medical detectives as they analyze genetic testing results to diagnose disease and study DNA evidence found at a "crime scene." They solve medical mysteries through hands-on projects and labs, investigate how to measure and interpret vital signs, and learn how the systems of the human body work together to maintain health.

REQUIRED MATERIALS:

- Student Planner - Must be brought to class every day (serves as hall pass
- Mechanical Pencil (0.5 or 0.7mm) and eraser.
- Flash Drive (At least 2GB recommended. Can be shared with other classes.)

TEXTBOOK INFORMATION (ALL TEXTBOOKS ARE CLASSROOM SETS):

- Technology Interactions
- Gateway to Engineering

GRADING POLICY:

- Daily Work 50%
- Tests/Projects 30%
- Quizzes 20%

CLASSROOM RULES:

- Follow directions the first time they are given.
- Be on time to class.
- Bring materials.
- Keep on task.
- Respect everyone.

CONSEQUENCES:

- Verbal warning.
- Parent contact.
- After school detention.
- ISS (determined by administrator).

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STUDENT ACCEPTANCE:

I understand/accept the responsibility for abiding with all Classroom, School, and District Rules and Policies.

Print Name: _____ Date: _____

Student Signature: _____ Period: _____

Dear Parents/Guardians:

I look forward to working with you and your child this school year. I anticipate that we are going to have a very successful year. Should you have any questions or concerns, please feel free to contact me at (956)381-5522 and/or email me at kathy.starr@stisd.net. Thank you so much for your support, cooperation, and involvement in the class.

Best Regards,
Mrs. Kathy Starr

PARENT/GUARDIAN ACCEPTANCE:

As the parent/guardian, I understand and accept responsibility to help this student fulfill all obligations of this course.

Your contact information would be greatly appreciated.

Parent/Guardian Signature: _____ Date: _____

Contact Number(s): _____ Contact Time: _____

Parent's Email: _____

Principal: Mrs. Ana Castro _____

Teacher: Mrs. Kathy Starr _____

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