

**Triangle Math and Science Academy**

Mr. Alexander Murray

PLTW Gateway

2017-2018

**Web Site:** amurraytmsa.weebly.com

**E-mail Address:** [amurray@tmsacademy.org](mailto:amurray@tmsacademy.org)

**LMS Website:** <http://my.pltw.org>, **Student Login** to be distributed soon

**Course Outline and Objectives:**

Project Lead the Way (PLTW) is a new program that TMSA is started last year. It is a national program that schools implement to help their students expand their STEM (Science, Technology, Engineering, Math) skills and develop a passion for science through hands-on, real-world experiences.

PLTW uses an APB (Activity, Problem, Project-Based) approach to learning, which is a student centered approach. PLTW has three components to their program: Launch (Elementary), Gateway (Middle School), and High School (Biomedical Science, Engineering, and Computer Science).

In this course, we will be covering 3 of t

he 9 Gateway units:

* **Unit 1: Design and Modeling-** Students will learn how to draw dimensioned design sketches in multi-view and isometric view, as well as learn the basics of using 3d modeling software. Students will also put these skills to use designing a therapeutic toy. (August-October)
* **Unit 2: App Creators-** Students learn the basics of coding and how to develop android based apps using MIT App Inventor. (October-January)
* **Unit 3: Automation and Robotics-** Students learn about mechanisms and how to automate them using computers. (January-June)
* More detailed course descriptions can be found online at <https://www.pltw.org/our-programs/pltw-gateway/pltw-gateway-curriculum> .

**Projects:** Throughout each unit, students will conduct in-class projects based on the unit we’re studying. These are not traditional, report-style projects, but are hands-on ways to showcase the knowledge that we’ve been building on through the unit.

**Teacher/Parent Communication:**

* PowerSchool- our online system for parents to check grades and upcoming assignments.
* Class Website- I have a class website (on the first page) on which I will post weekly updates of what we are doing in class.
* E-mail- This is the best way to get in touch with me (also found on first page).
* myPLTW- The PLTW organization uses an online system for their curriculum (like an etext). Students will be given access to this in the first couple weeks and given instructions on how to access the site and use it. Grades will be posted only in PowerSchool.

**TMSA Grading Scale:**

90-100 A

80-89 B

70-79 C

60-69 D

0-59 F

**Methods of Evaluation**

Major 60%

Examples: major unit projects, tests

Medium 25%

Example: quizzes

Minor 15%

Example: classwork

**Supplies Needed Daily for Class:** Students will need pencils, good quality erasers (such as vinyl or moldable), and black or blue pens. Students will be provided with an engineering notebook for most of their work, but that notebook will remain at the school at all times (until the end of the school year). Therefore, students will need a notebook for any daily notes that they wish to have available at home. Students will also need a binder (3.5” 3-ring will work well) to organize class materials and handouts.

**Class Policies:**

* Tests will be announced at least one week in advance.
* Quizzes will also be announced, but not with as much notice (a few days in advance) since quizzes will be less cumulative (they will be on what we have just covered in the last few days).
* Homework: There will rarely be any assigned homework for this class, but students may need to finish parts of their assignments at home occasionally.
  + On nights where there is no homework, you should still spend time getting your materials organized, reviewing notes, researching topics we discussed in class, and preparing for projects/quizzes.
* If students are absent, they are responsible for getting make up work from the teacher when they return. Students will have one day to complete their work from each of their absent days. For example, if a student is absent for two days, they will have two school days to make up their assignments.
* Late work will be accepted at a penalty of 10% off the grade for each day the assignment is late. **Students have five school days to turn in late assignments, and there is no exception to this.**

**Classroom Routines:**

* Students are responsible for bringing their PLTW Binder, planner, and pencil pouch to class with them every day.
  + Please keep your supplies organized and neat. Titles and dates should be written in each new assignment. At the end of each unit, we will go through your binder to organize it and remove papers you won’t need anymore.
* When you arrive to class, students should be seated immediately. Students should take out their science supplies. The rest of the supplies you have should be organized in your personal space on the desk in front of you, or on the floor underneath your seat.
* Water and restroom breaks should be taken care of between classes. If you need to take a break during class, please fill out a pass in your planner and I will sign it for you.
* Students are expected to work cooperatively in groups through the year, on different assignments. We will practice appropriate and positive group working strategies through the year.
* Students are also expected to conduct experiments safely. Please sign and review the safety contract with your child; we will review it in class as well.

**Classroom Rules:**

**Rule 1:** Try your best, every day on every task you do.

**Rule 2:** Respect yourself, your classmates, your school, and your teacher at all times.

**Rule 3:** Come to class prepared.

**Rule 4:** Follow directions the first time that they are given.

**Mr. Murray’s PLTW Contract:** You received 2 copies of our Class and Safety Contracts. The front four pages of this packet should be kept for your records. The back two pages get signed and returned to Mr. Murray, by Monday August 28.

**Student:** I, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, am aware of the policies of Triangle Math & Science Academy and in this classroom. I agree to abide by each of the policies, procedures, and expectations.

Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_

**Parent/Guardian:** I/We have reviewed this contract and TMSA policies with my child. I agree to encourage my child to do his/her best and will guide them to abide by these policies.

Parent Signature(s)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_