

**Tucson Unified School District  
COURSE SYLLABUS TEMPLATE**

1. Course title: Algebra Academy
  
2. Course description: The Algebra Academy is a summer transition program designed for students coming from 8<sup>th</sup> grade and entering high school. This summer will be the program's 13<sup>th</sup> consecutive summer of existence. It is run through the University of Arizona's Department of Early Academic Outreach. The program has always had a standards based focus on the Function Domain of the Arizona State Standards. Last summer, in response to the first year of implementation of the 2016 adoption Arizona State Standards for Mathematics, the instructional team picked the standards centered on the content emphasis for Algebra 1 (see below) to focus the pre-post test and instruction on.

1. **Deepen and extend understanding of solving equations and systems.**
2. **Compare and contrast the difference in behaviors between linear and non-linear relationships.**
3. **Engage in methods of analyzing, solving and using quadratic functions.**
4. **Apply linear models to data that exhibit a linear trend.**

Students will experience a project-based approach to the Algebra standards. Instructors are trained by University of Arizona Mathematics Education Professors to implement strategies based on the methodologies of Complex Instruction as well as principals from a research based \*\*\*Culturally Responsive Pedagogy rubric.

The culminating project is a water bottle rocket competition in which students apply the math they learn throughout the summer to compete against the 2 other Algebra Academy sites on the University of Arizona Campus.

3. Course dates: *beginning and ending dates* **Beginning May 28, 2018**

**Ending June 27<sup>th</sup>, 2018**

4. Course location: *school and room #* **Tucson High Magnet School Room T 377**



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5. Instructor: *instructor and contact information* Steven Martinez,  
[steven.martinez@tusd1.org](mailto:steven.martinez@tusd1.org), (520) 403-2880

6. Adopted text and other learning resources:

*The Algebra Academy Curriculum Binder will be provided by the Center for Early Academic Outreach.*

7. Course essential questions:

What are the independent, dependent and control variables in various experiments that can provide useful information to my group's goals?

What data from situations and experiments will inform my group's questions and how will I collect this data?

How could data from an experiment or situation be represented in a way that informs my audience of what is unique or special about that experiment or situation?

8. Course objectives: Upon completion of this course, students should be able to do the following:

*Identify and classify variation in real world contexts*

*Design and perform experiments using the Scientific Method*

*Write and solve linear and quadratic equations with and with out the use of technology*

*Create mathematical models of real-world phenomenon using linear, quadratic and exponential functions*

9. Desired course outcomes:



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- Students will be ready for the skills and concepts they will encounter in Algebra 1
  - Students will understand the Arizona University admission requirements
  - Students will gain confidence in their ability to do high school level mathematics
10. Course calendar/schedule: (May state as tentative). *unit modules of general content.*
11. Assessments:
- a. Assignment titles
    - Pre-test
    - Post-test
    - Water Bottle Rocket Variable Presentation
    - Water Bottle Rocket Competition Presentation
  - b. Due dates for major assignments
    - Pre-test – May 28<sup>th</sup>, 2019
    - Post-test – June 26<sup>th</sup>, 2019
    - Water Bottle Rocket Variable Presentation – June 13<sup>th</sup>, 2019
    - Water Bottle Rocket Competition Presentation – June 27, 2019
12. Course calendar/schedule: (May state as tentative). *unit modules of general content.*
13. Grading policy: *Policy: IKA-R*
- a. What student work is graded and how grades are assigned.
  - b. Dates of exams, quizzes, or other means of assessment
14. Course Policies:
- a. Policy for submitting assignments



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- b. Exam schedule and make-up policy
- c. Attendance: *Policy: JE– R*
- d. Tardy Policy *site handbook*
- e. Academic dishonesty

