**QUANTITATIVE REASONING**

**SYLLABUS SY 2022-2023**

**Requirement:** The students should have one (1) credit each in in Algebra 1, Geometry, and Algebra II.

**Course Description/Features**

The Arizona Department of Education academic standards for students describes quantitative reasoning as “the knowledge of and confidence with basic mathematical/analytical concepts and operations required for problem solving, decision making, economic productivity, and real-world applications”. Quantitative reasoning will help prepare students “for an increasingly information-based society in which the ability to use and critically evaluate information, especially numerical information, is central to becoming an informed citizen.” Students

will acquire the necessary skills in critical analysis and decision-making, using sound mathematical approaches and tools, and prepare them to the demands of a data driven generation.

**Course Content:** The course covers the mathematical stands in:

1. Numerical Reasoning
2. Covariational Reasoning
3. Statistical and Probabilistic Reasoning
4. Discreet Mathematical Reasoning
5. Financial Reasoning

**Course Intent**: The course focuses on the development of the minds of the students into critical/analytical thinking, capable of expressing and communicating their thoughts both verbally and in written forms, thus it focuses in developing and practice the “Quantitative Reasoning Habits of the Mind” at the end of the course, the students are expected to demonstrate skills to:

* Interpret the circumstances of a situation, make estimates when necessary, make decisions, and analyze critical information.
* Represent information in appropriate mathematical forms.
* Perform calculations and manipulations.
* Analyze and synthesize the quantitative information
* Evaluate assumptions
* Communicate information derived from analysis of data

Additionally, students will be improving their skills in the use of technology to help in the analysis and understanding how to solve a problem.

([Arizona Quantitative Reasoning Standards.docx (live.com)](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.azed.gov%2Fsites%2Fdefault%2Ffiles%2F2018%2F12%2FArizona%2520Quantitative%2520Reasoning%2520Standards.docx%3Fid%3D5c10291d1dcb250c5c5f9779&wdOrigin=BROWSELINK)

**TLAC non-negotiable strategies of teaching and learning (district mandates):**

* **THRESHOLD** – every student greets the teacher by the doorway with a fist bump or a greeting.
* **DO NOW** – is a short assessment form of a previous lesson. Students will demonstrate their learning by answering at least 2 questions in the first 5 minutes of the class time. This informs the teacher instruction, so the teacher can bridge any gap that may loosen the connection to learn the next level of content.
* **NO OPT OUT/COLD CALL –** students are expected to participate in the discussion when called. No grades for right and wrong answers will be given, instead, learning will be through formative discussions where teachers/students answer questions or asks questions, either to the teacher or to his/her classmates. Students are expected to keep their focus on the learning objectives.
* **EVERYBODY WRITES (RACES, IN TEXT AND SYMBOLS)** – students will summarize and demonstrate understanding by answering the EXIT QUESTIONS for the day.
* **BREAK IT DOWN** – students will develop their understanding and thinking skills if they express their ideas both verbally and/or in written form.
* **WORK THE CLOCK –** the class uses a timer to complete specific activity. Hence, students are expected to be on task and on track of the day’s assignments**.**

**Resources**

Textbook:

[www.Pyrat.org](http://www.Pyrat.org)

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