**Advanced Mathematical Decision Making (AMDM) Course Syllabus**

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**Course Description:**
Advanced Mathematical Decision Making (AMDM) is designed to follow the completion of Advanced Algebra (or its equivalent). This course provides students with further experiences in statistical information, conducting statistical studies, analyzing voting processes, modeling data, making basic financial decisions, and using network models for informed decision-making. Instruction will include the appropriate use of manipulatives and technology, with topics presented in multiple formats: concrete/pictorial, verbal/written, numeric/data-based, graphical, and symbolic.

**Units of Study:**

1. **Unit 1:** Using the Power of Mathematical Reasoning to Make Decisions
2. **Unit 2:** Using Probability to Make Decisions
3. **Unit 3:** Using Statistical Studies to Make Decisions

**Course Objectives:**

* **AMDM.MP:** Display perseverance and patience in problem-solving; demonstrate critical thinking, reasoning, and effective collaboration.
* **AMDM.MM.1:** Apply mathematics to real-life situations; model real-life phenomena using mathematics.
* **AMDM.QPR.2:** Solve problems using ratios, rates, and percents in real-world applications.
* **AMDM.QPR.3:** Analyze averages and indices of large data sets to make predictions.
* **AMDM.PAR.4:** Develop methods or algorithms for analyzing discrete situations.
* **AMDM.PR.5:** Analyze chances for success or failure in decision-making.
* **AMDM.PR.6:** Model strategic interactions among rational decision-makers.
* **AMDM.DSR.7:** Conduct research to solve real-life problems in business and finance.
* **AMDM.PAR.8:** Create and analyze models for decisions related to earning, investing, spending, and borrowing.
* **AMDM.FGR.9/10/11:** Use functions to model discrete and continuous relationships.

**Required Materials:**

* Composition notebook and pencil.

**Grading Policy:**

**Purpose of Grades:**

* Provide helpful feedback for success and growth.
* Aid teachers in lesson planning.
* Inform parents to support their children's learning.

**Grading Criteria:**

1. Grades reflect student learning.
2. Grades are fair.
3. Grades are clear and consistent.
4. Grades are timely and provide helpful feedback.
5. Grades support learning.

**Academic Grade Reporting:**

* Grading will be on a 100-point scale.

**Final Grades Calculation:**

* **Minor Grades (60%):** Quizzes, labs, and graded assignments. Minimum of 5 per 6-week period.
* **Major Grades (40%):** Unit tests, essays, projects. Minimum of 2 per 6-week period.

**Class Policies and Expectations:**

**Be Respectful:**

* Respect yourself, classmates, teacher, and the learning environment.
* Use appropriate language and listen when others speak.

**Be Responsible:**

* Come prepared every day (notebook, pencil).
* Take ownership of your actions, work, and learning.

**Be Ready to Learn:**

* Arrive on time and engage in bell work immediately.
* Ask questions and participate actively.

**Follow Directions:**

* Pay attention to instructions and transitions.

**Additional Policies:**

* **Absences:** It is the student’s responsibility to make up missed work.
* **Late Work:** Accepted within one week with 5% per day up to 25% grade deduction (unless excused).
* **Retakes:** Quizzes/tests may be retaken after completing corrections or additional practice at the teacher’s discretion.

**Note:** This syllabus is designed to give an overview of the course and expectations. Please review it carefully and reach out with any questions.