

# Reorganizing School Mathematics for Quantitative Literacy

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# Issues facing school mathematics

- Tension between algebra as modeling and as object manipulation
- “Rush to Calculus” concerns
- Failure rates
- Lack of relevance
- Continued focus on standards and assessment
- Dual – credit courses
- STEM focus; not QL focus

# Indiana's Curriculum Model

Grade	Goal	Often
8	Algebra 1	Pre-Algebra
9	Geometry 1	Algebra 1
10	Algebra 2	Geometry 1
11	Precalc w/trig	Algebra 2
12	AP Calculus	Precalc w/out trig (??) Statistics (??)

# Proposed Curriculum\*

Grade	Semester	Standard Sequence
8	1	Algebra, part 1
	2	Algebra, part 2
9	1	Algebra, part 3
	2	Algebra, part 4
10	1	Discrete Mathematics
	2	Fund. Of Geometry
11	1	AP Statistics
	2	Analytic Geometry
<b>12</b>	<b>1</b>	<b>Functions w/trig</b>
	<b>2</b>	<b>Math Modeling</b>

# Alternative Sequences

Grade	Semester	Alternative 1	Alternative 2
8	1	Algebra, 1 & 2	Algebra, part 1
	2	Algebra, 3 & 4	Algebra, part 2
9	1	Discrete	Algebra, part 3
	2	Fund. Of Geom.	Algebra, part 4
10	1	AP Statistics	Discrete Fund. Geom.
	2	Analytic Geom.	Analytic. Geom. AP Statistics
11	1	Functions	Functions
	2	Math Modeling	Math Modeling
12	1	AP Calculus	AP Calculus
	2	AP Calculus	AP Calculus

# Alternative Sequences

Grade	Semester	Alternative 3	Alternative 4
8	1	Algebra, part 1	Algebra, part 1
	2	Algebra, part 2	Algebra, part 2
9	1	Algebra, part 3 ***	Algebra, part 3
	2	Algebra, part 4 ***	Algebra, part 4
10	1	Discrete Math	Discrete FAILED
	2	Fund. Of Geom.	Discrete AGAIN Fund. Of Geom.
11	1	AP Statistics	AP Statistics
	2	Analytic Geom.	Analytic Geom.
12	1	Functions	Functions
	2	Math Modeling	Math Modeling

# Implications

- Shifts the focus of School Mathematics to QL
- But still prepares students for STEM in college
- Creates a Value Added for doing School Math
- Continues to meet current Standards & Assessments
- Adaptable to varying student needs
- Possible stronger connections to the rest of the school curriculum

# Reference

Gillman, R., *Reorganizing School Mathematics for Quantitative Literacy*, Numeracy, Volume 3, Issue 2 (2010).