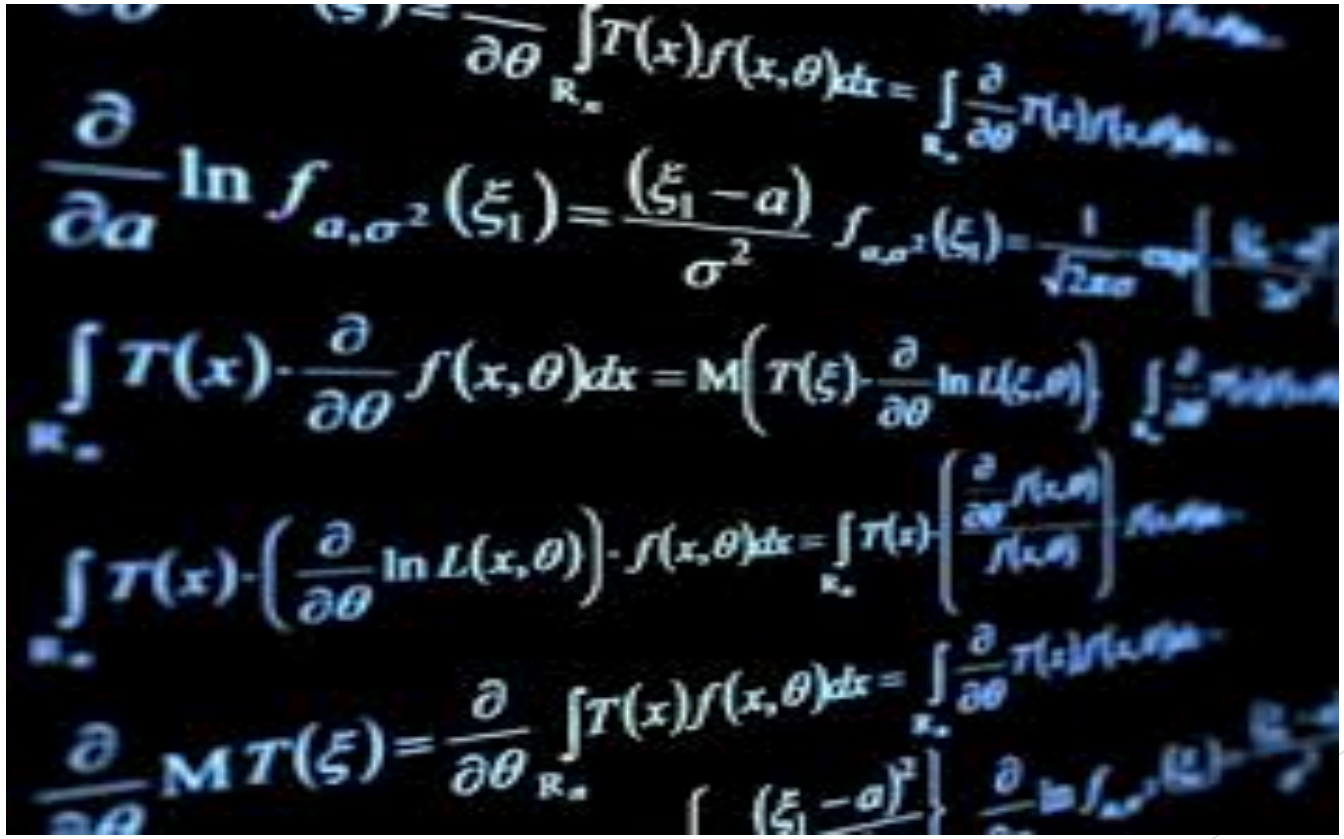
LCHS Math Instruction Update and Summer School 2016



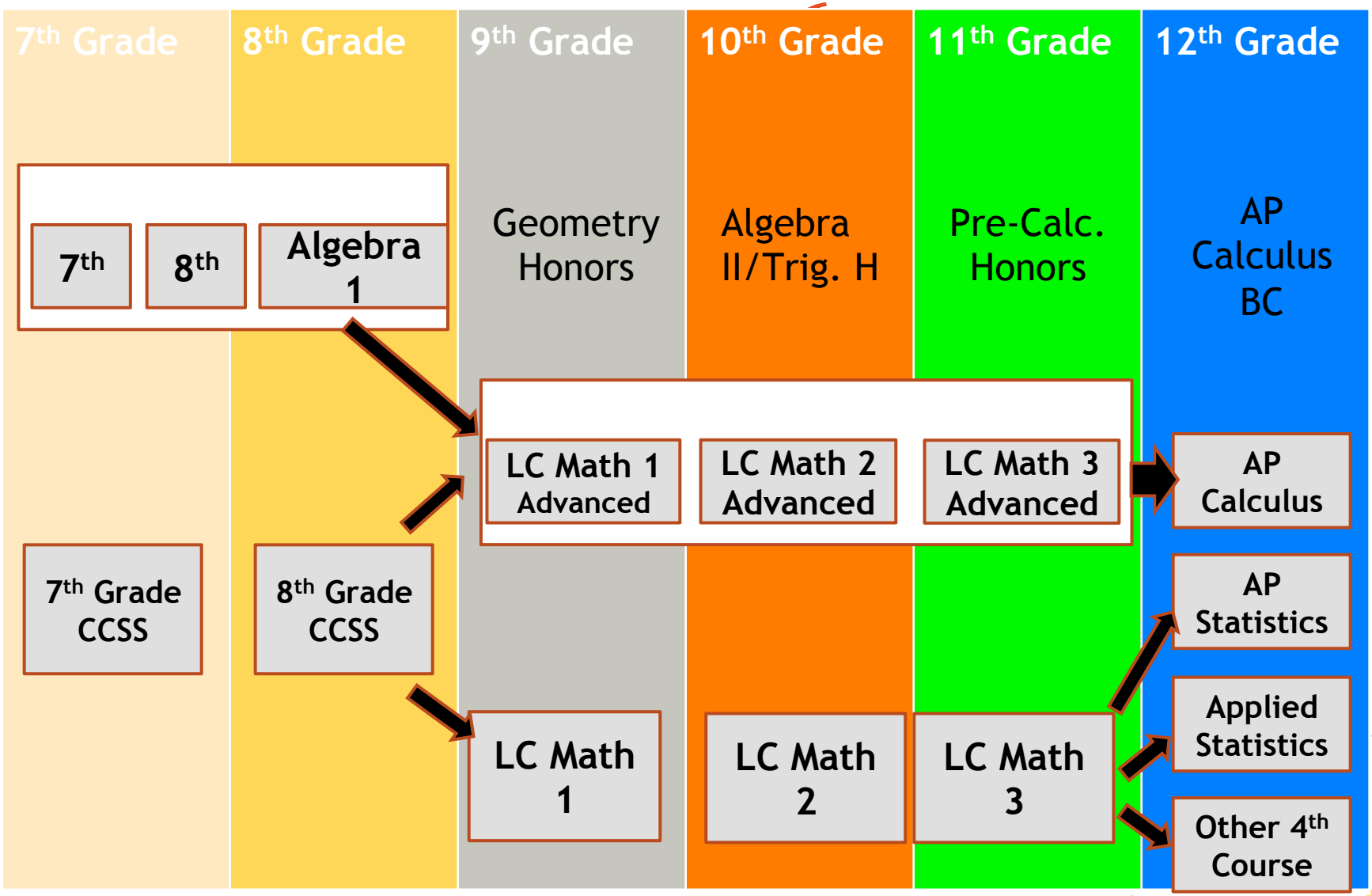
Overview

- Review of Math Pathway Articulation
- Progress Report - LC Math 1 and Math 1 Advanced
- New Courses Being Developed
  - LCHS and LCFEF Summer School Collaboration - 2016

Math Readiness Is The Goal

- Current math standards emphasize deep understanding of concepts, application of skills and solving novel (non-routine) problems.
- New math courses move away from an operational/computational focus as they implement Standards for Mathematical Practice (SMPs) into math instruction.
- Provide opportunities to every student to access calculus by her/his senior year.

Overview of LC Math Pathways



Progress Report - LC Math 1 Courses

LC Math 1 Advanced

- Dr. Carruthers and Mr. McDermott
- 5 sections offered
- Avg. 28 students per class
- PLC and common preparatory period

LC Math 1

- Ms. DiFiore and Mr. Szamosfalvi
- 5 sections offered
- Avg. 25 students per class
- PLC and common preparatory period

New Courses Being Developed

- New Math Teams Formed
- New Math Consultant: Heather Dallas - Executive Director - UCLA Curtis Center
- Math Compaction Being Realized
- 4 Productive Planning Meetings
  - Concepts Within Each Compaction
  - Standards Alignment

New Classes Being Developed - Multiple Drafts

Math 1 Adv.

1. Modeling Bivariate Data with Linear Functions
2. Linear Inequalities and Systems of Linear Inequalities
3. Piecewise-Defined Linear Functions and Absolute Value Functions
4. Exponential Functions
5. Quadratic Functions
6. Quadratic Equations
7. Complex Numbers
8. Polynomial Functions

Throughout the course:
-Systems of Equations
-Solving Equation Logic (solution set) and methods (graph, table, equation).
-Technology Integration
-Characteristics of Functions (incl. avg rate of change)
-Transformations of Functions
-Defining sequences recursively using function notation, and explicitly by restricting the domain

Math 2 Adv.

1. Lines and Angles
2. Rigid Transformations and Congruence
3. Triangles
4. Quadrilaterals
5. Dilations and Similarity
6. Circles
7. Circular Trigonometry (sin/cos/tan) and Trigonometric Identities
8. Vectors and Laws of Sines/Cosines
9. Loci and Analytic Geometry
10. Justifying Area and Volume Formulas
11. Conics: Ellipses, Hyperbolas

Notes:
- Tangent **graph** moved to Math 3
- Why not merge 9 and 11?
- Is it a problem to derive formulas for sector area and arc length before circle area and circumference?
- Conics Resource: Mathematics, a Human Endeavour by Harold Jacobs
- Where would tangent function be graphed?

Math 3 Adv.

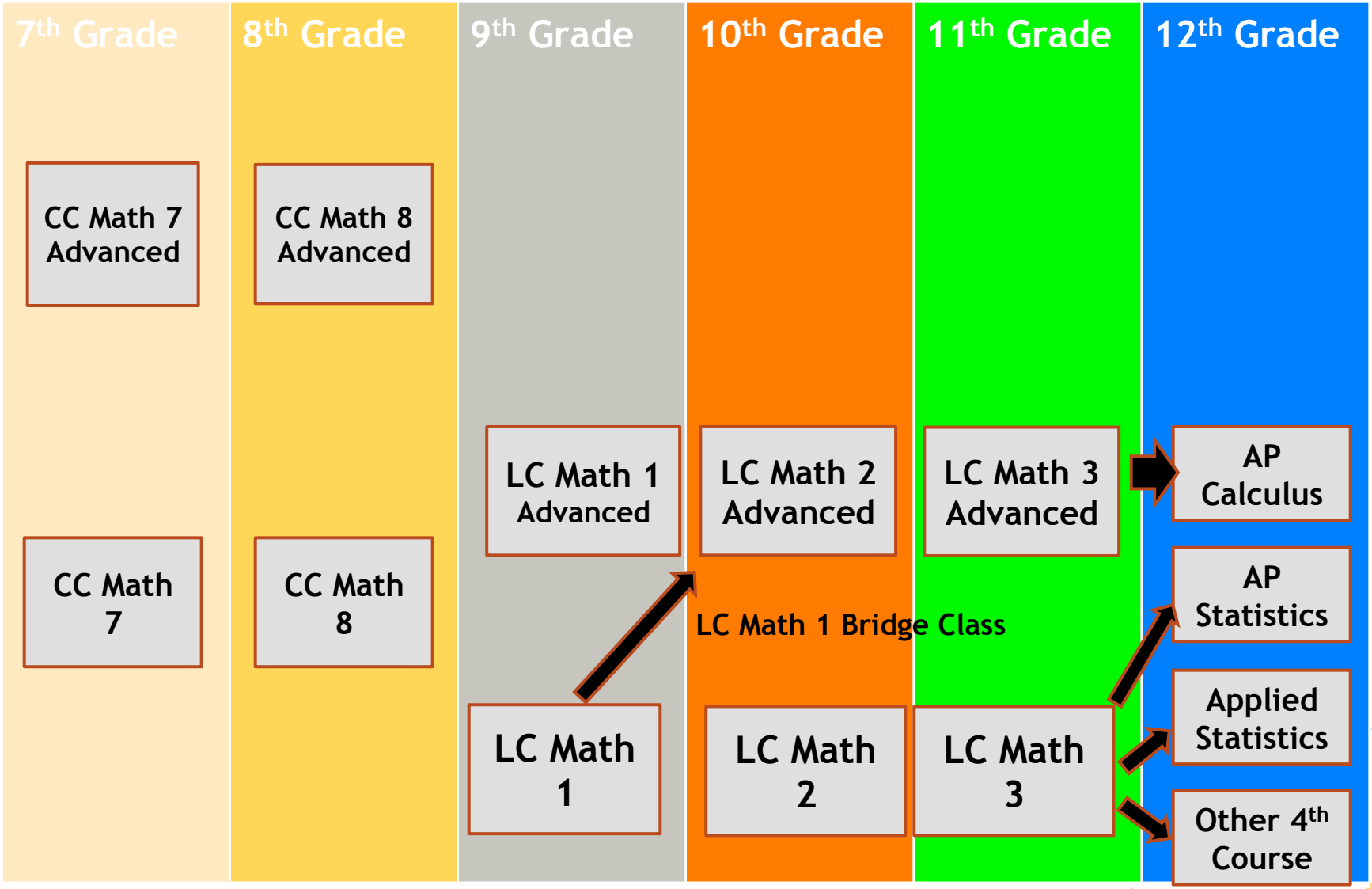
1. Statistics
2. Probability
3. Rational Functions and Related Equations
4. Inverse Functions, Root Functions and Related Equations
5. Logarithmic Functions (Graphs, Properties of Logs, Solving Log Equations)
6. Other Trigonometric Functions (tan/csc/sec/cot/inverses)
7. Matrices Continued
8. Parametric Equations

Defer to Calculus:
- Polar Equations
- Calculus Intro (except limits)
  - Intermediate Value Theorem, Sandwich Theorem.

LCHS and LCFEF Collaboration

- Early Planning Meetings
- Course Offerings in Summer 2016
  - LC Math 1,LC Math 1 Bridge Course, Geometry, Algebra II/Trig
- Sharing of LC Math 1 Curriculum Outline and Materials
- Development of LC Math 1 Bridge Course

LC Math 1 Bridge Class



If Parents Are Considering Summer School…

- Math in Summer School –Intensive Study
- Options available to students
- High School Credits earned through Summer School

Next Steps

- Submit the new courses to UC for approval
- Start registration
- Select teachers to teach the courses
- Work with the consultant to design the pacing guides and assessments for these courses

Next Steps

- Align Science course descriptions to reflect changes in math sequencing
- Continue to communicate with students and their families on math pathways
- Math Night for Parents - February 25, 2016 at 6:30 p.m. in LCHS Auditorium

Any Questions?