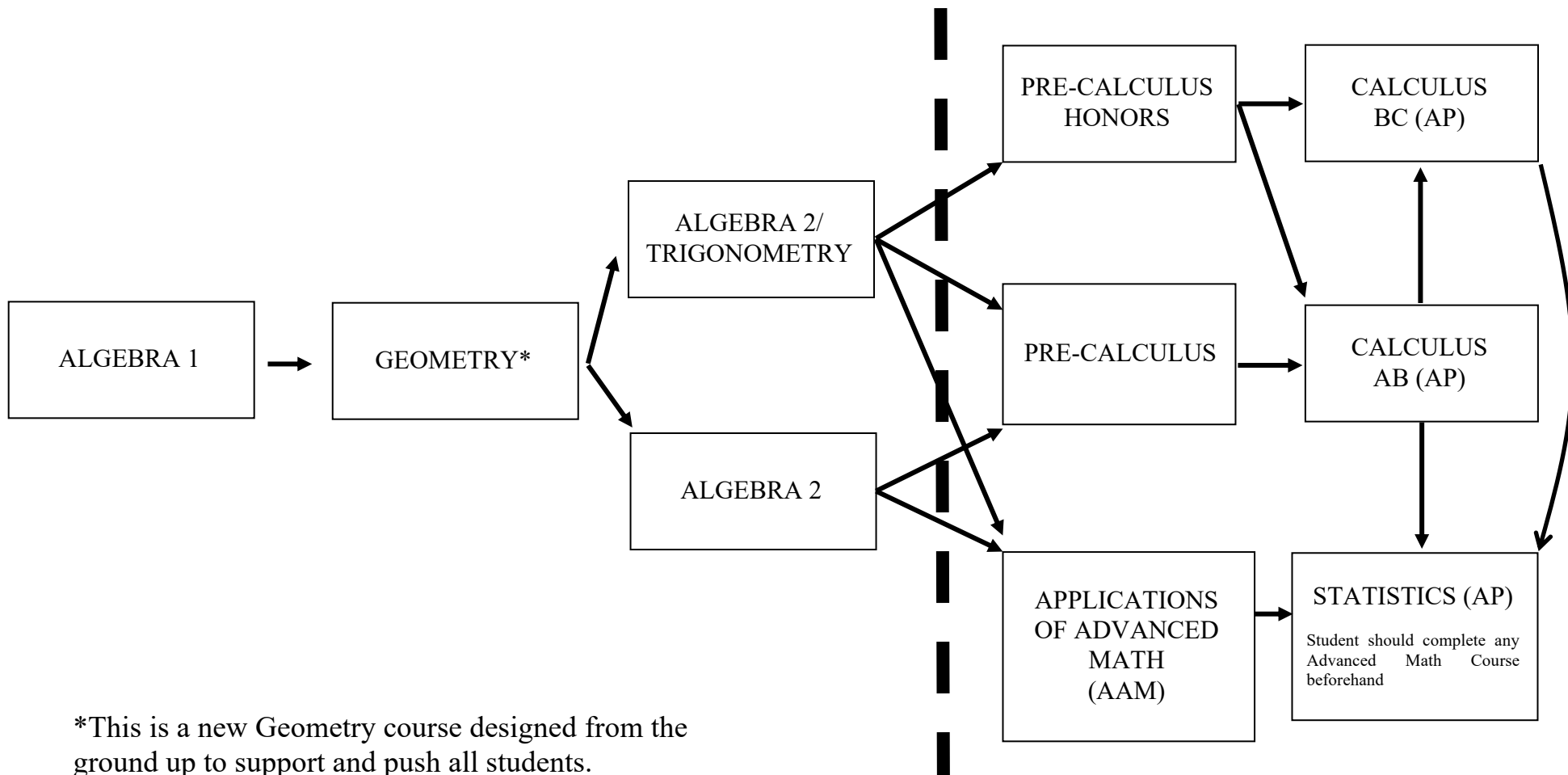


Foundational Math Courses

Advanced Math Courses



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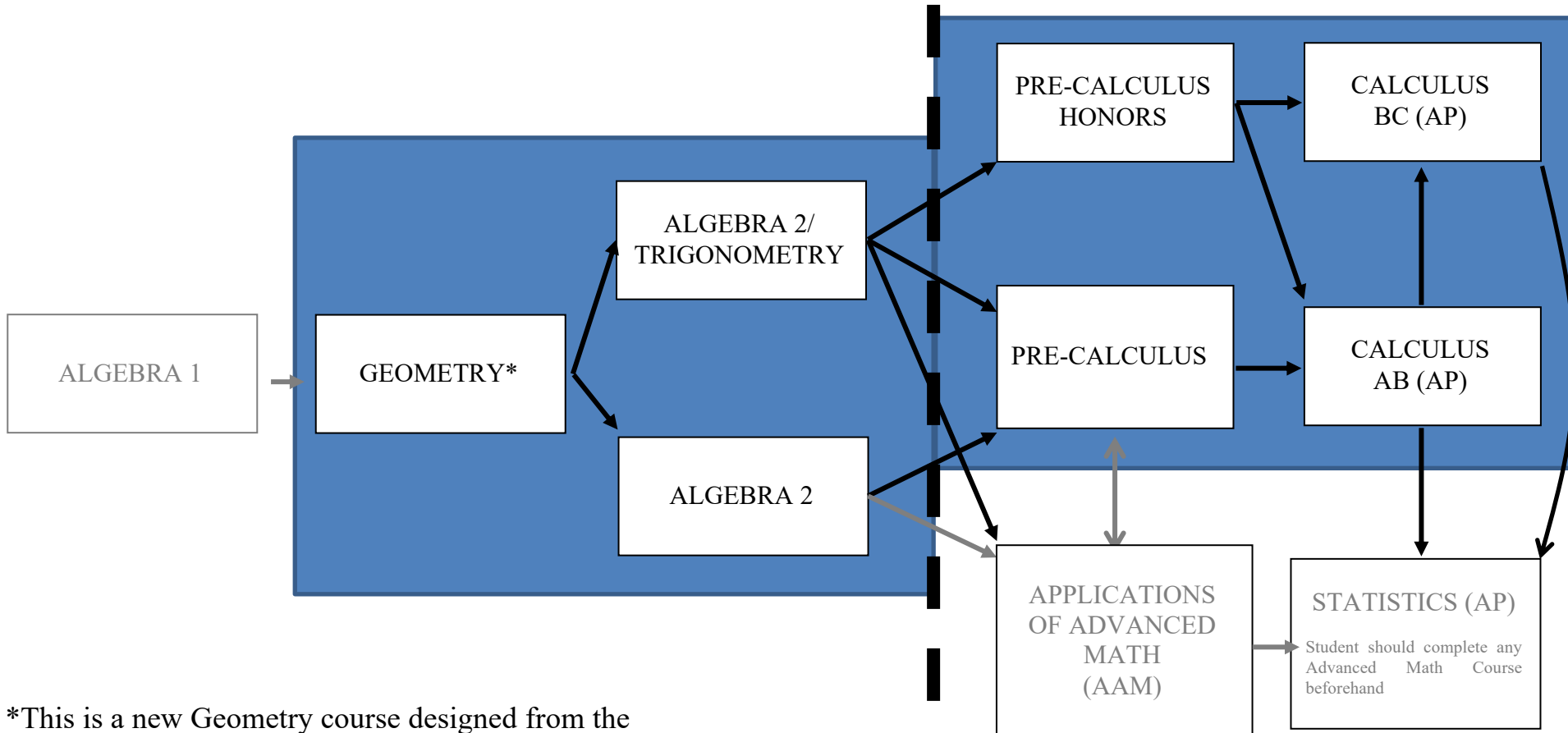
See page 2 for typical **Calculus Track**
 See page 3 for typical **Statistics Track**
 See page 4 for **Acceleration Options**
 See page 5 for **Engineering/Programming Electives**

AP Calculus Track

The standard course sequence for students interested in taking AP Calculus.

Foundational Math Courses

Advanced Math Courses



*This is a new Geometry course designed from the ground up to support and push all students.



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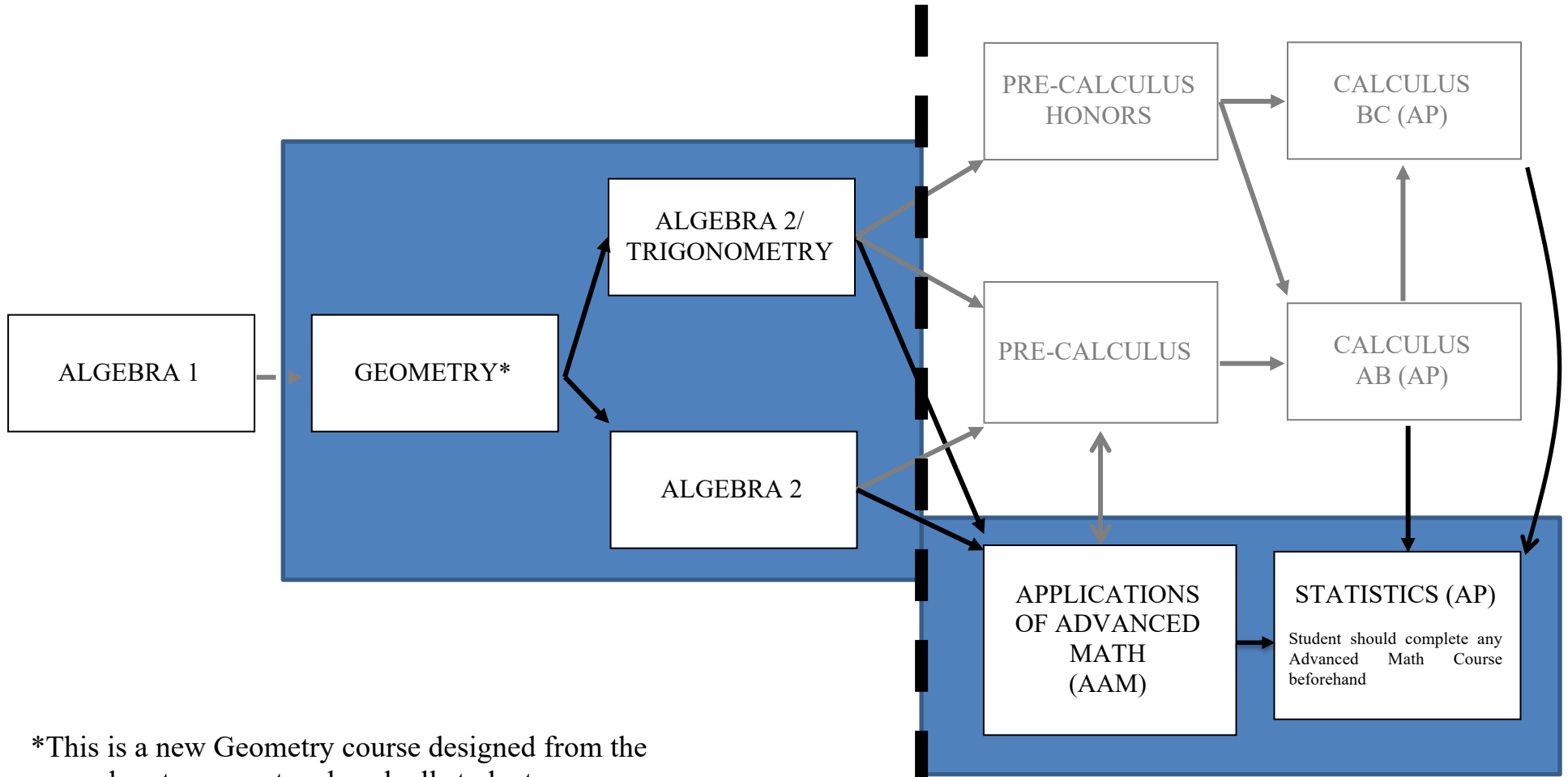
See page 2 for typical **Calculus Track**
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AP Statistics Track

The standard course sequence for students interested in taking AP Statistics.

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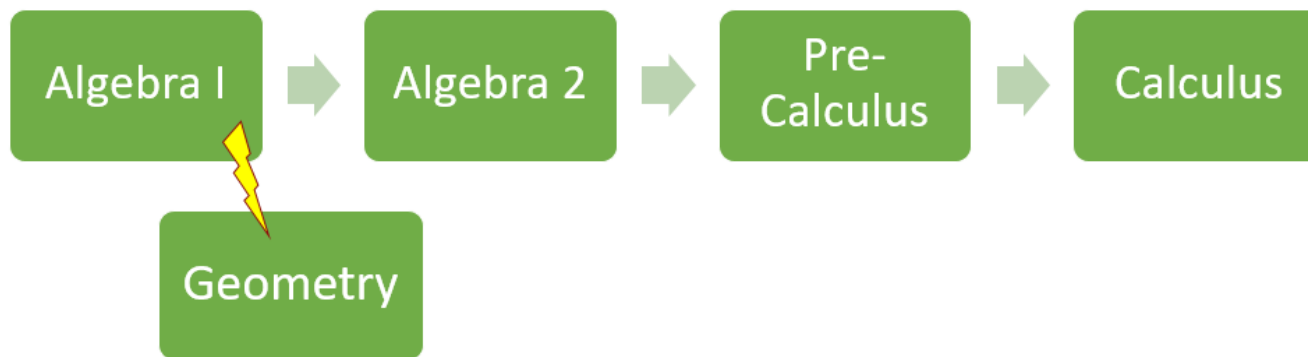
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FUHSD Acceleration Options

FHS offers an acceleration path to allow all students who wish the opportunity to take an AP math class by their senior year.

RECOMMENDED OPTION: Take Summer Intensive Geometry (SIG) after Alg 1 in 9th Grade



Our summer intensive geometry course is taught by FUHSD teachers and was carefully designed specifically for accelerating students. It is only open to students wishing to accelerate to take Alg 2 or Alg 2/Trig in 10th grade.

Not recommended: We do not recommend taking Algebra 1 in the summer prior to 9th grade. Algebra 1 is the foundation all future math classes build on. Learning 10 months of content in 2 months over the summer is a very significant risk that can be difficult to recover from if it goes wrong.

Engineering & Programming Electives

Engineering Electives

Introduction to Engineering Design:

Did you know that engineering is a field where technology, math, art, science, and business collide? *Introduction to Engineering Design (IED)* is a class that will let you experience how engineers are able to use their creativity, effective teamwork, and problem-solving skills through the engineering design process to discover solutions that improve our lives. This hands-on course gets students actively involved in learning every single day, including: instant challenges; collecting data, using Microsoft Excel to perform statistical analysis, and making informed product design decisions; learning how to sketch 3D objects before modeling and documenting them with the same *Autodesk Inventor* professional design software that is used by engineers. *No math prerequisite. All students encouraged to sign up for this course!*

Principles of Engineering:

Have you ever wondered, what does an engineer do? What types of work do engineers do? In the Principles of Engineering (POE) course, you'll learn how a mechanical engineer uses mechanical advantage in the six simple machines to create movement to solve a problem, how the electrical engineer uses the many forms of energy that are converted to electricity to create light or maximize the performance of a motor, how a civil engineer creates trusses for a bridge or a roof and utilize the right materials in the right configurations. At the end of the course, you'll use your skills in mechanical, civil and electrical engineering along with some software skills to create a unique electro-mechanical solution to a thorny problem. Students should have a B or higher in Algebra 1 or higher. You do not need to take Introduction to Engineering Design to take this course.

Digital Electronics:

After your introductory course in engineering, either Introduction to Engineering Design (IED) or Principles of Engineering (POE), you have an interest in taking a deep dive into the world of an electrical/electronics engineer. In this hands-on course, learn the foundational skills to design and create combinatorial and sequential logic circuits. You'll acquire the skills to take an idea and make it real using traditional analysis techniques, modern circuit simulation software and small-scale integrated circuits on an actual breadboard! After you have the foundations down, you'll explore the world of the Programmable Logic Device (PLD) and the Arduino. Students are expected to have a B in Intro to Engineering Design or Principles of Engineering or the consent of the instructor.

Programming Electives

Digital Innovation & Design

In this class, students will explore the potential of technology to solve modern human problems by applying design principles used in art, business, and computer science. They will design, field test, and evaluate their own projects that use technology to solve local problems. The course will examine the "magic" of how computers and the Internet work, and how logic helps digital devices communicate and understand one another. The course will strengthen students' critical thinking and logic skills as they evaluate the effective use of technology and weigh the moral and ethical dilemmas that may occur with technological solutions. Students will be exposed to a range of professions that use digital technology. Students who complete this course successfully will be prepared for Java Programming

Introduction to Java Programming:

A project-based introduction to programming in Java, with an emphasis on problem-solving and developing algorithmic thinking skills. Students learn by making a wide variety of programs from scratch and using pre-made code frameworks. Projects include games, scientific simulations, and Arduino programming using sensors and servo motors. *A B or higher in Geometry or higher is required to take this course. This course is typically taken in 10th or 11th grade.*

AP Computer Science:

A first-semester college-level equivalent course covering basic data structures and algorithms, including applications in image processing, scientific computing, and the design of business applications and games. *An A in Intro to Java Programming is required to take this course. This course is typically taken in 11th or 12th grade.*