

Announcement Regarding Summer Math Acceleration

November 2015

Announcement

The Bellarmine Math Department, in conjunction with the school administration, is announcing the phase-out of our summer math acceleration programs. This includes the accelerated summer school courses (Geometry and Algebra 2) and the Summer Independent Study Program (SISP). We will support a very limited set of offerings during the summer of 2016, and all summer acceleration offerings will be discontinued by the summer of 2018. Beginning in August 2017, we will offer a new academic year course (Accelerated Algebra 2) which will be open only to qualified juniors who started in Algebra 1 freshman year and want to take Calculus in their senior year.

Rationale: Weighing the Costs of Summer Acceleration

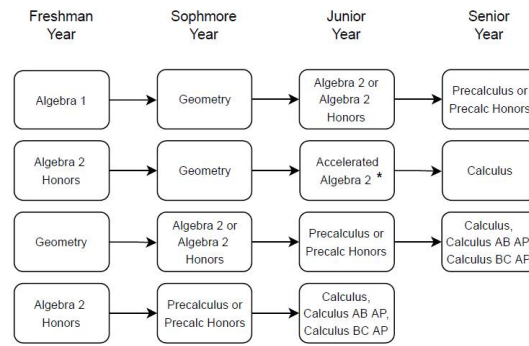
From our experience, we have found that summer acceleration almost always leads to a weaker math foundation and often destabilizes the high school math career of an otherwise solid math student. Because of the pressures of a compressed schedule, summer acceleration compels students to move very rapidly across math topics. Understanding is often superficial, filled with gaps, and focused solely on procedure. Students are not given sufficient time to discuss and digest concepts, to develop critical thinking and problem-solving skills, or to make sense of the math. As a result, the student's ability to learn math at more advanced levels is impaired. In our Calculus classes, for example, the students who struggle the most are those who struggle because of a weak Algebra foundation, not because of the Calculus concepts.

Summer acceleration also adversely affects advanced students who seemingly do well in spite of it. Acceleration sends the message to these students that each level of math is a "check-box item" and the math curriculum is something to race through. They often make unhealthy comparisons with one another, which has led to a disturbing rise of repetitive acceleration, or "hyper-acceleration" in recent years. We believe advanced math students should be going deeper at each level rather than faster through the levels. They should be given the time and opportunity to ponder, to problem-solve, and to discuss concepts of math. We encourage students who love math to feed their interest by pursuing summer activities and courses which complement our math curriculum, instead of trying to replicate it at an accelerated rate. The benefits of going deeper and developing strong problem-solving and analytical skills at each level are compounded across future levels--into college, and beyond. These are precisely the skills that will help make students college and career-ready in the 21st century.

Continued Support for a Pathway from Algebra 1 to Calculus

While we discourage the practice of acceleration, we recognize the practical need of some students who start in Algebra 1 as freshmen, to reach Calculus by senior year. This need is driven by the fact that some colleges and majors require exposure to Calculus in high school (although many don't). Therefore, to support a pathway from Algebra 1 to Calculus, we plan to introduce an Accelerated Algebra 2 course within the junior academic year, for qualified students, beginning in the 2017-18 academic year. While not as comprehensive as a full pre-calculus course, the Accelerated Algebra 2 course will provide sufficient preparation for students to take Calculus as seniors. The course is open to qualified juniors only. Table 1 on the next page illustrates possible pathways through the Bellarmine math curriculum, including the new accelerated pathway.

Possible Pathways



*Open to qualified juniors only (i.e. students who have earned an A- or better in Algebra 1 and an A- or better in Geometry)

**After completion of Algebra 2, students may choose to take the Semester Math Electives or AP Statistics in their Junior and/or Senior years

Table 1: Possible Math Pathways at Bellarmine

Positioning the accelerated course within the academic year has two significant advantages over a summer course. First, it affords students more time in the summer to recharge, to be with family, to explore new interests or activities, or to take a summer course for enrichment (even a math class!). Second, it gives our department better control over the teaching and learning that occurs in the context of the acceleration—specifically with regard to curriculum content, course pacing, and coordination with our Calculus course.

Table 2 below presents the planned phase-out schedule for the summer math acceleration programs.

Date	Event
Summer 2016	<ul style="list-style-type: none"> Discontinue Accelerated Geometry Bellarmine Summer School course Bellarmine Summer School Accelerated Algebra 2 course and Summer Independent Study Program (SISP) Algebra 2 restricted to rising juniors only SISP Precalculus and SISP Precalc Honors restricted to rising seniors only Discontinue all other SISP courses
Summer 2017	<ul style="list-style-type: none"> SISP Precalculus and SISP Precalc Honors restricted to rising seniors only All other summer acceleration discontinued
August 2017	<ul style="list-style-type: none"> Introduction of Accelerated Algebra 2 academic-year course
Summer 2018	<ul style="list-style-type: none"> All summer acceleration discontinued

Table 2: Math Acceleration Phase-out Timeline

We recognize this decision represents a significant change in our acceleration policy, but we believe it is an important one to make. It is a change that is informed by the recommendations of the Mathematics Association of America and the National Council of Teachers of Mathematics. It is informed by the research and recommendations of opinion leaders within the math education field. And most importantly, it is informed by our own experience as math teachers and Ignatian educators, working with our students.

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