



Macdonald Middle School 1601 Burcham Dr. East Lansing, MI 48823

May 28, 2020

Dear Class of 2025:

With the uncertainty of what school may look like in the coming year and the knowledge that all students and staff are returning from a wide variety of circumstances and experiences during this pandemic, it is our intention to refamiliarize students with MMS and to transition smoothly through any changes that are necessary because of this situation. It will be important that we continue to work together with grace and patience to provide the best possible foundation for positive social, emotional and academic growth in every student. We look forward to this cooperative effort between MMS faculty and staff, our students, families, and the East Lansing community.

With that in mind, we are asking students and their families to choose the mathematics course they feel will both challenge their mathematical thinking but also provide for a level of support that enables **all** students to be successful. It is important to remember that the disruption of face-to-face teaching and learning and the subsequent move to alternative methods of instruction cost our students about 25% of the content expected to be covered during the 2019-2020 school year.

MacDonald Middle School has long offered two options for mathematics at the 8th grade level. It is expected that most students will complete 8th Grade Math during the 8th grade year. Some students, instead, complete Advanced Algebra I (formerly Algebra 1 at MMS). Please consider the following questions as you make your decision. If you are not able to definitively answer yes to each of these questions, Advanced Algebra I is likely not an appropriate placement.

- Did the student enjoy a consistently successful 7th grade year in mathematics?
- Does the student complete work independently?
- Is the student able and willing to spend extra time on mathematics homework?
- Does the student embrace challenges?
- Can the student process mathematical ideas quickly?

If you do decide to enroll your student in Advanced Algebra I, a short phone check-in will be conducted by a representative from the Math Department to ensure that expectations are clear for all participants.

Advanced Algebra I is not a class to be taken on lightly. 6th Grade Math prepares students for 7th Grade Math; 7th Grade Math prepares students for 8th Grade Math; 8th Grade Math prepares students for Algebra I. When students/families choose to enroll in Advanced Algebra I immediately following 7th Grade Math, they are committing to completing nearly two math courses in one year (even though they still only have one hour of math class a day). Advanced Algebra I is a rigorous course which must cover the 8th grade standards as well as Algebra I standards in order to properly prepare students for higher-level mathematics courses in high school. Students enrolled in Advanced Algebra I will be engaging with

about 60% more mathematical content during the school year than students in 8th Grade Math. Therefore, Advanced Algebra I requires a fast pace with daily independent practice. Advanced Algebra I students experience an average of approximately 45 minutes of math homework per night.

It is also important to distinguish Advanced Algebra I from the Algebra I course offered at East Lansing High School. The Advanced Algebra I course offered at MMS explores Algebra I content at a more rigorous level than the Algebra I course offered at ELHS. The course is designed to prepare students for the opportunity to enroll in Pre-AP Geometry the following school year. Please carefully consider the ELPS Math Flowchart included at the end of this letter prior to choosing Advanced Algebra I for your student.

In an effort to ensure that students are being successful, Advanced Algebra I students who have an overall course average lower than a C- (70%) at the end of the fifth week of school will be moved to an 8th Grade Math course for the remainder of the 2020-2021 school year. Additionally, students who have an overall course average lower than a C- (70%) at the end of the first semester will be moved to an 8th Grade Math course for the second semester. It is possible that any course change could alter the student's schedule for other courses as well. Students who successfully complete BOTH semesters of Advanced Algebra I with a passing grade will receive Algebra I credit.

	8th Grade Math	Advanced Algebra I
Content	8th grade CCSS Standards	Most 8th grade and Advanced Algebra I CCSS Standards (60% more content than 8th Grade Math)
Alignment	Expected 8 th grade course	Expected 9 th grade course
Pace	1+ unit per marking period	2 units per marking period
Fluency	Opportunity for skill-building with rational numbers	Fluency expected with fractions, decimals and negatives
Homework	20-30 minutes of review/application per night	30-60 minutes of application/summary per night

Other	Collaboration, group work, and critical thinking expected	Collaboration, group work, and critical thinking expected, as well as self-initiated, independent work
	Risk-taking and sharing of ideas strongly encouraged	Risk-taking, sharing of ideas, and analysis of mathematical arguments is mandatory

When considering appropriate pacing for your student, the article below may be helpful.

Memorization versus Conceptual Engagement (Boaler, 2019)

Mathematics is a conceptual subject, and it is important for students to be thinking slowly, deeply, and conceptually about mathematical ideas, not racing through methods that they try to memorize. One reason that students need to think conceptually has to do with the ways the brain processes mathematics. When we learn new mathematical ideas, they take up a large space in our brain as the brain works out where they fit and what they connect with. But with time, as we move on with our understanding, the knowledge becomes compressed in the brain, taking up a very small space. For first graders, the idea of addition takes up a large space in their brains as they think about how it works and what it means, but for adults the idea of addition is compressed, and it takes up a small space. When adults are asked to add 2 and 3, for example, they can quickly and easily extract the compressed knowledge. William Thurston (1990), a mathematician who won the Field’s Medal - the highest honor in mathematics -- explains compression like this:

Mathematics is amazingly compressible: you may struggle a long time, step by step, to work through the same process or idea from several approaches. But once you really understand it and have the mental perspective to see it as a whole, there is often a tremendous mental compression. You can file it away, recall it quickly and completely when you need it, and use it as just one step in some other mental process. The insight that goes with this compression is one of the real joys of mathematics.

You will probably agree with me that not many students think of mathematics as a “real joy,” and part of the reason is that they are not compressing mathematical ideas in their brain. This is because the brain only compresses concepts, not methods. So if students are thinking that mathematics is a set of methods to memorize, they are on the wrong pathway, and it is critical that we change that. It is very important that students think deeply and conceptually about ideas.

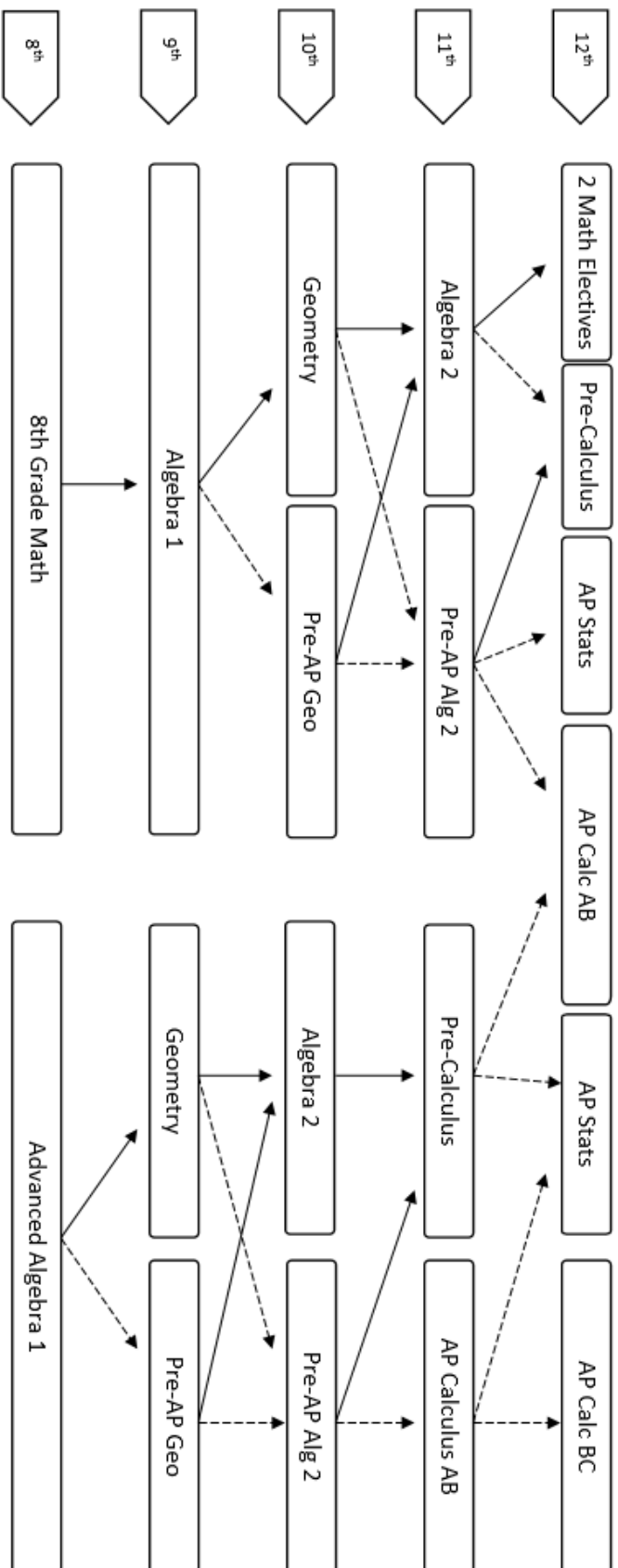
Please use this link to indicate which math course you are choosing for the 2020-2021 school year as soon as possible.

https://docs.google.com/forms/d/e/1FAIpQLSe6MrQAhm7OO1z8rh2ks-2k0BeHDgLDBk5C8_omp_FwUAdZoQ/viewform

Sincerely,

East Lansing Administration and Math Department

East Lansing Public Schools Typical Math Course Flowchart



Dashed line = Teacher approval
To take any honors level course (Pre-AP and AP included) students need a teacher recommendation.

- Math Electives:**
- Accounting (S)
 - Personal Finance (S)
 - Drafting (S)
 - Probability and Statistics (S)
 - Intro to CS Principles (S)
 - AP Computer Science (Y)

Intro to Computer Science (semester) and AP Computer Science (year-long) courses can be taken at ELHS concurrently with any math course.