

MATHEMATICS PROGRAM INFORMATION

MATHEMATICS DEPARTMENT

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Welcome to the Mathematics Program!

The Mathematics Department welcomes you to a very important part of your learning experience at IMSA!

The purpose of the mathematics program at IMSA is to help students develop and use mathematical tools for their own thinking, problem solving and development as informed citizens and leaders. Through collaborative and independent learning activities students will come to appreciate the power, economy, elegance and beauty of mathematical thought. We provide experiences in which students investigate and explore, think critically, solve problems and apply mathematical tools of thought in a variety of situations using multiple strategies, approaches and techniques. Students will have opportunities to explore relationships and inter-connections within the various branches of mathematics and with other disciplines. Students will have opportunities to interpret and communicate mathematical concepts in both oral and written form. There will be experiences, problems, and situations that require students to thoughtfully explore mathematics using appropriate technology as extensions of the mind.

We would like your experience to be a smooth transition from your home high school setting to the IMSA learning environment grounded on deep understanding of mathematical concepts. The following will give you information about our mathematics placement process and the mathematics course requirements for graduation.

Please read it carefully and completely.

MATHEMATICS POLICIES

Students are required to take a core mathematics class each semester while in residence at IMSA. Many students take multiple mathematics courses during their junior and senior years. These additional electives beyond the core classes may be mathematics or computer science courses.

Since students come to IMSA from many different learning environments all over the state, we look at a variety of information about each entering student. We must be sure that each student is ready to enter a program that emphasizes the active construction of patterns and connections in mathematics concepts. This requires mastery of skills, but goes beyond rote learning of mathematics.

In order to have as accurate a picture as possible of each entering student's background, we give a mathematics placement exam. We also consider the achievement level of each student, the textbooks that have been used, grades that were earned, and the various enrichment experiences that a student has had. **Therefore, it is imperative that the Mathematics Placement Information Sheet is filled out completely.**

The placement of each student into the program is done carefully and with consideration for success in the IMSA mathematics sequence. Placement is the sole responsibility of the Mathematics Department, and the department makes all decisions for placement. Content of the placement tests and student scores on the placement test are not released.

PLACEMENT POLICIES

- ***PLACEMENT TEST***

The purpose of this test is to determine as accurately as possible understanding and competence with concepts in both algebra and topics beyond algebra for those with additional background.

Part 1 addresses basic competence and understanding of materials from a full year comprehensive beginning algebra course.

Part 2 addresses proficiency and conceptual understanding of advanced topics beyond beginning algebra that correlate with the sequence of topics in our Mathematical Investigations curriculum.

Calculators are not permitted on these tests.

- ***INFORMATION SHEET***

Students are asked to fill in all parts of the Placement Information Sheet accurately and in detail to assure our having the necessary information. This completed sheet must be brought to the placement testing exam site on the day of the exam.

- ***SCHEDULING***

Students will be notified, in writing, of their mathematics placement no later than July 31. Each student's placement will be forwarded to the Principal's Office for the scheduling process.

- ***QUESTIONS?***

If you have questions about the placement process you may call the Mathematics Department Office and leave your name or email address. Please understand that faculty are not available during the summer and your questions will be answered as soon as possible.

MATHEMATICS CORE COURSES

The Mathematical Investigations core courses are a combination of pre-calculus, analytic geometry, trigonometry and advanced work in each area with enrichment and connections. We utilize the strength of student backgrounds and understanding to connect topics at different levels and complexities throughout the sequence. The arrangement of the materials is unique to our program and was developed specifically by the department as a dynamic and comprehensive curriculum. The content does not follow a traditional high school curriculum.

Placement into the sequence therefore depends on comprehension and understanding of the material at that level and not just on prior courses completed. Due to the embedded nature of our mathematics work, students will be revisiting topics they have seen before in a new context and with new depth to the materials.

The large majority of entering students begin with Mathematical Investigations II. Students who have not had a full year Geometry course will take Geometry first and then proceed with the Mathematical Investigations sequence. The remaining students are placed where most appropriate for their success. Once a student enters the mathematics sequence, the progression is to finish Mathematical Investigations IV and then to enter the Calculus sequence.

Students will be guided by their mathematics instructor each spring as they make their core and elective choices for the following year.