



What is the IMSA Fusion Honors program? Illinois Mathematics and Science Academy (IMSA) FUSION is an enrichment program for Illinois fourth through eighth grade students who are talented, interested and motivated in mathematics and science. It also incorporates some technology and engineering principles. The students will enjoy a great variety of hands-on activities included in each educational unit while strengthening their critical thinking, cooperative learning, and problem-solving skills. All fourth- grade students at Blessed Sacrament School participate in the FUSION program, as some FUSION topics and activities are incorporated into the regular fourth grade science curriculum. Students in fifth through eighth grades may choose to participate in the FUSION program as an optional activity that extends after school once a week.

When and where do the FUSION programs meet? The seventh and eighth grade program is offered in the first semester **only** and meets from 2:30-4:00 on Tuesdays. The fifth and sixth grade program is offered in the second semester **only** and meets on Tuesdays from 2:30 – 4:00 p.m. The meeting schedule will be distributed at the beginning of each semester. Students enrolled in the program will not have their study hall from 2:30-3:00 on the day their program meets. Parents are asked to pick up promptly at 4:00 p.m. at the main entrance the child will be sent to the after- school care program.

Who leads the FUSION programs? The programs will be led by Ms. Rachael Smith. Ms. Smith is the 6th and 8th grade science teacher, 6th grade resource math teacher, and the science lab coordinator for grades K-5. All IMSA Fusion instructors receive specialized professional development training from the IMSA instructors along with ongoing support and assistance throughout the year.

How many students may participate in the FUSION program? Typically, the programs may accommodate approximately 20 students per semester on a first come-first serve basis. Sixth, seventh, and eighth graders who previously participated in the IMSA Fusion programs may be given priority. If interest exceeds the programs' available openings, a lottery may be held for openings and any additional students interested in participating are put on a waitlist and contacted if openings become available.

Is there a cost for the program? The cost is \$150 per student. The first semester (grades 7 and 8) runs from August – December and the second semester (grades 5 and 6) runs from January – May. There is financial assistance available for qualifying families. All students enrolled in either program are asked to bring a snack for their program class one time.

Are there any field trips associated with this program? Typically, yes! There is usually one field trip per semester for each of the programs, depending upon available opportunities, and parent chaperones are needed. However, field trips for the 2025-2026 school year are yet to be determined. Therefore, every effort will be made to participate in virtual, online "field trip" experiences to extend the program's curriculum.

Anything else? FUSION is an excellent program that requires high academics and regular attendance as well as good behavior in order for each individual student to receive the maximum benefit from the program. FUSION participants are entitled to three excused absences per semester for illness, doctor's appointments, and school-sponsored contests such as a team game/competition. Athletic practices and choir practices are NOT excused absences. Students are requested NOT to leave the program early (unless there is a special exception discussed in advance with the teachers) as this disrupts the learning process and partner activities. Leaving early may be counted as an absence.

Blessed Sacrament School's academic, behavior, and discipline policies are in full effect during the FUSION programs and activities. It is not acceptable for any student's behavior to consistently interrupt or distract from the lessons at hand. However, it is important to note that the programs operate on a "three strikes, you're out" academic and behavior policy for consistent, significant academic eligibility and/or behavior disruptions including (but not limited to) excessive talking/interrupting and being off-task. A student may be removed for a singular, significant offense.

How and when do I sign up? **Please complete the attached registration form and return it on Tuesday, August 26, 2025.** In an effort to maintain high standards and academic excellence for the IMSA Fusion Honors Program, students in grades 5-8 who are interested in participating will be required to submit a teacher recommendation, in addition to completing a placement exam, and responding to a written prompt describing why they are interested in the program. (see BSS Student Handbook for more details) Families will receive confirmation of a student's placement in the program by September 10, 2025. Interested 7th and 8th grade families may return payment with this form. Please do not return payment for the 5th /6th grade program with this registration form. Final registration for the 5th/6th program will be in December.

Please turn over



2025-2026 FUSION unit for the Seventh and Eighth Grade Program

First Semester only: Mars: Manifest Destiny STEM

In the *IMSA Fusion—Mars: Manifest Destiny* STEM curriculum Premium Module Kit, students consider the enormous challenge of planning a permanent, sustainable colony on Mars by exploring gravity and orbital mechanics, the environmental conditions on Mars and space-flight hardware currently in development. They will also participate in citizen science projects, analyze actual imagery from the Mars Reconnaissance Orbiter and other platforms to apply engineering design principles in proposals of new space-flight hardware, and apply project management techniques to develop their own mission architecture.

Module includes the following units:

- Unit 1: Spacefaring or Extinct
- Unit 2: Environmental Conditions
- Unit 3: Citizen Science
- Unit 4: Orbital Mechanics
- Unit 5: To Boldly Go
- Unit 6: Mars Transit Vehicle
- Unit 7: Missions Architecture
- Unit 8: Ice Truckers
- Unit 9: We Are the Martians

2025-2026 FUSION unit for the Fifth and Sixth Grade Program

Second semester only: Organized Sound: STEM in Music

Students construct their own conceptual understanding in the *IMSA Fusion—Organized Sound: STEM in Music* curriculum Premium Module Kit through experimentation and exploration involving science, technology, engineering and mathematics. In this curriculum, students identify characteristics they believe most relevant to music, explore the physics and mathematics behind sound and how it relates not only to sound waves, but to the development of instrumentation and technology. Students explore music as it affects emotion and musical preferences and develop algorithms to predict song choice.

Module includes the following units:

- Unit 1: Sound, Organized: An Intro
- Unit 2: Frequency Fractions
- Unit 3: Patterns in Motion
- Unit 4: Reed All About It
- Unit 5: Electronic Music
- Unit 6: Keys to Perception
- Unit 7: Predictive Modeling