



Illinois Mathematics and Science Academy 2022 Profile

IMSA Ranks as #1 Best High Schools for STEM in Illinois, Offers Unmatched Learning Experiences

Ranked the #1 College Prep Public High School in Illinois, the Illinois Mathematics and Science Academy® (IMSA) develops creative, ethical leaders in science, technology, engineering and mathematics. As a teaching and learning laboratory created by the State of Illinois, IMSA enrolls academically talented Illinois students in its tuition-free residential Academy for grades 10-12. Students are challenged with a rigorous curriculum designed to develop them into problem solvers and critical thinkers.

Notable IMSA alumni include YouTube Co-Founder Steve Chen, PayPal Co-Creator Yu Pan, Yelp Co-Founder Russell Simmons, SparkNotes and OkCupid Co-Founder Sam Yagan, and Hearsay Social Founder, Clara Shih.

Research and Innovation

20% of students' time is spent outside the classroom exploring independent study, research, innovation or entrepreneurship. Student Inquiry and Research (SIR) exposes students to authentic research experiences in a breadth of fields through on- and off-campus collaborations with IMSA faculty, university faculty and over 70 world-class institutions. IMSA's Center of Innovation and Inquiry stimulates entrepreneurship including prototyping, makerspace activity and the launching of new tech start-ups and business ventures.

Leadership and Service Learning

Through IMSA's service learning program, students are required to complete 200 hours of service during their three year tenure. In addition, the Leadership Education and Development (LEAD) program fosters social awareness and civic engagement among youth in their communities.

Grading

In order to promote collaborative exploration and discovery, the Academy does not provide grade point averages or class averages.

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**Due to the COVID-19 pandemic, IMSA students participated in remote learning for the entire 2020-2021 academic year.*



2021 - 2022 COURSE CATALOG

MATHEMATICS AND COMPUTER SCIENCE

3.0
credit min.

Calculus Core Courses

- AB Calculus I
- AB Calculus II
- BC Calculus I
- BC Calculus II
- BC Calculus III
- BC Calculus I/II
- BC Calculus II/III

Pre-Calculus Core Courses

- Geometry
- Mathematical Investigations I/II
- Mathematical Investigations II
- Mathematical Investigations III
- Mathematical Investigations IV

Pre-Calculus Electives

- Discrete Mathematics
- Modern Geometries
- Problem Solving
- Statistical Experimentation and Inference
- Statistical Exploration and Description

Post-Calculus Electives

- Advanced Topics in Mathematics
- Differential Equations
- Linear Algebra
- Abstract Algebra
- Multi-Variable Calculus
- Number Theory
- Theory of Analysis

Computer Science Core Course (Sophomore)

- Computer Science Inquiry

Computer Science Electives

- Advanced Programming
- Micro-controller Applications
- Object Oriented Programming
- Web Technologies
- Advanced Web Technologies
- CS Seminar: Android Apps Development
- CS Seminar: UNIX/Linux and Cybersecurity
- CS Seminar: Machine Learning

SCIENCE

All science courses have a lab component.

4.0
credit min.

Core Courses (Sophomore)

- Methods in Scientific Inquiry
- Scientific Inquiries—Chemistry
- Scientific Inquiries—Physics

Physics Electives

- Computational Science
- Engineering
- Micro-controller Applications
- Modern Physics
- Physics—Sound and Light
- Physics—Calculus-based Mechanics
- Physics—Calculus-based Electricity and Magnetism
- Planetary Science
- Geology

Chemistry Electives

- Advanced Chemistry—Structure and Properties
- Advanced Chemistry—Chemical Reactions
- Biochemistry
- Environmental Chemistry
- Organic Chemistry I
- Organic Chemistry II
- Survey of Organic Chemistry
- Medicinal Chemistry

Biology Electives

- Advanced Biological Systems
- Evolution, Biodiversity and Ecology
- Microbes and Disease
- Cancer Biology
- Pathophysiology
- Biology of Behavior

ENGLISH

3.0 credit minimum

Core Courses (Sophomore)

- Literary Explorations I
- Literary Explorations II

Core Courses (Junior)

- Literary Explorations III: American
- Literary Explorations III: British
- Literary Explorations III: World

Junior/Senior Electives

- Creative Writing Workshop
- Graphic Novels—Image and Text
- Modern Theater
- Speculative Fiction Studies
- Modern World Fiction
- Victorian Fiction
- Rhetoric and Communication: Science

Senior Electives

- Digital Literary Studies
- Gender Studies
- The Idea of the Individual
- Shakespeare
- Tolkien—Language and Literature
- Authors & Topics: Satire

SOCIAL SCIENCE

2.5 credit minimum

Core Courses (Sophomore)

- American Studies

Core Courses (Junior)

- The World in the Twentieth Century

Junior Electives

- Ancient World Religion and Philosophy
- Conflict in World History
- Historic Global Commodities and Culture
- Ancient Epics
- Revolutions

Senior Electives

- African American Studies
- America in the Contemporary World
- History of the Environment
- History of Mathematics
- History of Technology and Culture
- Political Theory
- United States Government and the Constitution
- Modern Economics
- Modern Conflict, Insurgency & Terrorism in Africa
- Research in Global History

INDEPENDENT LEARNING

- Independent Study
- Student Inquiry and Research (SIR)
- IMSA Internship

WORLD LANGUAGES

2.0 credit minimum, A student must complete two years of world language study, with one year at level II or higher

- French I, II, III, IV, V
- German I, II, III
- Mandarin Chinese I, II, III
- Russian I, II, III
- Spanish II, III, IV, V

WELLNESS EDUCATION

1.0 credit minimum

Core Course (Sophomore)

- Moving and Learning

Wellness Electives

- Dance
- Movement and Relaxation
- Net and Wall Games
- Outdoor and Indoor Games
- Wellness in the Water
- Stress Management for Life

FINE ARTS

0.5 credit minimum

Music

- Chamber Choir
- Chamber Strings
- Concert Band
- Concert Choir
- Music Appreciation
- Music Theory
- String Orchestra
- Wind Ensemble

Visual Arts

- 3d Design Foundations
- Art and Design
- Digital Photography
- Observational Drawing
- Printmaking
- Scientific Illustration

IMSA Academic Highlights

Recognition of Scholarships, Class of 2022

199 Seniors

29 National Merit Semifinalists

55 Commended Students

ACT Scores - Class of 2019*

Middle 50% Ranges and Means

	IMSA Mean (n=155)	IMSA Middle 50% Range	IL College -Bound Senior Mean	All College -Bound Senior Mean
Composite	31.9	30.0 - 35.0	24.3	20.7

SAT Reasoning Test - Class of 2021

Middle 50% Ranges and Means

	IMSA Mean (n=190)	IL College-Bound Senior Mean	All College-Bound Senior Mean
ERW	685	508	533
Math	718	498	528

* Due to Covid-19, new test data is not available for the Class of 2021.

Sample of Advanced Placement (AP) Examinations for 2020-2021 School Year

Although IMSA does not offer AP courses, 592 AP examinations were administered to 271 students.

	Biology	Calculus BC	Chemistry	Computer Science A	Physics C: E&M	Physics C: Mech	English Language	Statistics
No. of Students Tested	47	105	70	64	30	43	24	43
Average Scores	3.6	4	2.6	3.8	3.4	3.8	3.8	3.5

A Sample Grade Distribution Report for Junior Course Enrollment (2020 - 2021)

A = Exceeds course requirements B = Meets course requirements C = Needs improvement D = Does not meet course requirements, no credit awarded

SEMESTER 1	A	A-	B+	B	B-	C+	C	C-	D	All
Advanced Biological Systems	65	23	7	5	3	0	1	2	1	107
Mathematical Investigations IV	42	22	17	11	10	9	7	6	3	127
Adv. Chemistry: Structure and Properties	70	15	5	4	1	1	0	1	0	97
Literary Explorations III: America, British, World	123	49	12	19	4	1	2	0	1	211
Modern Physics	6	9	6	11	3	0	0	4	0	39
SEMESTER 2	A	A-	B+	B	B-	C+	C	C-	D	All
Advanced Biological Systems	73	19	2	3	2	2	0	0	3	104
Advanced Chemistry: Chemical Reactions	50	20	7	6	2	0	1	1	0	87
The World in the Twentieth Century	132	38	13	8	8	1	2	2	2	206
BC Calculus I	19	20	18	11	11	2	1	3	3	88
Engineering	40	9	1	4	2	0	0	0	1	58

20%

of students' time is spent on independent research and internships.

31.9

is the mean composite ACT score of the IMSA Class of 2019.

43,333

hours of community service are performed by IMSA students each year.

16 of 35

required classes for graduation are in math and science. (Each class is .5 credit.)

IMSA MATRICULATIONS - CLASS OF 2021 (199 GRADUATES)

	Attending	Accepted		Attending	Accepted		Attending	Accepted
Arizona State University	1	7	Illinois Wesleyan University	1	5	University of Alabama - Huntsville	1	1
Augustana College	1	3	Iowa State University	1	12	University of California - Davis	1	2
Carnegie Mellon University	4	11	Kettering University	1	3	University of California - Los Angeles	2	4
Case Western Reserve University	3	19	Lehigh University	1	2	University of Central Florida	1	1
College of DuPage	1	2	Lewis University	1	2	University of Chicago	6	8
College of the Holy Cross	1	1	Loyola University Chicago	3	16	University of Illinois - Chicago	13	79
Colorado State University	1	2	Macalester College	1	1	University of Illinois - Urbana-Champaign	53	145
Columbia University	1	2	Michigan State University	1	14	University of Iowa	2	9
Cornell University	3	6	Michigan Technological University	1	4	University of Louisville	1	1
Creighton University	1	2	Minerva University	1	1	University of Michigan	2	18
DePaul University	1	10	Monmouth College	1	2	University of Missouri	2	9
Drake University	1	2	Murray State University	1	1	University of New Mexico	1	1
Duke University	3	4	New York University	2	2	University of Oregon	1	4
Eckerd College	1	2	North Carolina State University	1	3	University of Pittsburgh	1	11
Embry-Riddle Aeronautical University	2	4	Northern Illinois University	2	9	University of Rochester	1	5
Emory University	1	10	Northwestern University	4	5	University of South Florida	1	3
Florida Gulf Coast University	1	1	Olivet Nazarene University	1	1	University of Toledo	1	1
Florida Institute of Technology	1	7	Pennsylvania State University	1	10	University of Waterloo (Canada)	1	1
Furman University	1	1	Princeton University	3	3	University of Wisconsin - Madison	2	25
Georgia Institute of Technology	1	7	Purdue University	10	45	Vanderbilt University	2	8
Gettysburg College	1	1	Rice University	1	7	Washington University in St. Louis	3	8
Grinnell College	1	3	Rose-Hulman Institute of Technology	1	7	Waubensee Community College	2	2
Harvard University	3	3	Saint Louis University	4	19	William Rainey Harper College	1	1
Harvey Mudd College	1	2	Southern Illinois University	2	5	Worcester Polytechnic Institute	1	3
Hofstra University	1	3	Tufts University	1	1	Yale University	1	4
Hope College	2	2	Tuskegee University	1	1			
Illinois Institute of Technology	7	34	University of Alabama	1	4			

2021 College Placement Profile (199 Graduates)**

Out-of-State Schools

- Private Out-of-State
- Public Out-of-State
- Other Schools
- Non-US Colleges

In-State Schools

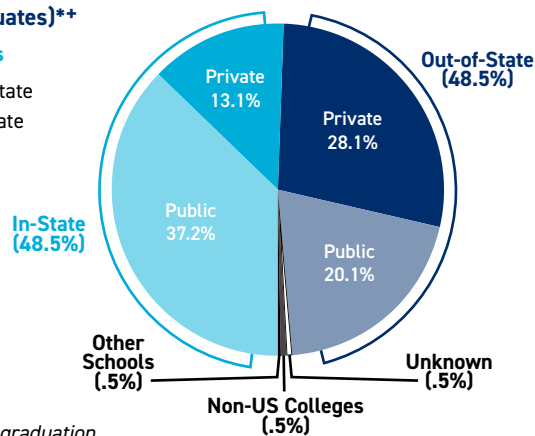
- Private In-State
- Public In-State
- Unknown

Total percentage of public and private college matriculation:

- 41.2% Private
- 57.3% Public
- .5% Non-US Colleges

* Includes four two-year colleges.

+ Includes one student with unknown plan upon graduation.



Student Population of Academy, 2020-2021

Percentage of students identifying as:

- 0.2% American Indian or Alaskan Native
- 35.5% Asian
- 10.1% Black or African American
- 17.1% Hispanic or Latino
- 5.7% Two or More Races, Non-Hispanic or -Latino
- 29.0% White
- 2.3% Not Reported

Percentage of economically disadvantaged students: 16.6%

Male = 49.9% Female = 50.1%



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