



Illinois Mathematics and Science Academy 2023 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 students 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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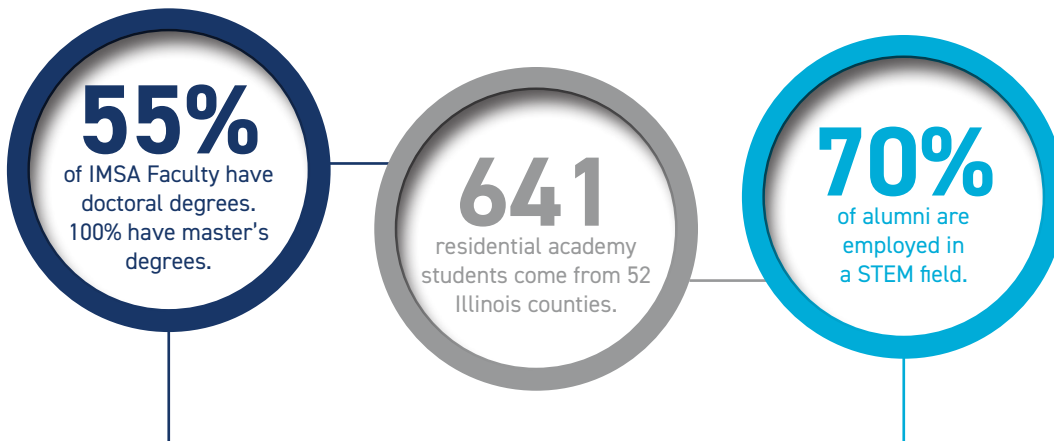
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2022 - 2023 COURSE CATALOG

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
- 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

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

Senior Electives

- Digital Literary Studies
- Gender Studies
- The Idea of the Individual
- Shakespeare
- Expression and Experiment in Poetry
- Authors & Topics: Travel Writing

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

- America in the Contemporary World
- History of the Environment
- History of Biology and Medicine
- History of Technology and Culture
- Political Theory
- United States Government and the Constitution
- Modern Economics
- Modern Conflict, Insurgency, and Terrorism
- Research in Global History of Africa

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 III
- Spanish II, III, IV, V

WELLNESS EDUCATION

1.0 credit minimum

Core Course (Sophomore)

- Moving and Learning

Wellness Electives

- Dance
- Movement and Relaxation
- Outdoor and Indoor Games
- 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

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

- Biophysics
- 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

IMSA Academic Highlights

Recognition of Scholarships, Class of 2023

204 Seniors

31 National Merit Semifinalists

78 Commended Students

SAT Reasoning Test - Class of 2022

Middle 50% Ranges and Means

	IMSA Mean (n=190)	IL College-Bound Senior Mean	All College-Bound Senior Mean
ERW	710	495	529

SAT Reasoning Test - Class of 2022

Middle 50% Ranges and Means

	IMSA Mean (n=190)	IL College-Bound Senior Mean	All College-Bound Senior Mean
Math	734	485	521

Sample of Advanced Placement (AP) Examinations for 2021-2022 School Year

Although IMSA does not offer AP courses, 564 AP examinations were administered to 244 students.

	Biology	Calculus BC	Chemistry	Computer Science A	Physics C: E&M	Physics C: Mech	English Language	Statistics
No. of Students Tested	55	98	64	57	32	52	25	46
Average Scores	3.7	4	2.9	3.5	3.1	3.6	3.8	3.3

A Sample Grade Distribution Report for Junior Course Enrollment (2021 - 2022)

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	154	38	7	4	4	1	4	3	1	217
Mathematical Investigations IV	27	14	11	21	2	6	6	0	1	89
Adv. Chemistry: Structure and Properties	14	12	4	9	5	1	5	2	1	53
Literary Explorations III	78	66	30	25	11	2	0	0	3	215
Ancient World Religion and Philosophy	44	35	4	5	1	0	0	0	1	90
SEMESTER 2	A	A-	B+	B	B-	C+	C	C-	D	All
Advanced Biological Systems	90	28	25	27	16	8	9	4	3	213
Advanced Chemistry: Chemical Reactions	12	17	6	8	3	2	2	1	0	51
The World in the Twentieth Century	119	35	24	18	5	1	4	2	3	212
BC Calculus I	3	5	5	23	7	4	12	5	7	71
Biochemistry	7	3	2	7	2	1	0	0	0	22

20%

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

33.0

is the mean composite ACT score of the IMSA Class of 2022.

52,509

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 2022 (195 GRADUATES)

	Attending	Accepted		Attending	Accepted		Attending	Accepted
American University	1	3	Iowa State University	3	20	Texas A & M University	1	12
Augustana College	1	10	Joliet Junior College	1	1	The College of Wooster	1	1
Bradley University	1	9	Lawrence University	1	5	The University of Alabama Tuscaloosa	2	8
Brown University	2	2	Lehigh University	1	2	The University of Texas at Austin	1	5
Carnegie Mellon University	2	6	Lewis University	2	3	Transylvania University	1	1
Case Western Reserve University	3	23	Loyola University Chicago	3	30	Tufts University	1	1
Claremont McKenna College	2	2	Milwaukee School of Engineering	1	3	Tulane University of Louisiana	1	1
Colgate University	1	1	Missouri University of Science and Technology	1	3	United States Military Academy	1	1
Colorado School of Mines	1	3	Morehouse College	2	2	University of Alabama in Huntsville	2	4
Columbia University - New York City	2	2	Neumont College of Computer Science	1	1	University of British Columbia	1	1
Cornell College	1	1	New York University	2	6	University of California - Berkeley	2	4
Cornell University	3	4	North Carolina State University - Raleigh	1	3	University of California - Irvine	2	4
Creighton University	1	2	Northwestern University	7	13	University of California - Los Angeles	1	4
Davidson College	1	1	Princeton University	1	1	University of Chicago	3	5
DePaul University	2	17	Purdue University Fort Wayne	1	1	University of Cincinnati	1	5
Duke Kunshan University	1	1	Purdue University-Main Campus	6	44	University of Illinois - Urbana-Champaign	43	143
Duke University	1	3	Rensselaer Polytechnic Institute	1	8	University of Illinois Chicago	12	67
Eastern Michigan University	1	1	Rhode Island School of Design	1	1	University of Michigan - Ann Arbor	4	27
Florida Gulf Coast University	1	1	Rice University	1	3	University of Missouri - Columbia	1	3
Florida State University	2	3	Rochester Institute of Technology	2	13	University of Missouri - Kansas City	2	5
Franklin and Marshall College	1	1	Rose-Hulman Institute of Technology	1	10	University of Pennsylvania	1	1
George Washington University	2	3	Saint Louis University	4	22	University of Rochester	1	7
Georgetown University	2	3	Soka University of America	1	1	University of Wisconsin - Madison	5	31
Georgia Institute of Technology	5	13	Southern Illinois University - Carbondale	1	4	University of Wisconsin - Platteville	1	2
Harvard University	1	2	Southern Illinois University - Edwardsville	2	8	University of Wisconsin - Stout	1	1
Hope College	1	1	Stanford University	1	1	Valparaiso University	1	3
IE University - Segovia	1	1				Vanderbilt University	1	1
Illinois Institute of Technology	5	38				Washington University in St Louis	3	5

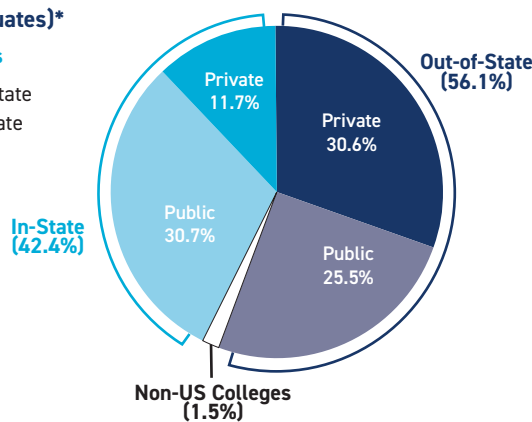
2022 College Placement Profile (195 Graduates)*

- Out-of-State Schools**
 - Private Out-of-State
 - Public Out-of-State
 - Non-US Colleges
- In-State Schools**
 - Private In-State
 - Public In-State

Total percentage of public and private college matriculation:

- 56.1% Private
- 42.4% Public
- 1.5% Non-US Colleges

* Includes four two-year colleges.



Student Population of Academy, 2022-2023

Percentage of students identifying as:

- 0.2% American Indian or Alaskan Native
- 37.2% Asian
- 10.3% Black or African American
- 17.2% Hispanic or Latino
- 0.2% Native Hawaiian or Other Pacific Islander
- 5.7% Two or More Races, Non-Hispanic or -Latino
- 29.3% White

Percentage of economically disadvantaged students: 16.6%

Male = 49.9% Female = 50.1%



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