



Illinois Mathematics and Science Academy 2020 Profile

IMSA Ranks as #1 Public School in Illinois, Offers Unmatched Learning Experiences

Ranked the #1 Public High School in Illinois and #2 in America, 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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58%

of IMSA Faculty have
doctoral degrees.
100% have master's
degrees.

652

residential academy
students come from 52
Illinois counties.

#1

Ranked #1 Public High
School in Illinois
by Niche.com

2019 - 2020 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
- Game Theory & Rationality
- Graph Theory with Applications
- Mathematical Modeling
- Modern Geometries
- Problem Solving
- Statistical Experimentation and Inference
- Statistical Exploration and Description

Post-Calculus Electives

- Advanced Problem Solving
- 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—Biology
- 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
- Seminar in Biology—Molecular Biology Lab
- 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

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

- African American Studies
- Digital Literary Studies
- Gender Studies
- The Idea of the Individual
- Shakespeare
- Tolkien—Language and Literature

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

Senior Electives

- African American Studies
- America in the Contemporary World
- History of Astronomy
- History of Biology
- History of Technology and Culture
- Modern Genocide and Mass Violence
- Political Theory
- United States Government and the Constitution
- Modern Economics
- History of the Environment

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
- French II
- French III
- French IV
- French V
- German I
- German II
- German III
- Mandarin Chinese I
- Mandarin Chinese II
- Mandarin Chinese III
- Russian I
- Russian II
- Russian III
- Spanish II
- Spanish III
- Spanish IV
- Spanish 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
- Art and Technology

IMSA Academic Highlights

Recognition of Scholarships, Class of 2020

222 Seniors

35 National Merit Semifinalists

67 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 2019

Middle 50% Ranges and Means

	IMSA Mean (n=172)	IL College-Bound Senior Mean	All College -Bound Senior Mean
ERW	703	513	536
Math	742	506	531

Sample of Advanced Placement (AP) Examinations for 2018-2019 School Year

Although IMSA does not offer AP courses, 597 AP examinations were administered to 278 students.

	Biology	Calculus BC	Chemistry	Computer Science A	Physics C: E&M	Physics C: Mech	English Language
No. of Students Tested	48	128	82	64	49	52	29
Average Scores	3.8	4.2	3.4	3.9	3.7	4.2	4.1

A Sample Grade Distribution Report for Junior Course Enrollment (2018 - 2019)

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
Mathematical Investigations IV	36	34	15	12	8	10	11	7	3	136
Adv. Chemistry—Structure and Properties	31	33	9	18	18	5	2	4	0	120
Advanced Biological Systems	23	35	16	19	10	5	5	1	0	114
Physics: Calculus-based Mechanics	22	18	10	12	3	0	0	0	0	65
Literary Explorations III	35	87	54	36	12	4	1	1	0	230
Ancient World Religion and Philosophy	32	53	18	23	4	1	0	0	4	135
SEMESTER 2	A	A-	B+	B	B-	C+	C	C-	D	All
BC Calculus I	14	18	15	19	13	6	6	2	0	93
Adv. Chemistry—Chemical Reactions	23	20	10	20	10	8	12	12	1	116
Physics: Calculus-based Electricity & Magnetism	25	9	2	9	1	2	1	1	0	50
Advanced Biological Systems	39	28	12	15	9	3	1	4	0	111
Microbes and Disease	16	7	7	12	7	2	3	1	0	55
Speculative Fiction Studies	15	39	24	13	1	0	1	0	0	93
The World in the Twentieth Century	67	82	39	21	7	3	1	3	0	223

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 2019 (198 GRADUATES)

	Attending	Accepted		Attending	Accepted		Attending	Accepted
Amherst College	1	1	Macalester College	1	2	The University of Texas Rio Grande Valley	1	1
Arizona State University	2	5	Massachusetts Institute of Technology	3	3	The University of Texas, Austin	2	5
Binghamton University	1	1	Michigan State University	1	22	The University of Texas, Dallas	2	8
Bradley University	1	10	Michigan Technological University	1	6	Tsinghua University, China	1	1
California Institute of Technology	2	3	Milwaukee School of Engineering	1	1	United States Naval Academy	1	1
Carleton College	1	1	Monmouth College	1	1	University of California, Berkeley	1	5
Carnegie Mellon University	3	9	New York University	1	6	University of Chicago	5	8
Case Western Reserve University	4	19	North Carolina A&T State University	1	2	University of Colorado at Boulder	1	7
Colorado School of Mines	1	4	Northeastern University	2	10	University of Illinois at Chicago	16	59
Columbia University	1	3	Northern Illinois University	1	2	University of Illinois at Springfield	1	2
Cornell University	2	3	Northwestern University	5	9	University of Illinois at Urbana-Champaign	54	146
Drake University	1	4	Nova Southeastern University	1	2	University of Michigan	3	15
Duke Kunshan University, China	1	4	Purdue University	1	29	University of Missouri Kansas City	2	8
Duke University	2	3	Rice University	1	2	University of Nebraska at Lincoln	1	2
Emory University	1	11	Rochester Institute of Technology	3	8	University of Pennsylvania	1	2
Florida Institute of Technology	1	7	Saint John's University (with College of Saint Benedict)	1	2	University of Rochester	1	3
Fordham University	1	4	Saint Louis University	8	20	University of Southern California	1	2
Harvey Mudd College	1	1	St. Olaf College	2	4	University of St. Francis	2	2
Illinois Institute of Technology	5	31	Stanford University	3	3	Washington University in St. Louis	3	9
Illinois Wesleyan University	1	3	Swarthmore College	1	2	Wayne State University	1	2
Indiana University at Bloomington	2	9	Texas A&M University	1	7	Western Illinois University	1	1
Iowa State University	1	16	The Ohio State University	2	6	Xavier University of Louisiana	1	3
Johns Hopkins University	3	5	The University of Alabama	1	1	Yale University	3	4
Knox College	1	5	The University of Alabama in Huntsville	3	4			
Lawrence University	1	2						
Loyola University Chicago	6	21						

2019 College Placement Profile (198 Graduates)

Out-of-State Schools

- Private Out-of-State
- Public Out-of-State

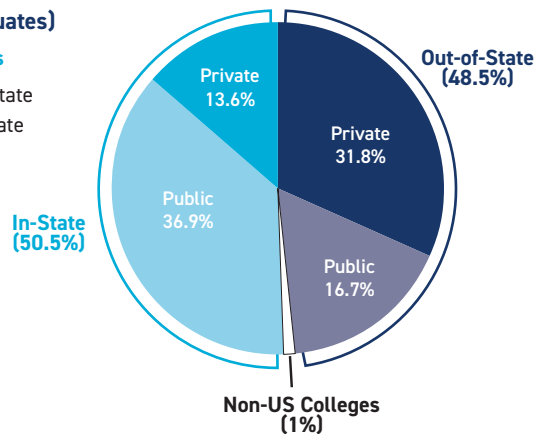
- Non-US Colleges

In-State Schools

- Private In-State
- Public In-State

Total percentage of public and private college matriculation:

- 45.4% Private
- 53.6% Public
- 1.0% Non-US Colleges



Student Population of Academy, 2019-2020

Percentage of students identifying as:

- 0.2% American Indian or Alaskan Native
- 40.0% Asian
- 10.0% Black or African American
- 9.0% Hispanic or Latino
- 8.7% Two or More Races, Non-Hispanic or -Latino
- 32.1% White

Percentage of economically disadvantaged students: 15.9%

Male = 50%

Female = 50%



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