

Illinois Mathematics and Science Academy®

Founding Member of the National Consortium for Specialized Schools of Science, Mathematics and Technology
Accredited by the North Central Association of Secondary Schools

The Illinois Mathematics and Science Academy® (IMSA) is an internationally-recognized pioneering educational institution created by the State of Illinois to develop talent and leadership in mathematics, science and technology. IMSA's advanced residential college preparatory program enrolls 650 Illinois students (grades 10-12) who are academically talented and who demonstrate a passion for mathematics and science. Admission is competitive. As part of the overall academic experience, IMSA requires all students to reside on campus.

IMSA employs 57 teaching faculty members, all of whom have advanced degrees, with 42% holding doctorate degrees. In addition, 23% of faculty members are certified by the National Board for Professional Teaching Standards (NBPTS).

IMSA fosters a collaborative learning environment that is problem centered, inquiry based and integrative. IMSA's students are engaged in rich opportunities to work with prominent researchers, explore questions of their own, champion their ideas for product development and make significant leadership contributions.

Mentorship - Students conduct research with prominent scientists and scholars at laboratories, universities, museums, hospitals and other sites throughout the Chicago metropolitan area and beyond.

Inquiry - Guided by distinguished IMSA faculty members, students design learning experiences that address their areas of interest.

- Through Mentorship, Inquiry and other opportunities, 75% of students conduct at least one independent research project during their junior or senior year.
- Each year, students present their research to the IMSA community through a scientific conference style "IMSA Presentation Day."
- IMSA's mentorship and research opportunities enable a number of students to present their research at national and international professional conferences and publish their findings in professional journals.

Total Applied Learning for Entrepreneurs (TALENT) - Started in the fall of 2005, this program provides on campus, off campus, and virtual learning experiences and resources to encourage, stimulate, and champion entrepreneurial applied science and technology projects.

Leadership Education and Development (LEAD) - A student directed leadership skill development program with a focus on advocacy, the program emphasizes communication, public speaking, negotiation and the application of these skills. All sophomores are required to participate in this program.

Intersession - Held in January, this required week-long, intensive study program enables students to explore subjects not typically offered during the school year.

Service Learning - Students are required to complete 100 hours of Community Service and approximately 220 hours of Campus Work Service during their three years at IMSA.

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In light of IMSA's selective admission process and in order to promote collaborative exploration and discovery, the Academy does not provide grade point averages or class rankings.

Total graduation requirement: 16 credits Eight (8) credits must be in mathematics and science.
 For information on course descriptions, please visit our Web site www.imsa.edu/learning/cac/academics/

<p>Science 4.0 credits minimum</p>	<p>Core Courses Scientific Inquiries (Four lab courses integrating Biology, Chemistry, Physics and Earth Science)</p>	<p>Biology Electives Biotechnology (double credit) Ecology General Microbiology Genetics Human Anatomy and Physiology Pathogenic Microbiology Patterns of Biological Diversity Plants and People</p>	<p>Chemistry Electives Advanced Chemistry: Matters and Molecules Advanced Chemistry: Reactions and Quantitative Analysis Biochemistry Organic Chemistry I Organic Chemistry II Survey of Organic Chemistry</p>	<p>Physics Electives Advanced Physics: Motion and Forces Advanced Physics: Waves and Fields Applied Engineering Astrophysics Calculus Based Physics: Mechanics Calculus Based Physics: Electricity and Magnetism Electronics Modern Physics Observational Astronomy Science, Society, and the Future</p>	
<p>Mathematics 3.0 credits minimum</p>	<p>Core Courses Geometry I/II Mathematical Investigations I Mathematical Investigations II Mathematical Investigations III Mathematical Investigations IV AB Calculus I AB Calculus II BC Calculus I BC Calculus II BC Calculus III</p>	<p>Computer Science Electives AP Computer Science Assembly Language Programming Computer Seminar Introduction to Computer Science Introduction to Visual Basic</p>	<p>Math Electives Advanced Geometry Advanced Problem Solving Advanced Topics in Mathematics Introduction to Algebraic Structures I: Linear Algebra Introduction to Algebraic Structures II: Abstract Algebra Data Analysis Differential Equations Discrete Mathematics Exploring Mathematics with Mathematica Multivariable Calculus Number Theory Problem Solving</p>		
<p>English 3.0 credits minimum</p>	<p>Core Courses Literary Explorations I (sophomore) Literary Explorations II (junior)</p>	<p>Senior Electives Belief in Question in Modern Literature Film Study: History and Criticism Modern Irish Literature Portraits of Creativity The Idea of the Individual Topics in American Literature: Modern Poetry Topics in World Literature: Modern World Fiction Topics in World Literature: Victorian Fiction</p>			
<p>Social Science 2.5 credits minimum</p>	<p>Core Courses American Studies (sophomore) Topics in World Studies (junior)</p>	<p>Senior Electives Cultural History of Astronomy Cultural History of Biology European History Explorations in Psychology International Relations Macroeconomics Microeconomics Political Theory Science, Society, and the Future Topics in Recent US History War, Peace, and the Evolution of the Modern State</p>			
<p>World Languages 2.0 credits minimum</p>	A student must complete two years of study with one year at the level II or higher				
<p>Fine Arts 0.5 credit minimum</p>	<p>Music Chamber Choir Concert Choir Music Theory Symphonic Band Symphonic Orchestra</p>	<p>Visual Arts Advanced Ceramics Art Design Ceramics Photography</p>			
<p>Wellness Education Core Course + 1 Elective No credit given; Pass/Fail only</p>	<p>Core Course Sophomore Wellness</p>	<p>Electives 10K Training and Conditioning Badminton, Pickleball, and Tennis Beginning Rollerblading and Fencing Beginning and Intermediate Swimming Bowling and Relaxation Techniques Dance: Ballroom and Multicultural Fencing and Volleyball Fitness Leadership and Red Cross Certification Flag, Football, and Basketball Golf and Water Polo Lifeguarding and Water Polo Tennis and Badminton</p>			
<p>Independent Learning No credit given; Pass/Fail only</p>	<p>Independent Study Mentorship Research Student Inquiry Senior Research In Science Total Applied Learning for Entrepreneurs (TALENT)</p>				

IMSA Testing Highlights

ACT Scores - Class of 2005—Middle 50% Ranges and Means

	IMSA Mean (N = 175)	IMSA Middle 50% Range	Illinois College-Bound Senior Mean	All College-Bound Senior Mean
English	30.0	28.1 - 33.0	19.9	20.4
Math	31.3	29.2 - 33.9	20.2	20.7
Reading	30.5	28.0 - 33.8	20.3	21.3
Science Reasoning	28.9	25.8 - 32.1	20.4	20.9
Composite	30.3	28.6 - 32.5	20.3	20.9

SAT I Reasoning Test - Class of 2005 - Middle 50% Ranges and Means

	IMSA Mean (N = 209)	IMSA Middle 50% Range	Illinois College-Bound Senior Mean	All College-Bound Senior Mean
Verbal	672	620-720	594	508
Math	721	680-780	606	520

SAT II Subject Tests - Class of 2005 - Means

	IMSA Scores Reported	IMSA Mean	Illinois College Mean	All College Mean
English				
Writing	120	687	667	605
Literature	18	684	645	589
Mathematics				
Level II C	116	760	712	670
Science				
Biology E	10	667	645	595
Biology M	12	670	661	627
Chemistry	56	692	666	628
Physics	21	701	684	652

Explanation of Grades

- A Exceeds course requirements
- B Meets course requirements
- C Needs improvement
- D Does not meet course requirements, no credit awarded
- WF Withdrawn from course with failing grade

Pass/Fail Options

- P Meets course requirements, credit may/may not be awarded
- F Does not meet course requirements, no credit awarded

Scholarship Recognition

Class of 2006

- 188 Total number of students in class
- 6 National Achievement Semifinalists
- 48 National Merit Semifinalists
- 46 National Merit Letters of Commendation
 - 1 American Academy of Neurology Neuroscience Creativity Prize
 - 1 US delegate to the World Academy of Young Scientists in Marrakech, Morocco

Class of 2005

- 208 Total number of students in class
- 3 National Achievement Finalists
- 44 National Merit Finalists
- 65 National Merit Letters of Commendation
- 6 Intel Science Talent Search Semifinalists
- 3 Intel Finalists
 - Second and Sixth Place Winners
- 4 Siemens Westinghouse Regional Semifinalists
- 1 Siemens Regional Finalist
- 1 Siemens Award Recipient for Advanced Placement
- 1 US Physics Team Member
- 1 Young Epidemiology Scholars Regional Finalist
- 1 Recipient of American Psychiatric Association's Young Investigator Award
- 10 Presenters at the American Junior Academy of Science
- 4 Best in Category at Illinois Junior Academy of Science

Advanced Placement (AP) Examinations for 2005 School Year

Although IMSA does not offer AP courses, 80% of students last year scored 3 or higher on examinations. 461 AP examinations were administered to 239 students.

Examinations	Number of Students Tested	Average Score	National Average
Biology	29	4.17	2.98
Calculus BC	146	4.45	3.60
Computer Science AB	18	3.44	3.11
Chemistry	97	3.55	2.78
English Language	24	4.41	2.78
Physics C: Mech	63	3.95	3.28
Physics C: E&M	63	3.42	3.22

Examinations given to 10 or fewer students are not listed in above statistics.

Grade Distribution Report for Junior Course Enrollment 2004-2005

Course	% of A	% of A-	% of B+	% of B	% of B-	% of C+	% of C	% of C-	% of D	% of Pass	No of Students
Mathematical Investigations IV (spring 2005)	33	10	1	20	6	4	15	4	7	0	71
BC Calculus I (spring 2005)	14	5	15	19	13	8	12	2	0	12	93
BC Calculus II (spring 2005)	12	16	16	25	14	11	5	0	1	0	57
Advanced Chemistry - Matters and Molecules Advanced Chemistry	20	26	10	15	9	10	6	1	2	1	151
Advanced Chemistry - Reactions and Qualitative Analysis	15	18	12	21	15	7	6	0	1	5	126
General Microbiology	19	10	17	36	10	1	5	0	0	2	99
Literary Explorations II (spring 2005)	24	27	22	20	3	0	4	0	0	0	192
Topics in World Studies (spring 2005)	21	30	25	11	5	3	2	2	1	0	193

IMSA Matriculations - Class of 2005 (208 Graduates)

Albion College - 2	Harvard University - 3	Stanford University - 3
American University - 1	Hope College - 1	Swarthmore College - 1
Bard College - 1	Illinois Institute of Technology - 4	Trinity College - 1
Boston University - 1	Illinois Wesleyan University - 1	Truman State University - 2
Bradley University - 2	Iowa State University - 1	United States Air Force Academy - 1
Brandeis University - 1	Lake Forest College - 1	United States Naval Academy - 1
Brigham Young University - 1	Lawrence University - 2	University of Arizona - 1
California Institute of Technology - 1	Lewis and Clark College - 1	University of Chicago - 3
Carleton College - 2	Loyola University of Chicago - 2	University of Illinois@Chicago - 9
Case Western Reserve University - 11	Massachusetts Institute of Technology - 2	University of Illinois@Urbana-Champaign - 71
Claremont McKenna College - 1	Michigan State University - 2	University of Iowa - 1
College of William and Mary - 1	Michigan Technological University - 1	University of Missouri@Kansas City - 1
Columbia University - 1	Millwaukee School of Engineering - 1	University of Notre Dame - 1
Cooper Union - 1	Morehouse College - 1	University of Pennsylvania - 2
Cornell University - 2	Northern Illinois University - 1	University of Pittsburgh - 1
Dartmouth College - 1	Northwestern University - 11	University of Southern California - 3
Davidson College - 1	Oberlin College - 1	University of the Pacific - 1
Drexel University - 1	Occidental College - 2	University of Tulsa - 1
Duke University - 2	Pratt Institute - 1	University of Wisconsin@Madison - 3
Eckerd College - 1	Princeton University - 1	Washington University - 6
Emory University - 1	Randolph-Macon Woman's College - 1	Williams College - 1
Franklin W. Olin College of Engineering - 1	Rice University - 1	McGill University, Canada - 1
Furman University - 1	Southern Illinois University@Edwardsville - 1	Queens University, Canada - 1
Georgetown University - 1	Southern Methodist University - 1	St. Louis University, Spain - 1
Georgia Institute of Technology - 2	St. Louis University - 3	
Grinnell College - 1	St. Olaf College - 2	

Universities and Colleges With the Largest IMSA Graduate Enrollment - Classes of 2003-2005

Albion College - 5	Illinois Wesleyan University - 6	University of Chicago - 12
Amherst College - 4	Lawrence University - 5	University of Illinois@Chicago - 24
Boston University - 7	Loyola University of Chicago - 7	University of Illinois@Urbana-Champaign - 202
Case Western Reserve University - 18	Massachusetts Institute of Technology - 11	University of Southern California - 6
Claremont McKenna College - 4	Northwestern University - 28	Washington University - 20
Cornell University - 12	Rice University - 4	Yale University - 6
Franklin W. Olin College of Engineering - 5	Southern Illinois University@Edwardsville - 5	
Harvard University - 7	St. Louis University - 5	
Illinois Institute of Technology - 13	Stanford University - 5	

College Placement Profile by %

	2005	2004	2003
4 Yr College	99.5%	98.9%	98.4%
Private Schools	52.6%	51.7%	50.7%
In-State	11.6%	12.2%	14.8%
Out-of-State	39.6%	39.6%	35.9%
Public Schools	47.3%	47.2%	48.1%
In-State	39.1%	38.6%	41.7%
Out-of-State	8.2%	8.6%	6.3%
Others	1.4%	1.0%	1.1%

Student Population of Academy

Male = 50.2%		Female = 49.8%	
White		44%	
Asian American		37%	
African American		7%	
Hispanic/Latino		5%	
Multi-racial		5%	
Not Reported		2%	

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