IMSA®
Illinois Mathematics and Science Academy

igniting and nurturing
creative, ethical, scientific minds
that advance the human condition

IMSA 2014 PROFILE

Founding Member of the National Consortium for Specialized Secondary Schools of Mathematics, Science and Technology

The internationally recognized 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 (grades 10-12) in its advanced, residential college preparatory program, and it serves thousands of educators and students in Illinois and beyond through innovative instructional programs that foster imagination and inquiry. IMSA also advances education through research, groundbreaking ventures and strategic partnerships. (www.imsa.edu)

IMSA employs 56 full-time teaching faculty members, all of whom have advanced degrees, with 44% holding doctorate degrees. In addition, 30% 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.

Student Inquiry and Research (SIR) pairs students with on-campus and off-campus professionals so that they can actively investigate a topic about which they are passionate. The SIR standards focus on planning, investigating, analyzing and communicating. Requirements include a proposal, investigation journal/notebook, active engagement, progress report, abstract, investigation paper and presentation at IMSAloquium.

Total Applied Learning for Entrepreneurs (TALENT) provides students with experiential learning opportunities related to bringing an idea to the market-place to solve real world problems. TALENT instills the thinking patterns and mindset of an entrepreneur and engages students in understanding intellectual property, developing a business plan, developing products, securing funding, networking, communicating ideas and starting a business.

Independent Study is a student-selected learning experience that provides the opportunity to personalize learning beyond the IMSA course offerings. An Independent Study may be conducted by a senior (or junior with Principal's permission) under the direction of an IMSA faculty member for one or two semesters.

Advanced Study provides students the opportunity to pursue learning for graduation credit and receive a letter grade in a class not included in IMSA's regular course offerings. An Advanced Study proposal is completed jointly by a senior student and IMSA faculty member; the class is conducted under the direction of the faculty member for one or two semesters.

Leadership Education helps students become leaders within the Academy, in the community and in the world. Navigation is a forum for sophomores to process their academic, social and emotional experiences at IMSA. Leadership Education and Development engages all students in open discussion, meaningful activities, real-life applications and personal reflection to develop their passions and impact social change. Residence Life develops students' personal and social skills and academic talents.

Service Learning Students are required to complete 200 hours of service during their three years at IMSA.

Catherine C. Veal
President
(630) 907-5034 cveal@imsa.edu

Branson Lawrence
Principal
(630) 907-5857 branson@imsa.edu

Dr. Robert Hernandez
Director of Student Affairs
(630) 907-5009 hernandi@imsa.edu

Julia Husen
Coordinator of College and Academic Counseling
(630) 907-5013 ura@imsa.edu

David McGovern
College and Academic Counselor
(630) 907-5071 dmcgovern@imsa.edu

Kara Molenhouse
College and Academic Counselor
(630) 907-5065 kmolenhouse@imsa.edu

Sue Speulda
College and Academic Counselor
(630) 907-5014 sspeulda@imsa.edu

Diane Stegmeyer
Registrar
(630) 907-5066 dstegmeyer@imsa.edu

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.

College and Academic Counseling Office
1500 Sullivan Road | Aurora, IL 60506-1000
Telephone: (630) 907-5056 | Fax: (630) 907-5935
www.imsa.edu/academics/CAC | CEEB Code: 140177

Total graduation requirement: 17 credits. Eight (8) credits must be in mathematics and science.
For information on course descriptions, please visit our website: www.imsa.edu/academics/CAC

SCIENCE
4.0 credit minimum

All science courses have a lab component

Core Courses
[Sophomore]
Methods in Scientific Inquiry
Scientific Inquiries
- Biology
- Molecular Genetics
- Organisms and Ecosystems
Scientific Inquiries - Chemistry
Scientific Inquiries - Physics

Biology Electives
Evolution, Biodiversity and Ecology
Microbes and Disease
Molecular and Cellular Biology
Physiology and Disease
Seminar in Biology: Neurobiology

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

Physics Electives
Computational Science
Engineering
Modern Physics
Physics: Sound and Light
Physics: Calculus-based Mechanics
Physics: Calculus-based Electricity and Magnetism
Planetary Science

MATHEMATICS
3.0 credit minimum

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 I/II
Mathematical Investigations I/II
Mathematical Investigations II
Mathematical Investigations III
Mathematical Investigations IV

Pre-Calculus Electives
Discrete Mathematics
Graph Theory with Applications
Polyhedra and Geometric Sculpture
Problem Solving
Statistical Experimentation and Inference
Statistical Exploration and Description

Post-Calculus Electives
Advanced Problem Solving
Advanced Topics in Mathematics
Differential Equations
Introduction to Algebraic Structures I
Multi-Variable Calculus
Number Theory
Theory of Analysis

Computer Science Electives
Advanced Programming Computer Science
Computational Thinking
Computer Seminar
Object Oriented Programming
Robotics Programming
Web Technologies I

ENGLISH
3.0 credit minimum

Core Courses
[Sophomore]
Literary Explorations I
Literary Explorations II

[Junior]
Literary Explorations III

Junior/Senior Electives
20th Century Poetry
Creative Writing Workshop
Film Study: History and Criticism
Modern Theater
Speculative Fiction Studies

Junior/Senior Electives
The Idea of the Individual
Topics in World Literature: Modern World Fiction
Topics in World Literature: Victorian Fiction

Senior Electives
Gender Studies
Graphic Novels: Image and Text
Tolkien: Language and Literature

SOCIAL SCIENCE
2.5 credit minimum

Core Courses
[Sophomore]
American Studies
[Junior]
The World in the Twentieth Century

Junior Electives
Ancient World Religion and Philosophy
Conflict in World History
Medieval Societies
Power and Authority in History

Senior Electives
History of Astronomy
History of Biology
History of Philosophy
History of Technology and Culture

Senior Electives
International Relations
Political Theory
The History of China and India
United States Government and the Constitution

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

Japanese I
Japanese II
Japanese III

Mandarin Chinese I
Mandarin Chinese II
Mandarin Chinese III

Russian I
Russian II
Russian III

Spanish II
Spanish III
Spanish IV
Spanish V

FINE ARTS
0.5 credit minimum

Music
Chamber Choir
Chamber Strings
Concert Band
Concert Choir

Music
Music Theory
String Orchestra
Wind Ensemble

Visual Arts
Advanced Ceramics
Art Design
Ceramics
Photography

WELLNESS EDUCATION
1.0 credit minimum

Core Course
[Sophomore]
Moving and Learning

Wellness Electives
Dance
Lifeguarding and Water Polo
Movement and Relaxation

Wellness Electives
Outdoor and Indoor Games
Tennis and Badminton

INDEPENDENT LEARNING

Advanced Study

Independent Study

Student Inquiry and Research (SIR)

Total Applied Learning for Entrepreneurs (TALENT)

IMSA TESTING HIGHLIGHTS

ACT Scores - Class of 2013- Middle 50% Ranges and Means

	IMSA Mean (N = 167)	IMSA Middle 50% Range	Illinois College-Bound Senior Mean	All College-Bound Senior Mean
Composite	31.9	30.0–34.0	20.6	20.9

SAT Reasoning Test - Class of 2013 - Middle 50% Ranges and Means

	IMSA Mean (N = 203)	IMSA Middle 50% Range	Illinois College-Bound Senior Mean	All College-Bound Senior Mean
Critical Reading	647	590-730	600	496
Math	689	650-760	617	514
Writing	641	570-720	590	488

Scholarship Recognition

Class of 2014

203 Total number of students in class
4 National Achievement Semifinalists
48 National Merit Semifinalists

Class of 2013

191 Total number of students in class
3 National Achievement Finalists
47 National Merit Finalists
9 National AP Scholars
43 AP Scholars with Distinction
16 AP Scholars with Honors
1 Intel Science Talent Search Semi-finalist
2 Siemens Award Competition Semi-finalists
1 Illinois Junior Academy of Science Gold Medal Winner
1 National Outstanding Paper Group Award in the High School Mathematical Contest in Modeling (HiMCM)
1 3rd Place Winner (Math Team) in the Illinois Council of Teachers of Mathematics (ICTM) Contest
1 1st Place Winner (Scholastic Bowl Team) in State
1 13th Place Winner (Science Bowl Team) in Nation
1 3rd Place winner (Science Olympiad Team) in State
1 1st, 2nd, and 3rd Place Winners (Illinois Future Business Leaders of America) State Leadership Conference

Advanced Placement (AP) Examinations for 2012–2013 School Year

Although IMSA does not offer AP courses, 725 AP examinations were administered to 314 students

Examinations	Biology	Calculus AB	Calculus BC	Chemistry	Computer Science A	Physics C: E & M	Physics C: Mech	Statistics	English Language
No. of Students Tested	64	13	147	118	20	38	45	28	47
Average Score	3.7	2.5	4.5	3.2	3.5	2.9	4.0	4.0	4.1

A Sample Grade Distribution Report for Junior Course Enrollment (2012–2013)

Course	A	A-	B+	B	B-	C+	C	C-	D	No. of Students
Mathematical Investigations IV (Fall)	11	16	7	18	2	7	5	0	2	68
BC Calculus I (Spring)	3	9	5	13	11	2	5	3	4	55
BC Calculus II (Spring)	8	4	5	7	9	0	2	2	1	38
Advanced Chemistry--Structure and Properties (Fall)	31	37	7	25	15	4	4	1	0	124
Advanced Chemistry--Chemical Reactions (Spring)	27	24	6	29	21	3	7	5	0	122
Molecular and Cellular Biology	6	11	6	7	4	0	4	2	0	40
Literary Explorations III	11	56	39	72	23	5	1	0	0	207
Creative Writing Workshop	5	14	9	12	0	0	0	1	0	41
The World in the Twentieth Century	62	62	25	35	9	4	4	1	3	205

Explanation of Grades

A	Exceeds course requirements	P+	Exceeds course requirements, Pass with Distinction
B	Meets course requirements	P	Meets course requirements for course taken pass/fail
C	Needs improvement	F	Does not meet requirements for course taken pass/fail
D	Does not meet course requirements, no credit awarded	W	Withdrawal from course
I	Incomplete	WF	Withdrawal from course with failing grade

IMSA MATRICULATIONS - CLASS OF 2013 (191 GRADUATES)

American University (1)
Arizona State University (1)
Baylor University (1)
Binghamton University (2)
Boston College (1)
Brandeis University (1)
California Institute of Technology (3)
Carleton College (3)
Carnegie Mellon University (2)
Carthage College (1)
Case Western Reserve University (2)
College of William and Mary (1)
Columbia University (1)
Cooper Union for the Advancement of Science (1)
Cornell University (2)
Dartmouth College (1)
DePaul University (1)
Drake University (2)
Drexel University (3)
Duke University (1)
Emory University (1)
Georgetown University (1)
Georgia Institute of Technology (3)
Grinnell College (2)
Harvard University (1)
Haverford College (1)
Illinois Institute of Technology (7)
Illinois Wesleyan University (1)
Johns Hopkins University (2)
Knox College (3)
Lawrence University (1)
Loyola University Chicago (2)
Macalester College (1)
Massachusetts Institute of Technology (1)
Michigan Technical University (1)
Monmouth College (1)
Muskingum University (1)
New York University (2)
North Central College (1)
Northeastern University (5)
Northwestern University (3)
Princeton University (2)
Purdue University (3)
Rensselaer Polytechnic Institute (1)
Rhodes College (2)
Rice University (1)
Ripon College (1)
St. Louis University (4)
Southern Illinois University–Carbondale (1)
Southern Illinois University–Edwardsville (1)
Southern Methodist University (1)
Stanford University (2)
Swarthmore College (1)
The Ohio State University (2)
Truman State University (2)
Tulane University (1)
University of California at Los Angeles (2)
University of Chicago (4)
University of Colorado at Denver (1)
University of Houston (1)
University of Illinois Chicago (7)
University of Illinois Urbana-Champaign (49)
University of Miami (2)
University of Michigan Ann Arbor (3)
University of Minnesota Twin Cities (1)
University of Missouri Columbia (1)
University of Notre Dame (2)
University of Pennsylvania (3)
University of Pittsburgh (1)
University of Rochester (2)
University of Southern California (1)
University of Wisconsin Madison (1)
Vanderbilt University (4)
Wake Forest University (1)
Washington University in St. Louis (5)
Wellesley College (1)
Yale University (1)

University College London (1)

UNIVERSITIES AND COLLEGES WITH THE LARGEST IMSA GRADUATE ENROLLMENT CLASSES OF 2011–2013

University of Illinois Urbana-Champaign (159)
University of Illinois Chicago (19)
Saint Louis University (17)
Illinois Institute of Technology (15)
Case Western Reserve University (14)
California Institute of Technology (12)
University of Rochester (11)
Vanderbilt University (10)
Northwestern University (9)
University of Chicago (9)
University of Wisconsin-Madison (9)
Massachusetts Institute of Technology (9)
Washington University in St. Louis (9)
Carnegie Mellon University (8)
University of Pennsylvania (8)
Northeastern University (8)
Yale University (8)
Loyola University Chicago (7)
Princeton University (7)
University of Southern California (7)
Michigan Technical University (6)
Drexel University (6)
University of Pittsburgh (6)
Stanford University (6)
DePaul University (5)
Michigan State University (7)
University of Michigan-Ann Arbor (5)
Rensselaer Polytechnic Institute (5)
Duke University (5)
University of Missouri-Kansas City (5)
University of Missouri-Columbia (5)

College Placement Profile by %

	2013	2012	2011
4 Yr College	99.5	98.6	95.5
Private Schools	55.4	55.2	52.4
In-State	12.0	8.5	13.1
Out-of-State	43.4	46.7	39.3
Public Schools	43.9	43.4	47.6
In-State	30.3	29.2	33.0
Out-of-State	13.6	14.2	14.6
2 Yr College	0.0	0.5	1.0
Non-US colleges	0.5	0.5	3.0

Student Population of Academy 2013–2014

Male = 51% Female = 49%

Percentage of students identifying as:	
44.6%	Asian
38.0%	White
8.9%	Hispanic or Latino
7.9%	Black
0.5%	American Indian or Alaska Native
0.1%	Native Hawaiian or Other Pacific Islander