Illinois Mathematics and Science Academy®

IMSA 2015 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 55 full-time teaching faculty members, all of whom have advanced degrees, with 47% holding doctorate degrees. In addition, 31% 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.

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.

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 requires students to complete 200 hours of service during their three years at IMSA.
All science courses have a lab component.

Core Courses
- Biology Electives
  - Evolution, Biodiversity and Ecology
  - Microbes and Disease
  - Molecular and Cellular Biology
  - Psychophysics
- Chemistry Electives
  - Advanced Chemistry
    - Structure and Properties
  - Environmental Chemistry
  - Organic Chemistry
- Physics Electives
  - Biophysics
  - Computational Science
  - Modern Physics
  - Physics: Sound and Light

Mathematics
- Calculus Core Courses
  - AB Calculus II
  - BC Calculus II
  - BC Calculus IV
- Pre-Calculus Core Courses
  - Math 10

English
- Core Courses
  - American Studies
  - The World in the Twentieth Century

Social Science
- Junior Electives
  - Ancient World Religion and Philosophy
  - Conflict in World History

World Languages
- A student must complete two years of world language study, with one year at level II or higher.

Fine Arts
- Music
  - Chamber Choir
  - Chamber Strings

Wellness Education
- Core Courses
  - Dance

Independent Learning
- Advanced Study
  - Independent Study

Science 4.0 credit minimum

Fine Arts 0.5 credit minimum

World Languages 2.0 credit minimum

Mathematics 4.0 credit minimum

Advanced Placement (AP) Examinations for 2013—2014 School Year

<table>
<thead>
<tr>
<th>Examinations</th>
<th>Biology</th>
<th>Calculus AB</th>
<th>Calculus BC</th>
<th>Chemistry</th>
<th>Computer Science A</th>
<th>Physics C &amp; M</th>
<th>Physics C - Mech</th>
<th>Statistics</th>
<th>English Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Students Tested</td>
<td>55</td>
<td>29</td>
<td>144</td>
<td>114</td>
<td>30</td>
<td>42</td>
<td>57</td>
<td>39</td>
<td>31</td>
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<tr>
<td>Average Score</td>
<td>3.8</td>
<td>3.4</td>
<td>4.5</td>
<td>3.0</td>
<td>4.0</td>
<td>3.1</td>
<td>3.9</td>
<td>4.4</td>
<td>4.4</td>
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</table>

Although IMSA does not offer AP courses, 666 AP examinations were administered to 316 students.

Class of 2015
- 195 total number of students in class
- 7 National Achievement Semifinalists
- 45 National Merit Semifinalists

Class of 2014
- 198 total number of students in class
- 5 National Achievement Finalists
- 41 National Merit Finalists
- 3 National AP Scholars
- 17 AP Scholars with Distinction

IMSA TESTING HIGHLIGHTS

A Sample Grade Distribution Report for Junior Course Enrollment (2013—2014)

Advanced Study
Full June
Independent Study
Independent Study

Student Inquiry and Research

Total Applied Learning for Entrepreneurs (TALENT)

Explanation of Grades

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

Class of 2015
- 1st Place Winners Illinois Future Business Leaders of America State Leadership Conference
- 1st Place Winner Illinois Future Problem Solving Team in State
- 1st Place Winner Scholastic Bowl Team in State
- 1st Place Winner Science Olympiad Team in State
- 2nd Place Winner International Math Olympiad Gold Medal Winner
- 3 Members Selected for Finalist Team in the High School Mathematical Contest in Modeling (HSMC)

Class of 2014
- 2nd Place Winner Illinois Future Problem Solving Team in State
- 1st Place Winner History Bowl Team in State
- 2nd Place Winner History Bowl Team in State
- 2nd Place Winner National History Bee in State
- 3 US Geography Olympiad National Champions
- 1st 100 Butterfly and 2nd 100 Backstroke in the Illinois High School Association (IHSA)
IMSA MATRICULATIONS - CLASS OF 2014 (198 GRADUATES)

UNIVERSITIES AND COLLEGES WITH THE LARGEST IMSA GRADUATE ENROLLMENT

Clases of 2012—2014

University of Illinois at Urbana-Champaign (152)
University of Illinois at Chicago (21)
Case Western Reserve University (19)
Vanderbilt University (10)
Illinois Institute of Technology (7)
University of Southern California (7)
Northwestern University (6)
University of North Carolina at Chapel Hill (6)
Northeastern University (6)
University of Pennsylvania (5)
University of Rochester (5)
Stanford University (5)
University of Wisconsin, Madison (5)
Carnegie Mellon University (4)
University of Michigan (4)
University of Missouri Columbia (4)
Cornell College (4)
University of Oklahoma (4)
University of Pennsylvania (4)
Columbia University (3)
Duke University (3)
University of Rochester (3)
University of Chicago (2)
University of Michigan (2)
University of Missouri Columbia (2)
University of North Carolina at Chapel Hill (2)
University of Texas at Austin (2)
Washington University in St. Louis (2)
University of Wisconsin, Madison (2)
University of Michigan (1)
University of Oregon (1)
University of Pennsylvania (1)
University of Rochester (1)
University of Texas (1)
University of Virginia (1)
William Rainey Harper College (1)
University of Wisconsin, Madison (1)
University of Wisconsin, Milwaukee (1)
University of Wisconsin, Madison (1)

College Placement Profile by %

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Yr College</td>
<td>99</td>
<td>99.5</td>
<td>98.6</td>
</tr>
<tr>
<td>Private Schools</td>
<td>55.5</td>
<td>55.5</td>
<td>55.2</td>
</tr>
<tr>
<td>In-State</td>
<td>5.1</td>
<td>12</td>
<td>8.5</td>
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<tr>
<td>Out-of-State</td>
<td>41.5</td>
<td>45.5</td>
<td>46.7</td>
</tr>
<tr>
<td>Public Schools</td>
<td>45.5</td>
<td>44</td>
<td>43.4</td>
</tr>
<tr>
<td>In-State</td>
<td>28.3</td>
<td>30.4</td>
<td>29.2</td>
</tr>
<tr>
<td>Out-of-State</td>
<td>71.7</td>
<td>69</td>
<td>70.8</td>
</tr>
<tr>
<td>2 Yr College</td>
<td>0.6</td>
<td>0</td>
<td>0.5</td>
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<tr>
<td>Non-US Colleges</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Student Population of Academy 2015–2017

- Male = 51%
- Female = 49%

- Percentage of students identifying as:
  - 41.2% Asian
  - 30.3% White
  - 8.8% Hispanic or Latino
  - 5.5% Black
  - 4.9% Two or More Races
  - 0.3% American Indian or Alaska Native
  - 4.9% Not Reported