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 marketplace 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.

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.
## SCIENCE
4.0 credit minimum

### All science courses have a lab component

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

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

#### Chemistry Electives
- Advanced Chemistry
  - Structures and Properties
  - Chemical Reactions
  - Biochemistry
  - Environmental Chemistry
  - Organic Chemistry I
  - 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

#### 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 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

### Mathematics
3.0 credit minimum

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

### ENGLISH
3.0 credit minimum

#### ENGLISH
3.0 credit minimum

#### WORLD LANGUAGES
2.0 credit minimum

#### SOCIAL SCIENCE
2.5 credit minimum

### WELLNESS EDUCATION
1.0 credit minimum

#### Wellbeing Electives
- Dance
- Lifeguards and Water Polo
- Movement and Relaxation
- Outdoor and Indoor Games
- Tennis and Badminton

### INDEPENDENT LEARNING
1.0 credit minimum

#### Independent Study

#### Student Inquiry and Research (SIR)

#### Total Applied Learning for Entrepreneurs (TALENT)

### Core Courses
- [Sophomore]
  - American Studies
  - 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

### A student must complete two years of world language study, with one year at level II or higher

<table>
<thead>
<tr>
<th>Language</th>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
<th>Level V</th>
</tr>
</thead>
<tbody>
<tr>
<td>French I</td>
<td></td>
<td>German I</td>
<td>Japanese I</td>
<td>Mandarin Chinese I</td>
<td>Russian I</td>
</tr>
<tr>
<td>French II</td>
<td></td>
<td>German II</td>
<td>Japanese II</td>
<td>Mandarin Chinese II</td>
<td>Russian II</td>
</tr>
<tr>
<td>French III</td>
<td></td>
<td>German III</td>
<td>Japanese III</td>
<td>Mandarin Chinese III</td>
<td>Russian III</td>
</tr>
<tr>
<td>French IV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>French V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>German I</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>German II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>German III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Fine Arts
0.5 credit minimum

#### Music
- Chamber Choir
- Chamber Strings
- Concert Band
- Concert Choir

#### Visual Arts
- Advanced Ceramics
- Art Design
- Ceramics
- Photography

### WELLNESS EDUCATION
1.0 credit minimum

#### Moving and Learning

#### Outdoor and Indoor Games
- Tennis and Badminton

### 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
IMSA TESTING HIGHLIGHTS

Scholarship Recognition

Class of 2014
- Total number of students in class: 203
- National Achievement Semifinalists: 4
- National Merit Semifinalists: 48

Class of 2013
- Total number of students in class: 191
- National Achievement Finalists: 4
- National Merit Finalists: 9
- AP Scholars: 43
- AP Scholars with Distinction: 16
- 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: 1

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

<table>
<thead>
<tr>
<th>Course</th>
<th>IMSA Mean (N = 167)</th>
<th>IMSA Middle 50% Range</th>
<th>Illinois College-Bound Senior Mean</th>
<th>All College-Bound Senior Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of students</td>
<td>203</td>
<td>3.0–34.0</td>
<td>20.6</td>
<td>20.9</td>
</tr>
<tr>
<td>National A</td>
<td>Achievement</td>
<td>Semifinalists</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>National Merit</td>
<td>Achievement</td>
<td>Semifinalists</td>
<td>48</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>IMSA Mean (N = 203)</th>
<th>IMSA Middle 50% Range</th>
<th>Illinois College-Bound Senior Mean</th>
<th>All College-Bound Senior Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of students</td>
<td>191</td>
<td>3.0–34.0</td>
<td>20.6</td>
<td>20.9</td>
</tr>
<tr>
<td>National A</td>
<td>Achievement</td>
<td>Finalists</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>National Merit</td>
<td>Achievement</td>
<td>Finalists</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>National AP Scholars</td>
<td></td>
<td></td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>AP Scholars with Distinction</td>
<td></td>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Intel Science Talent Search</td>
<td>Semi-finalist</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Siemens Award Competition</td>
<td>Semi-finalists</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Illinois Junior Academy</td>
<td>of Science Gold</td>
<td>Medal Winner</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>National Outstanding Paper</td>
<td>Group Award</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>High School Mathematical</td>
<td>Contest in Modeling (HiMCM)</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3rd Place Winner (Math Team)</td>
<td>in the Illinois</td>
<td>Council of Teachers</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>of Mathematics (ICTM) Contest</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1st Place Winner (Scholastic</td>
<td>Bowl Team) in State</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>13th Place Winner (Science</td>
<td>Bowl Team) in Nation</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Olympiad Team) in State</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1st, 2nd, and 3rd Place</td>
<td>Winners (Illinois</td>
<td>Future Business</td>
<td>Leaders of America) State</td>
<td>Leadership Conference</td>
</tr>
<tr>
<td>Winners (Illinois Future</td>
<td>Future Business</td>
<td>Leaders of America)</td>
<td>State Leadership</td>
<td>Conference</td>
</tr>
</tbody>
</table>

Advanced Placement (AP) Examinations for 2012–2013 School Year
Although IMSA does not offer AP courses, 725 AP examinations were administered to 314 students

<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: E &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>64</td>
<td>13</td>
<td>147</td>
<td>118</td>
<td>20</td>
<td>38</td>
<td>45</td>
<td>28</td>
<td>47</td>
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<tr>
<td>Average Score</td>
<td>3.7</td>
<td>2.5</td>
<td>4.5</td>
<td>3.2</td>
<td>3.5</td>
<td>2.9</td>
<td>4.0</td>
<td>4.0</td>
<td>4.1</td>
</tr>
</tbody>
</table>

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

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

Explanation of Grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Exceeds course requirements</td>
</tr>
<tr>
<td>A+</td>
<td>Exceeds course requirements, Pass with Distinction</td>
</tr>
<tr>
<td>B</td>
<td>Meets course requirements</td>
</tr>
<tr>
<td>B+</td>
<td>Meets course requirements, course taken pass/fail</td>
</tr>
<tr>
<td>C</td>
<td>Needs improvement</td>
</tr>
<tr>
<td>C+</td>
<td>Does not meet requirements, no credit awarded</td>
</tr>
<tr>
<td>D</td>
<td>Withdrawal from course</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
</tr>
<tr>
<td>WF</td>
<td>Withdrawal from course with failing grade</td>
</tr>
</tbody>
</table>
### IMSA Matriculations - Class of 2013 (191 Graduates)

#### 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)
- 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)

#### Student Population of Academy 2013–2014

- Male = 51%
- Female = 49%

#### College Placement Profile by %

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

#### 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