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STATE OF ILLINOIS

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OFFICE OF THE AUDITOR GENERAL

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PROGRAM AND MANAGEMENT AUDIT

ILLINOIS MATHEMATICS AND  
SCIENCE ACADEMY

NOVEMBER 1999

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WILLIAM G. HOLLAND

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AUDITOR GENERAL

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OFFICE OF THE AUDITOR GENERAL  
WILLIAM G. HOLLAND

*To the Legislative Audit Commission, the  
Speaker and Minority Leader of the House  
of Representatives, the President and  
Minority Leader of the Senate, the members  
of the General Assembly, and the Governor:*

This is our report of the Program and Management Audit of the Illinois Mathematics and Science Academy.

The audit was conducted pursuant to Legislative Audit Commission Resolution Number 115 which directed the Auditor General's Office to conduct an audit of the Illinois Mathematics and Science Academy. This audit was conducted in accordance with generally accepted government auditing standards and the audit standards promulgated by the Office of the Auditor General at 74 Ill. Adm. Code 420.310.

The audit report is transmitted in conformance with Section 3-14 of the Illinois State Auditing Act.

A handwritten signature in black ink, appearing to read "William G. Holland".

WILLIAM G. HOLLAND  
Auditor General

Springfield, Illinois  
November 1999

## REPORT DIGEST

Program and Management  
Audit of

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### ILLINOIS MATHEMATICS AND SCIENCE ACADEMY

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Released: November, 1999



State of Illinois  
Office of the Auditor General

**WILLIAM G. HOLLAND**  
AUDITOR GENERAL

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## SYNOPSIS

Legislative Audit Commission Resolution Number 115 directed the Auditor General's Office to conduct an audit of the Illinois Mathematics and Science Academy's admissions process. Our audit found the following:

- State law requires IMSA to establish eligibility criteria which ensures "adequate geographic, sexual and ethnic representation." An IMSA official stated the ultimate goal of the selection process is to have admissions which approximate the demographics of the State. However, IMSA's admissions policy directs that admissions reflect the diversity of the applicant pool. IMSA's applicant pool, mainly in the area of ethnicity, is not representative of statewide demographics.
- One result of IMSA's attempt to comply with its statutory requirement to admit a class with adequate demographic representation is that applicants with lower total composite scores are admitted to IMSA over applicants with higher scores but whose demographics are adequately represented. The total composite score is a combination of 1/3 GPA, 1/3 SAT I, and 1/3 Review Committee Rating.
- IMSA had written admissions policies and procedures that were originally approved by the Board of Trustees in 1986 when the Academy opened. Although IMSA's admissions practices have been modified, the formal policy was not updated and approved by the IMSA Board of Trustees until January 1999. Therefore, IMSA's actual admissions practices have deviated from Board of Trustees' approved policy for a number of years.
- Many key terms used in the current admissions process are not defined in the newly approved policy. In addition, some criteria used during the selection of the second half of the class are not clearly outlined in policy.

MANAGEMENT AND PROGRAM AUDIT OF THE ILLINOIS MATHEMATICS AND  
SCIENCE ACADEMY

## **REPORT CONCLUSIONS**

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Illinois Mathematics and Science Academy (IMSA) was created by Public Act 84-126 in 1985. IMSA is a residential school serving 10<sup>th</sup> – 12<sup>th</sup> graders. State law states that the primary role of the Academy is to offer a uniquely challenging education for students talented in the areas of mathematics and science. Legislative Audit Commission Resolution Number 115 directed the Auditor General to conduct a management and program audit of IMSA's admissions process.

IMSA has written admissions policies and procedures and an extensive admissions process which is used to select each 10<sup>th</sup> grade class. IMSA's admissions process was originally approved by the Board of Trustees in 1986 when the Academy opened. Since the Academy opened, IMSA's admissions practices have been modified; however, the formal policy was not updated and approved by the IMSA Board of Trustees until January 1999. Therefore, IMSA's actual admissions practices have deviated from Board of Trustees' approved policy for a number of years.

IMSA automatically selects the applicants with the highest total composite scores (which includes applicant's GPA, SAT I, and Review Committee Rating) to comprise the first half of the admitted class. The second half of the class is selected using additional factors, including geographic, gender, and ethnic criteria.

An IMSA official stated that the ultimate goal of the selection process is to have admissions which approximate the demographics of the State; some IMSA directives also state that as its goal. However, IMSA's admissions policy directs that admissions reflect the diversity of the applicant pool. IMSA's applicant pool, mainly in the area of ethnicity, is not representative of statewide demographics.

Many key terms used in the current admissions process are not defined in the newly approved policy. In addition, many of the criteria used during the selection of the second half of the class are not clearly outlined in policy.

A three-year history of IMSA admissions in terms of geographic and gender distributions shows that, while there is some variation, the applicant pool is generally consistent with the statewide distribution of 9<sup>th</sup> graders and with the invited class. The ethnic distribution has the most variation when compared to the statewide population of 9<sup>th</sup> graders. Over the three years reviewed, African Americans and Latinos were consistently underrepresented in the applicant pool and in the invited class when compared to the number of African American

and Latino 9<sup>th</sup> graders in the State. Conversely, Asian Americans were consistently overrepresented in both the applicant pool and the invited class when compared to the percent of Asian American 9<sup>th</sup> graders in the State.

One result of IMSA's attempt to comply with its statutory requirement to admit a class with adequate geographic, ethnic and gender representation is that applicants with lower total composite scores are admitted to IMSA in the second half of the class over applicants with higher scores but whose demographics are adequately represented. The total composite score is a computed score that is a combination of 1/3 GPA, 1/3 SAT I, and 1/3 Review Committee Rating.

For example, in 1998, 143 applicants in the upper half of the applicant pool based on total composite score were not admitted, whereas 48 applicants in the lower half of the applicant pool were admitted. However, only 4 of the 45 (9 percent) students admitted to IMSA as one of the last 10 based on total composite score in each of the past five years were sent home for academic reasons. Overall, these 45 students' retention rate was 78 percent compared to IMSA's retention rate of 88 percent over the past five years.

IMSA has outreach programs to attract qualified candidates interested in the Academy. IMSA conducted outreach programs in all seven of its regions. In 1997/1998, IMSA held informational meetings in 53 locations across the State and offered programs for potential applicants at IMSA and in other cities.

IMSA has targeted some outreach efforts to attract more applicants from underrepresented ethnic groups in the State and should continue outreach efforts in additional areas of the State and towards students who are underrepresented in the applicant pool and invited class.

IMSA does not have any policies or procedures for how many applicants can be admitted from any one particular school nor does its statutory authorization require it. Over the past five years, IMSA has admitted 9<sup>th</sup> grade students from a total of 403 schools, or 37 percent of the schools in Illinois serving 9<sup>th</sup> grade students. IMSA also admitted 109 8<sup>th</sup> graders from an additional 66 schools serving 8<sup>th</sup> graders.

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## BACKGROUND

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The Legislative Audit Commission adopted Resolution Number 115 on March 2, 1999. The Resolution directed the Auditor General to conduct a management and program audit of the admissions process, outreach programs and admissions history of the Illinois Mathematics and Science Academy.

The Illinois Mathematics and Science Academy was established by Public Act 84-126 in 1985 (105 ILCS 305 et seq.). The Academy opened on September 7, 1986 and graduated its first senior class in 1989. State law states that the primary role of the Academy is to offer a uniquely challenging education for students talented in the areas of mathematics and science.

IMSA admits approximately 230 – 240 new students each year into its 10<sup>th</sup> grade class. The total number of applicants to IMSA has ranged from 645 to 794 over the past three years. Digest Exhibit 1 shows the 7 regions used by IMSA to report admission statistics.

State law states that “The Academy may admit those students who have completed the academic equivalent of the 9<sup>th</sup> grade and may offer a program of secondary and postsecondary course work. Admission shall be determined by competitive examination.” [emphasis added] (105 ILCS 305/2)

IMSA’s Board of Trustees is directed by statute to, among other things:

- Establish criteria to be used in determining eligibility of applicants for enrollment. Such criteria shall ensure adequate geographic, sexual and ethnic representation. [emphasis added] (105 ILCS 305/4) (pages 1,4-6)

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**The primary role of the Academy is to offer a uniquely challenging education for students talented in the areas of mathematics and science.**

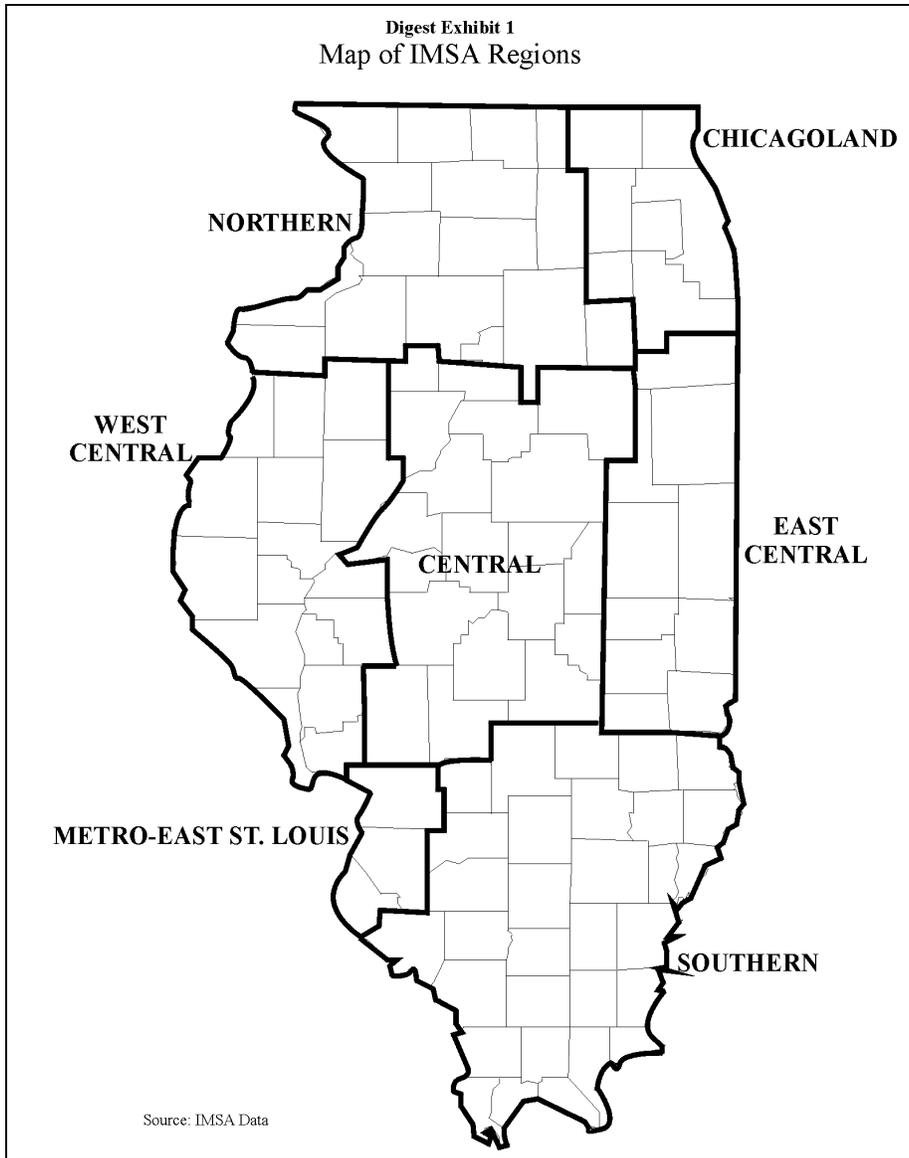
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## CLASS SELECTION

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In 1998, 701 applicants applied for admission to IMSA. For each applicant, IMSA computes a total composite score. The total composite score is combination of three components equally weighted: SAT I, grade point average (GPA), and Review Committee Rating. The Review Committee Rating is assigned by a Review Committee team who evaluates student essays, math, science and English teacher recommendations and extracurricular activities.



**IMSA policy requires that the first half of the admitted class be comprised of the applicants with the highest total composite scores.**

Once total composite scores are computed, then the Selection Committee, comprised of IMSA staff, begins the selection process. IMSA policy requires that the first half of the admitted class be comprised of the applicants with the highest total composite scores. Before the second half of the class is selected, IMSA evaluates the demographic make-up of the first half of the class in terms of ethnicity, geographic location, and gender. IMSA's policy is to have the admission decisions reflect the demographics of the applicant pool.

The Selection Committee discusses each applicant by region to determine whether to admit or eliminate the applicant. Digest Exhibit 2 summarizes the applicant and admissions data for the 1998 class.

The Selection Committee also selects a waitlist of students for possible admission to the Academy. The waitlist is used in the event any of the original class of students do not attend. Exhibit 2-1 in Chapter 2 of the full report outlines IMSA’s admissions process.

The admissions data presented in this report are the students originally invited to the Academy through the selection process. This presentation best measures IMSA’s admissions policy and compliance with its statutory mandate for adequate gender, geographic, and ethnic representation in the class. Some students originally invited to attend may not accept and are replaced with students from the waitlist. We found that the demographics of the final enrolled class were generally consistent with the demographics of the invited class of students. (pages 5-7,10, 12-14, 16-17, 28)

<b>Digest Exhibit 2</b>		
<b>APPLICANTS AND ADMISSIONS BY REGION, ETHNICITY AND GENDER</b>		
<b>1998</b>		
	Applicants (701)	Admitted (242)
<b>Region</b>		
Chicagoland	475	143
Northern	57	29
Central	48	17
East Central	34	10
West Central	20	9
Metro East	36	15
Southern	29	19
Out-of-State	2	0
<b>Ethnicity</b>		
African American	90	30
Asian American	195	65
Latino	20	12
White	352	119
Native American	1	1
Bi-Cultural	25	8
Other/NR	18	7
<b>Gender</b>		
Male	362	121
Female	339	121

Source: OAG analysis of IMSA data.

## ADEQUACY OF ADMISSIONS POLICY

IMSA’s original admissions policy was approved by the Board of Trustees in 1986 when the school opened. Over the years, IMSA officials stated that admissions practices have been modified so they could more effectively meet their statutory requirements; however, the formal policy was not updated and approved by the IMSA Board of Trustees until January 1999. Therefore, IMSA’s actual admissions practices have deviated from the Board of Trustees’ approved policy for several years.

**IMSA’s admissions practices have been modified, however, the formal policy was not updated and approved until January 1999.**

### **Consistency of Admissions Policy with State Law**

State law requires that IMSA admissions be determined by competitive examination. IMSA’s policy dictates that the first half of the admitted class be selected by inviting the students with the highest total composite scores (which includes SAT I, GPA, and Review Committee Rating). The selection of the first half is competitive based on these three factors. The selection of the second half of the class is also competitive, although the applicants with the highest total composite scores may not be selected. Given the statutory requirement that admissions should ensure adequate demographic representation, the applicants are evaluated against each other with their demographic attributes taken into consideration.

State law also requires that eligibility criteria established by the Board shall ensure “adequate geographic, sexual and ethnic representation”.

An IMSA official stated that the ultimate goal of the selection process is to approximate the demographics of the State. The original IMSA admissions policy noted that a fact sheet regarding the Governor’s Illinois Math and Science Academy Initiative stated “the student population will be selected to approximate the demographics of Illinois.”

IMSA’s admissions policy, however, directs that admissions reflect the diversity of the applicant pool. The “Geographic, Gender, and Ethnic Representation” section of IMSA’s admissions policy states that “IMSA will ensure adequate geographic, gender, and ethnic representation in admission decisions by approximating the diversity of the **applicant pool**” (emphasis added). (pages 9, 16-18)

#### **Clarification of Selection Criteria**

While the Board’s admissions policy contains certain selection criteria (such as SAT I and GPA scores) and terms used in the admissions process, the policy could be further clarified regarding other terms and selection criteria. This would help ensure that the actual selection process is consistent with statutory requirements and the Board’s policy.

There are some key terms used in the selection process which are not defined in IMSA’s admissions policy. For example:

- While statutes and policy state that IMSA may admit students with the “academic equivalent of 9<sup>th</sup> grade”, IMSA’s admissions policy does not define the core requirements that constitute the academic equivalent of a 9<sup>th</sup> grader. Such a definition is critical given that IMSA admits 8<sup>th</sup> grade students.

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**The ultimate goal of the selection process is to approximate the demographics of the State, however, IMSA’s policy directs that admissions reflect the diversity of the applicant pool.**

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**The admissions policy could be further clarified regarding the terms and selection criteria used in the admissions process.**

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- The admissions policy does not describe which qualifying 8<sup>th</sup> graders will be admitted. In the 1999 applicant pool, IMSA only admitted 8<sup>th</sup> graders if they were in the first half of IMSA’s admitted class. An IMSA official said this decision was made because 8<sup>th</sup> grade applicants have the opportunity to apply the next year. Given the importance of the decision not to admit any 8<sup>th</sup> graders in the second half of the class, IMSA’s admissions policy should specifically address how 8<sup>th</sup> grade applicants will be handled during the selection process.
- The admissions policy could provide minimum guidelines to be used to determine whether students “qualify” for IMSA (such as establishing a minimum SAT I, GPA, Review Committee Rating, or total composite score). This would provide additional guidance to both the Selection Committee and applicants, as well as help ensure that the students being admitted to IMSA meet the Board’s understanding of “qualified.”
- IMSA uses “goals” to monitor its progress towards geographic, gender and ethnic representation required in statutes. These goals represent the number of students needed in the invited class to approximate the demographics of the applicant pool. The process of establishing or implementing goals is also not addressed in the admissions policy.

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**The admissions policy could provide minimum guidelines to determine whether students “qualify” for IMSA.**

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### **Some Selection Criteria or Factors Not Addressed in Policy**

We noted in our observation of the 1999 selection process there were criteria or factors not in IMSA’s admissions policy that were considered in the selection process. These factors included: the math and science opportunities at the applicant’s current school; his or her class rank; and whether there were contributing factors that may account for a low GPA or SAT I verbal score. These factors were used by the Selection Committee to determine whether to admit an applicant.

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**Some criteria or factors not in IMSA’s admissions policy were considered in the selection process.**

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Digest Exhibit 3 lists criteria contained in IMSA’s admissions policy for the selection of the second half of the class. The policy does not prioritize criteria used in the selection of the second half of the class. Since this portion of the process is more subjective, IMSA should more clearly state the relative importance of these criteria.

We recommended that IMSA’s Board of Trustees periodically review and update the admissions policy, define all pertinent terms and criteria used in the selection process in the policy, and consider prioritizing the criteria being used in the selection of the second half of the class. (pages 19-22)

<b>Digest Exhibit 3 IMSA POLICY - STUDENT SELECTION</b>
“In order to ensure adequate geographic, gender, and ethnic representation, in selecting the second half of the class the Selection Committee considers the applicants’ rankings, the demographics of the selected class thus far, the demographics of the applicant pool, the demographics of the State of Illinois, and the strengths of the individual applicants.”
Source: IMSA Admissions Policy

## IMSA SELECTION AND ENROLLMENT HISTORY

**The geographic distribution of the applicant pool is fairly consistent with the statewide distribution of 9<sup>th</sup> graders and the admitted class.**

The audit resolution asks us to determine whether a historic review of IMSA admissions indicates gender, ethnic, and geographic representations commensurate with the ninth grade student demographics in each of the seven regions.

Digest Exhibit 4 shows that in terms of geographic distribution, the applicant pool is fairly consistent with the statewide distribution of 9<sup>th</sup> graders and the admitted class. Some of the largest variations occur in the Chicagoland area where in each of the last three years the percentage of students admitted was less than both the statewide and applicant pool. Conversely, the percentage of students from the Northern region admitted to the Academy was higher than their

<b>Digest Exhibit 4 GEOGRAPHIC DISTRIBUTION OF IMSA APPLICANTS 1996-1998</b>									
<b>Region*</b>	<b>1996</b>			<b>1997</b>			<b>1998</b>		
	<i>State</i>	<i>Pool</i>	<i>Admit</i>	<i>State</i>	<i>Pool</i>	<i>Admit</i>	<i>State</i>	<i>Pool</i>	<i>Admit</i>
Chicagoland	63.0%	68.6%	58.7%	62.6%	69.0%	61.7%	62.9%	67.8%	59.1%
Northern	9.4%	9.2%	13.2%	9.4%	8.2%	9.6%	9.5%	8.1%	12.0%
Central	9.7%	7.1%	12.3%	9.6%	7.3%	10.4%	9.6%	6.8%	7.0%
East Central	4.2%	4.8%	4.3%	4.2%	2.6%	3.3%	4.2%	4.9%	4.1%
West Central	3.3%	3.1%	3.4%	3.3%	3.6%	3.3%	3.2%	2.9%	3.7%
Metro East	4.7%	3.4%	3.4%	5.0%	5.3%	5.4%	4.8%	5.1%	6.2%
Southern	5.7%	3.8%	4.7%	5.8%	4.0%	6.3%	5.8%	4.1%	7.9%
Out of State	N/A	0%	0%	N/A	0%	0%	N/A	<1%	0%

Notes: \* The county composition of each region is shown on page 5 in Chapter 1.  
 State = Percent of statewide 9<sup>th</sup> graders from each IMSA region.  
 Pool = Percent of IMSA applicant pool from each region.  
 Admit = Percent of students IMSA invited for admission from each region.  
 Source: OAG analysis of IMSA and SBE data.

statewide and pool representations for all three years.

The ethnic distribution, presented in Digest Exhibit 5, had the most variation when comparing the statewide population of 9<sup>th</sup> graders to the applicant pool and admitted class. Over the three years reviewed, Asian Americans were consistently overrepresented in both the applicant pool and the admitted class, when compared to the percent of Asian American 9<sup>th</sup> graders in the State. Asian Americans have consistently comprised approximately 3 percent of the statewide population of 9<sup>th</sup> graders but comprised 25 percent to 31 percent of the applicant pool and the admitted class.

<b>Digest Exhibit 5</b>									
<b>ETHNIC DISTRIBUTION OF IMSA APPLICANTS</b>									
<b>1996-1998</b>									
<b>Ethnic Group</b>	<b>1996</b>			<b>1997</b>			<b>1998</b>		
	<i>State</i>	<i>Pool</i>	<i>Admit</i>	<i>State</i>	<i>Pool</i>	<i>Admit</i>	<i>State</i>	<i>Pool</i>	<i>Admit</i>
African American	22.5%	8.6%	10.6%	22.4%	11.5%	10.0%	22.0%	12.8%	12.4%
Asian Americans	3.1%	30.2%	26.8%	3.1%	31.2%	25.0%	3.0%	27.8%	26.9%
Latino	12.0%	4.3%	5.5%	12.7%	4.3%	7.1%	12.9%	2.9%	5.0%
White	62.2%	54.2%	53.2%	61.7%	47.0%	51.3%	61.9%	50.2%	49.2%
Native American	<1.0%	<1.0%	0.0%	<1.0%	<1.0%	<1.0%	<1.0%	<1.0%	<1.0%
Bi-Cultural <sup>1</sup>	0.0%	0.0%	0.0%	0.0%	3.1%	4.6%	0.0%	3.6%	3.3%
Other/NR	0.0%	2.6%	3.8%	0.0%	2.8%	1.7%	0.0%	2.6%	2.9%

Note: Numbers may not add to 100 percent due to rounding.  
<sup>1</sup> SBE does not report a bi-cultural classification; IMSA began using the bi-cultural classification in 1997  
 State = percent of statewide 9<sup>th</sup> graders from each ethnicity.  
 Pool = percent of IMSA applicants from each ethnicity.  
 Admit = percent of students IMSA invited for admission from each ethnicity.  
 Source: OAG analysis of IMSA and SBE data

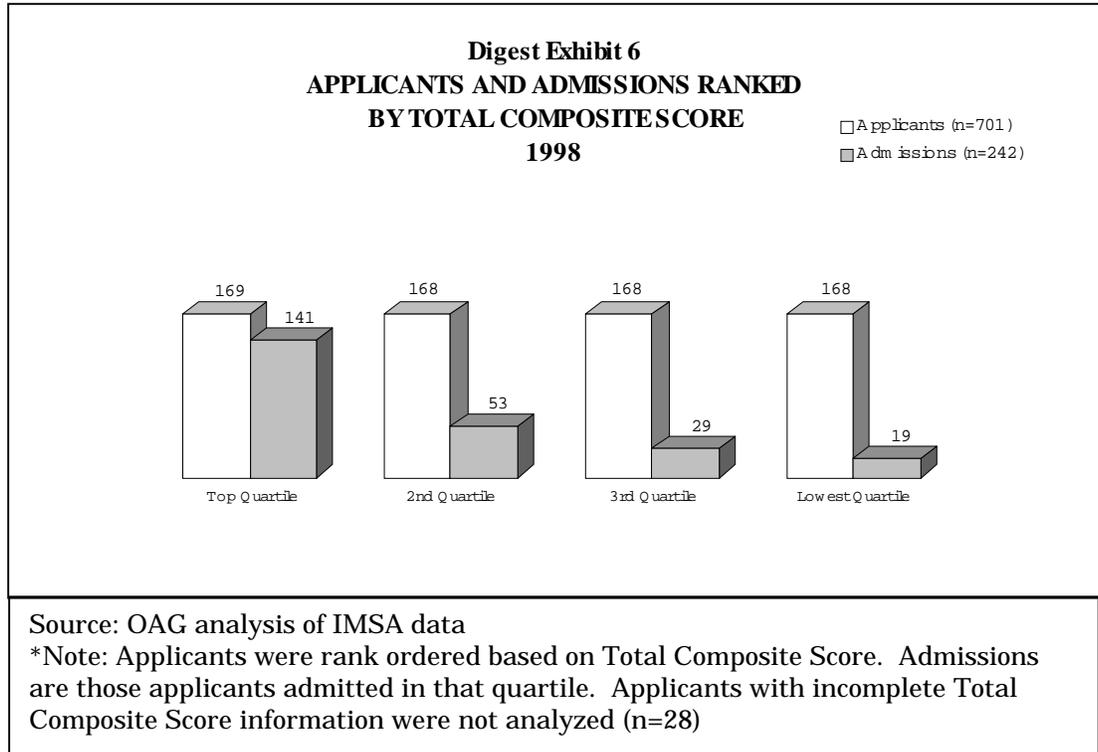
Conversely, other ethnic groups have been underrepresented in the applicant pool and the admitted class, compared to statewide demographics. For example, African Americans have consistently comprised approximately 22 percent of the statewide population of the 9<sup>th</sup> graders. However, they have only comprised between 8 percent and 13 percent of the applicant pool and admitted class. Similarly, Latinos have comprised approximately 3 percent to 4 percent of the applicant pool and 5 percent to 7 percent of the admitted classes in the past three years as compared to 12 percent to 13 percent representation in the State.

In terms of gender distribution, there is almost an even split between male and females in the statewide population, the applicant pool, and the admitted class. (pages 1, 28-31)

**One result of admitting a class with adequate representation is that students with lower total composite scores are admitted over students with higher scores in the second half of the class.**

### Score Distributions for IMSA Applicants and Admissions

One result of IMSA’s attempt to comply with its statutory requirement to admit a class with adequate geographic, ethnic and gender representation is that qualified applicants with lower total composite scores, but who meet one of IMSA’s demographic goals, are admitted to IMSA in the second half of the class over applicants with higher scores but whose demographics are adequately represented.



**In 1998, 143 applicants in the upper half of the applicant pool based on total composite score were not admitted, whereas 48 applicants in the lower half were admitted.**

Digest Exhibit 6 shows the applicant pool and the invited students in categories based on their total composite scores. The total composite score is a computed score that is a combination of 1/3 GPA, 1/3 SAT I and 1/3 Review Committee Rating. In 1998, 143 applicants in the upper half of the applicant pool based on total composite score were not admitted, whereas 48 applicants in the lower half of the applicant pool based on total composite score were admitted.

To determine how successful enrolled students with lower total composite scores were at the Academy, we requested the status of the 10 applicants with the lowest total composite scores invited to the Academy in each of the past 5 years. Of the 50 students, 5 declined IMSA’s invitation. Of the remaining 45, 78 percent (35 of 45) have either graduated or are still attending, 9 percent (4 of 45) withdrew for academic reasons, 7 percent (3 of 45) were sent home for disciplinary reasons, and

7 percent (3 of 45) voluntarily left IMSA. The 78 percent retention rate is lower than IMSA's average overall retention rate of 88 percent over the past five years. (pages 27, 33-35)

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### IMSA OUTREACH

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One purpose of IMSA's outreach effort is to create interest and awareness in the Academy and to have qualified students who are representative of the statewide demographics apply to the Academy. IMSA has both general and targeted outreach programs to attract qualified candidates interested in the Academy. IMSA conducted general outreach programs in all seven of its regions. Informational meetings were held in 53 locations across the State. IMSA's outreach efforts are advertised in newspapers to inform potential participants of the programs available or how to find out more about the Academy. IMSA also conducts a mass mailing of applications to approximately 2,900 public and private schools serving 8<sup>th</sup> and 9<sup>th</sup> grade students in the State.

IMSA's targeted outreach efforts attempt to attract more applicants from underrepresented ethnic groups in the State. Many programs are conducted in the Chicagoland and Metro-East regions. For example IMSA's Early Involvement Program serves minority and economically disadvantaged students and is a Saturday academic program designed to enhance learning, motivation, and study skills.

We recommended that IMSA consider expanding its outreach efforts in regions where significant underrepresented populations are located. (pages 37-41, 45)

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**One purpose of IMSA's outreach is to create interest and awareness in the Academy and to have qualified students who are representative of the statewide demographics apply to the Academy.**

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### HISTORY OF ADMISSIONS BY SCHOOL

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The audit resolution asked us to determine if IMSA has established and implemented procedures to ensure that enrolled students are not consistently selected from specific schools in each of their seven regions.

IMSA is not required to have, and does not have, any policy or guidelines for the number of applicants who can be admitted from any particular school. In the past five years, IMSA has admitted students from 37 percent (403 of 1,094) of Illinois schools serving 9<sup>th</sup> graders in 1998. IMSA also admitted 109 8<sup>th</sup> graders from an additional 66 schools serving 8<sup>th</sup> graders.

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**IMSA is not required to have, and does not have, any policy or guidelines for the number of applicants who can be admitted from any particular school.**

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We noted there were areas of the State where additional targeted outreach by IMSA may be desirable. We recommended that IMSA consider conducting analyses of schools with few applicants and admissions in past years to ensure that current outreach efforts are reaching all potential IMSA applicants. (pages 1, 41, 44-45)

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## RECOMMENDATIONS

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The audit had two recommendations to which IMSA generally agreed. IMSA's responses are included after each recommendation and complete written responses are included in Appendix D of the Audit Report.



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**WILLIAM G. HOLLAND**  
Auditor General

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Chapter One

# INTRODUCTION AND BACKGROUND

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The Legislative Audit Commission adopted Resolution Number 115 on March 2, 1999 (Appendix A). The Resolution directed the Auditor General to conduct a management and program audit of the Illinois Mathematics and Science Academy (IMSA). The Resolution contains the following determinations which will serve as the objectives of this audit:

- Whether IMSA enrollment policies are consistent with and adequately satisfy federal and State requirements set by statute and regulations as to geographic, sexual, and ethnic representations;
- Whether IMSA has established and implemented procedures to ensure that applicants with high academic skills and talents in science are granted equal standing with applicants whose academic skills are in mathematics;
- Whether IMSA has conducted sufficient outreach programs in each of their seven regions to ensure that the number of applications for enrollment received from each region is commensurate with the ninth grade student percentages of the region as part of the state population of ninth grade students;
- Whether a historic review of IMSA admissions indicates sexual, ethnic, and geographic representations commensurate with the ninth grade student demographics in each of their seven regions; and
- Whether IMSA has established and implemented procedures to ensure that enrolled students are not consistently selected from specific schools in each of their regions.

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## REPORT CONCLUSIONS

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Illinois Math and Science Academy was created by Public Act 84-126 in 1985. Statute states that the primary role of the Academy is to offer a uniquely challenging education for students talented in the areas of mathematics and science.

IMSA has written admissions policies and procedures and has an extensive admissions process which is used to select each 10<sup>th</sup> grade class. IMSA's admissions process was originally approved by the Board of Trustees in 1986 when the Academy opened. Since the Academy opened, IMSA officials stated that admissions practices have been modified

so they could more effectively meet their statutory requirements; however, the formal policy was not updated and approved by the IMSA Board of Trustees until January 1999. Therefore, IMSA's actual admissions practices have deviated from Board of Trustees' approved policy for a number of years.

IMSA automatically selects the applicants with the highest total composite scores (which includes applicant's GPA, SAT I, and Review Committee Rating) to comprise the first half of the admitted class. The second half of the class is selected using additional factors, including geographic, gender, and ethnic criteria.

An IMSA official stated that the ultimate goal of the selection process is to have admissions which approximate the demographics of the State; some IMSA directives also state that as its goal. However, IMSA's admissions policy directs that admissions reflect the diversity of the applicant pool. IMSA's applicant pool, mainly in the area of ethnicity, is not representative of statewide demographics.

Many key terms used in the current admissions process are not defined in the newly approved policy. In addition, many of the criteria used during the selection of the second half of the class are not clearly outlined in policy.

A three-year history of IMSA admissions in terms of geographic and gender distributions shows that, while there is some variation, the applicant pool is generally consistent with the statewide distribution of 9<sup>th</sup> graders and with the invited class. The ethnic distribution has the most variation when compared to the statewide population of 9<sup>th</sup> graders. Over the three years reviewed, African Americans and Latinos were consistently underrepresented in the applicant pool and in the invited class when compared to the number of African American and Latino 9<sup>th</sup> graders in the State. Conversely, Asian Americans were consistently overrepresented in both the applicant pool and the invited class when compared to the percent of Asian American 9<sup>th</sup> graders in the State.

One result of IMSA's attempt to comply with its statutory requirement to admit a class with adequate geographic, ethnic and gender representation is that qualified applicants with lower total composite scores, but who meet one of IMSA's demographic goals, are admitted to IMSA in the second half of the class over applicants with higher scores but whose demographics are adequately represented. The total composite score is a computed score that is a combination of 1/3 GPA, 1/3 SAT I, and 1/3 Review Committee Rating.

For example, in 1998, 143 applicants in the upper half of the applicant pool based on total composite score were not admitted, whereas 48 applicants in the lower half of the applicant pool were admitted. However, only 4 of the 45 (9 percent) students admitted to IMSA as one of the last 10 based on total composite score in each of the past five years were sent home for academic reasons. Overall, these 45 students' retention rate was 78 percent compared to IMSA's retention rate of 88 percent over the past five years.

IMSA has outreach programs to attract qualified candidates interested in the Academy. IMSA conducted outreach programs in all seven of its regions. In 1997/1998, IMSA held informational meetings in 53 locations across the State and offered programs for potential applicants at IMSA and in other cities. IMSA also conducted several targeted outreach programs for minorities.

IMSA has targeted some outreach efforts to attract more applicants from underrepresented ethnic groups in the State and should continue outreach efforts in additional areas of the State and towards students who are underrepresented in the applicant pool and invited class.

IMSA does not have any policy or procedures for how many applicants can be admitted from any one particular school nor does its statutory authorization require it. Over the past five years, IMSA has admitted 9<sup>th</sup> grade students from a total of 403 schools, or 37 percent of the schools in Illinois serving 9<sup>th</sup> grade students. IMSA also admitted 109 8<sup>th</sup> graders from an additional 66 schools serving 8<sup>th</sup> graders.

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## BACKGROUND

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The Illinois Mathematics and Science Academy was established by the Illinois General Assembly in 1985 and opened in 1986. Exhibit 1-1 shows IMSA's mission. The Academy is considered a State agency and is funded by State appropriations, private contributions, and endowments.

IMSA is a residential school serving 10<sup>th</sup> through 12<sup>th</sup> grade students. State law dictates that IMSA be located in the Fox River Valley in close proximity to the national science laboratories. There are approximately 650 students enrolled in the Academy.

An IMSA official stated that the Academy operated under the initial organization and admissions procedures established by the original Student Selection committee. The policy was approved by the Board of Trustees. This policy was not revised until January 1999. Chapter 2 discusses the differences between the two policies.

<b>Exhibit 1-1 IMSA MISSION</b>
“To transform mathematics and science teaching and learning by developing ethical leaders who know the joy of discovering and forging connections within and among mathematics, science, the arts, and the humanities by means of an exemplary laboratory environment characterized by research, innovative teaching and service.”
Source: IMSA

Total appropriations for IMSA in Fiscal Year 1999 were \$14,458,600 of which \$13,122,000 were General Revenue Funds. The remainder was provided from the Education Assistance Fund (\$836,600) and the IMSA Income Fund (\$500,000). IMSA is also supported by the IMSA Fund for Advancement of Education which was established

as a separate not-for-profit entity for the purpose of benefiting, performing the functions of, and carrying out certain charitable, educational, literary, and scientific purposes of the Academy.

IMSA makes budget requests through the Illinois Board of Higher Education for the operational and capital needs of the Academy. Tuition and most room and board expenses are provided for all students invited to attend the Academy; however, an annual fee is charged. Sophomore fees for the 1998-99 academic year were \$990. Fee waivers are available to students demonstrating financial need.

According to IMSA staff, IMSA had an average attrition rate of 12 percent over the past five years, meaning that 88 percent of the students who enrolled at IMSA are still attending or have graduated from IMSA. The Academy uses a 20-module block schedule which includes independent and group research, special seminars, features an Inquiry Day. This schedule allows students to participate in symposia, academic consultation with faculty, and mentorship.

**STATUTORY AUTHORIZATION AND REQUIREMENTS**

The Illinois Mathematics and Science Academy was established by Public Act 84-126 in 1985 (105 ILCS 305 et seq.). The Academy opened on September 7, 1986 and graduated its first senior class in 1989.

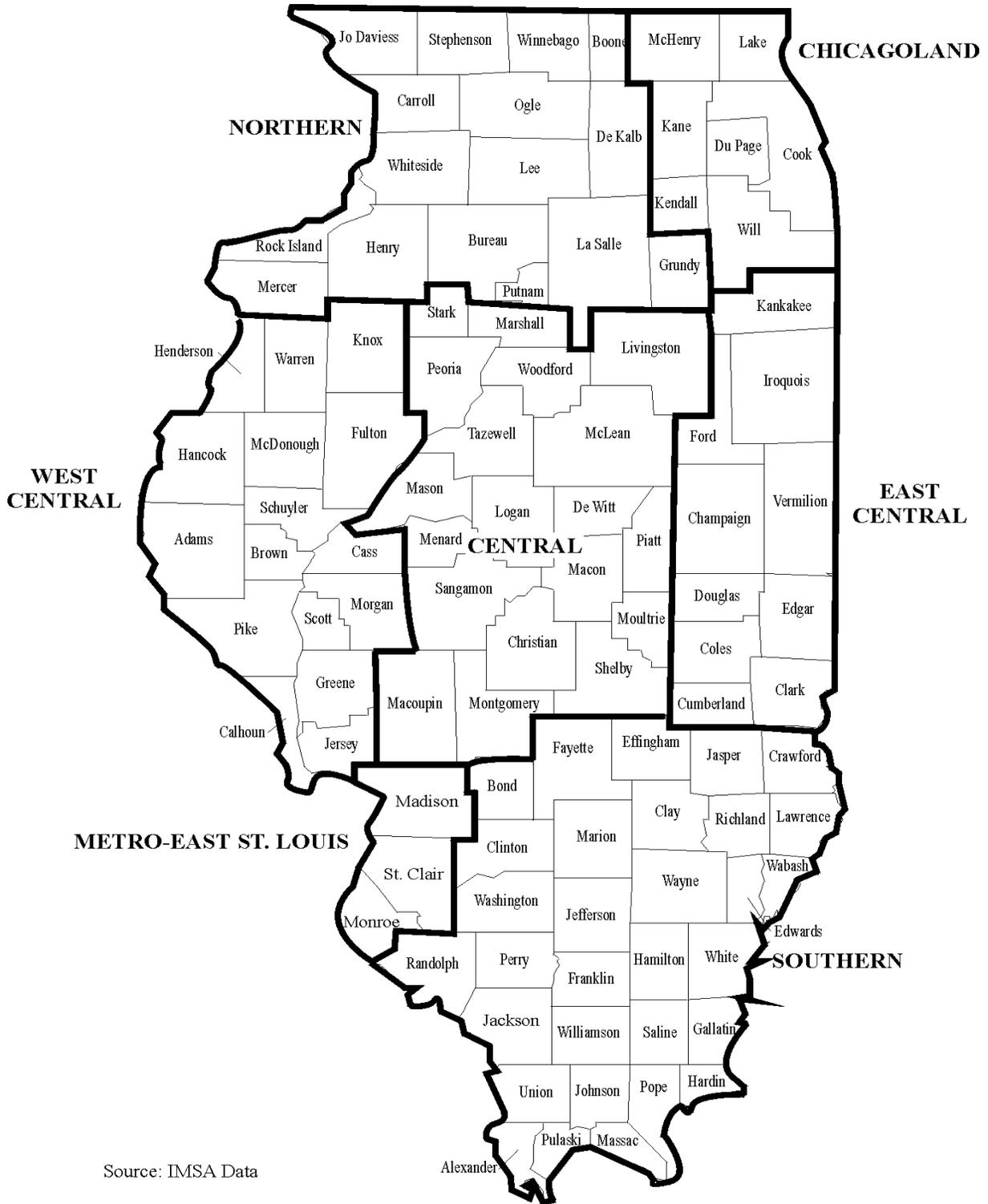
The statute states that “The Academy may admit those students who have completed the academic equivalent of the 9<sup>th</sup> grade and may offer a program of secondary and postsecondary course work. Admission shall be determined by competitive examination.” [emphasis added] (105 ILCS 305/2)

The Board of Trustees (see Exhibit 1-2 for Board members) is directed by statute to, among other things:

- (1) Adopt rules, regulations, and policies necessary to the efficient operation of the school.
- (2) Establish criteria to be used in determining eligibility of applicants for enrollment. Such criteria shall ensure adequate geographic, sexual and ethnic representation. [emphasis added] (105 ILCS 305/4)

<b>Exhibit 1-2 IMSA BOARD OF TRUSTEES</b>
<ul style="list-style-type: none"> <li>• Four ex officio nonvoting members who shall be: the State Superintendent of Education, Executive Director of the Illinois Community College Board, Executive Director of the State Board of Higher Education, and the Superintendent of Schools in the school district in which the Academy is located.</li> <li>• Three Representatives of Secondary Education, one of whom must be a math or science teacher, appointed by the State Superintendent of Education.</li> <li>• Two Representatives of Higher Education, one of whom must be a Dean of Education, appointed by the Executive Director of the Illinois Board of Higher Education.</li> <li>• Three representatives of the scientific community in Illinois appointed by the Governor.</li> <li>• Three representatives of the Illinois private industrial sector appointed by the Governor.</li> <li>• Two members representative of the general public at large appointed by the Governor.</li> </ul>
Source: 105 ILCS 305/3

Exhibit 1-3  
Map of IMSA Regions



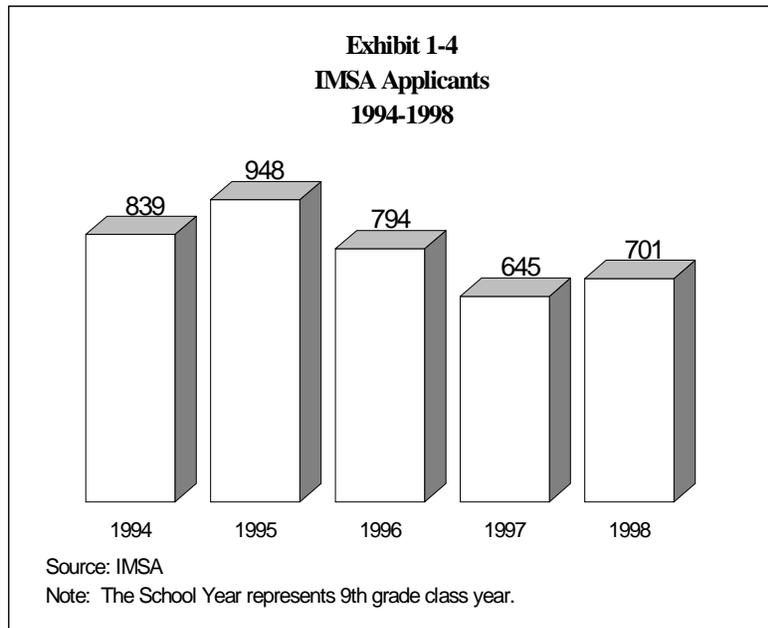
Source: IMSA Data

## IMSA APPLICANTS

Applications to IMSA are received from across the State. IMSA outreach efforts are directed at all areas of the State. IMSA divided the State into the seven regions, defined by county lines, shown in Exhibit 1-3, to help them monitor outreach and enrollment distribution of students.

IMSA admits approximately 230 - 240 new students each year in its 10<sup>th</sup> grade class. Exhibit 1-4 shows that in the last five years the number of applications received has dropped from a peak year in 1995. To determine if the decrease was significant, IMSA developed a task force to identify the reasons why the Academy's applicant pool had declined from past years. In conducting this study, IMSA administered a student survey, developed two parent focus groups - one in Springfield and one in Chicagoland, reviewed the demographic make-up of past applicant pools and admitted students, studied the prior GPAs and applicant portfolio ratings of past applicant pools and admitted classes, and reviewed the content of outreach informational meetings.

The results of the task force study indicated that the drop in the number of IMSA applicants was not problematic at that time; however, if the 1998 applicant pool also declined, then further study would be necessary. The study also indicated that the pool of students applying, being invited to attend, and accepting the invitation to attend, was unchanged in terms of prior GPAs and applicant portfolio ratings.



As a result of the task force recommendations, IMSA made changes to its outreach efforts. Changes included expanding the regional informational meeting schedule to include some suburban sites that had been cut in recent years, having parents of current students attend the regional informational meetings, and developing an academic program 4-page piece to summarize course offerings, graduation requirements, test scores, and college placements.

From the 1998 graduating class of 200 students, 86 graduates enrolled in Illinois colleges and universities and 114 graduates enrolled in schools outside of Illinois.

### **Other Math and Science Schools**

In 1988, IMSA and three similar schools (North Carolina School of Science and Mathematics, the Thomas Jefferson High School for Science and Technology in Virginia, and the Louisiana School for Math, Science and the Arts) formed an alliance which developed into the creation of the National Consortium for Specialized Secondary Schools of Mathematics, Science and Technology (NCSSSMST). In 1992, NCSSSMST was formally incorporated and attained non-profit status. Two representatives of IMSA were on the 1997/1998 NCSSSMST Board of Directors, one of who was the president. NCSSSMST has 57 member schools from 23 states.

The National Consortium's goal is to foster, support and advance the efforts of those specialized schools whose primary purpose is to prepare students for leadership in mathematics, science, and technology.

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## **AUDIT SCOPE AND METHODOLOGY**

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This audit was conducted in accordance with generally accepted government auditing standards and the audit standards promulgated by the Office of the Auditor General at 74 Ill. Adm. Code 420.310.

The audit's scope encompassed IMSA admissions and outreach process over the past five school years focusing mainly on the past three years and particularly on 1998. The audit's objectives are specified in the Resolution which called for an examination of the admissions process in accordance with the Academy's statutory requirements. In addition, the Resolution called for an examination of other aspects of the admissions process including outreach efforts and a history of IMSA's applicant pool and admissions by IMSA region.

The admissions data presented in this audit are the students originally invited to the Academy through the selection process. For purposes of this audit, the term admit(ted) refers to this group of students. This presentation best measures IMSA's admissions policy and compliance with its statutory mandate for adequate gender, geographic, and ethnic representation in the class. The class of students who actually attend the Academy may deviate from the original invited class because not all applicants receiving an invitation decide to attend the Academy. In those cases, applicants on the waitlist are then invited.

We reviewed the composition/diversity of the class of students actually enrolling in the Academy over the past five years and compared their distributions to that of the invited students. We found that the gender, geographic and ethnic distributions were generally consistent with one exception. The size of the class entering the Academy in the fall of 1998 was approximately 20 students higher than was originally planned. An error, not caused by the admissions office, resulted in all students on the waitlist being invited to

the Academy. Even with the extra students, the demographic distribution of the class was still generally consistent with the invited class of students.

We interviewed representatives of the Illinois Mathematics and Science Academy. We observed both the Review Committee and the Selection Committee processes for the IMSA class entering in the fall of 1999. We reviewed IMSA admissions policy and procedures. We surveyed 14 other schools similar to IMSA and compared their admission procedures and criteria to IMSA's. We obtained data on IMSA applicants, invited students, and enrollment for the past five years and conducted analyses of the data for compliance with State laws, as well as geographic, gender, and ethnic distribution across the State. We also obtained five years of demographic data on 9<sup>th</sup> grade students in public schools from the State Board of Education (SBE). The SBE provided only the number of ninth graders in each private school reporting to them; the SBE could not provide demographic data on 9<sup>th</sup> grade private school students. Also, IMSA's data included two more classifications (Bi-Cultural, and Other) than did the information from the State Board of Education. We also reviewed the outreach efforts of the Academy to help determine compliance with statutory requirements.

We tested the accuracy of IMSA data by comparing a sample of the information in the databases to the information in the hardcopy files at IMSA. In addition, for the same files we verified the accuracy of the GPA and total composite score calculations.

We assessed risk by reviewing prior OAG audits of IMSA, management controls over the admissions process, IMSA internal documents, admissions policy and procedures, and observed the selection process for the sophomore class entering IMSA in the fall of 1999. Compliance with statutory requirements was also significant to the audit objectives and was reviewed as a part of this audit. The most significant statutory requirements in this audit are that the IMSA Board of Trustees shall develop criteria in determining the eligibility of applicants for enrollment which shall ensure adequate geographic, gender, and ethnic representation and that admissions shall be based on competitive examination.

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## REPORT ORGANIZATION

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*Chapter Two* examines IMSA policy and procedures for admissions and compares them to other states' schools.

*Chapter Three* examines the history of the IMSA applicant pool and invited class demographics.

*Chapter Four* examines IMSA outreach efforts.

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Chapter Two

# **IMSA ADMISSIONS POLICY AND PROCEDURES**

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## **CHAPTER CONCLUSIONS**

IMSA has written admissions policies and procedures and has an extensive admissions process that is used to select each 10<sup>th</sup> grade class. IMSA's admissions procedure was originally approved by the Board of Trustees in 1986 when the Academy opened. Since the Academy opened, IMSA officials stated that admissions practices have been modified so they could more effectively meet their statutory requirements; however, the formal policy was not updated and approved by the IMSA Board of Trustees until January 1999. Therefore, IMSA's actual admissions practices have deviated from Board of Trustees' approved policy for a number of years.

IMSA automatically selects the applicants with the highest total composite scores (which includes applicant's GPA, SAT I, and Review Committee Rating) to comprise the first half of the admitted class. The second half of the class is selected using additional factors, including the geographic, gender, and ethnic criteria.

An IMSA official stated that the ultimate goal of the selection process is to have admissions which approximate the demographics of the State; some IMSA directives also state that as its goal. However, IMSA's admissions policy directs that admissions reflect the diversity of the applicant pool. IMSA's applicant pool, mainly in the area of ethnicity, does not approximate statewide demographics.

Many key terms used in the current admissions process are not defined in the newly approved policy. In addition, many of the criteria used during the selection of the second half of the class are not clearly outlined in the policy.

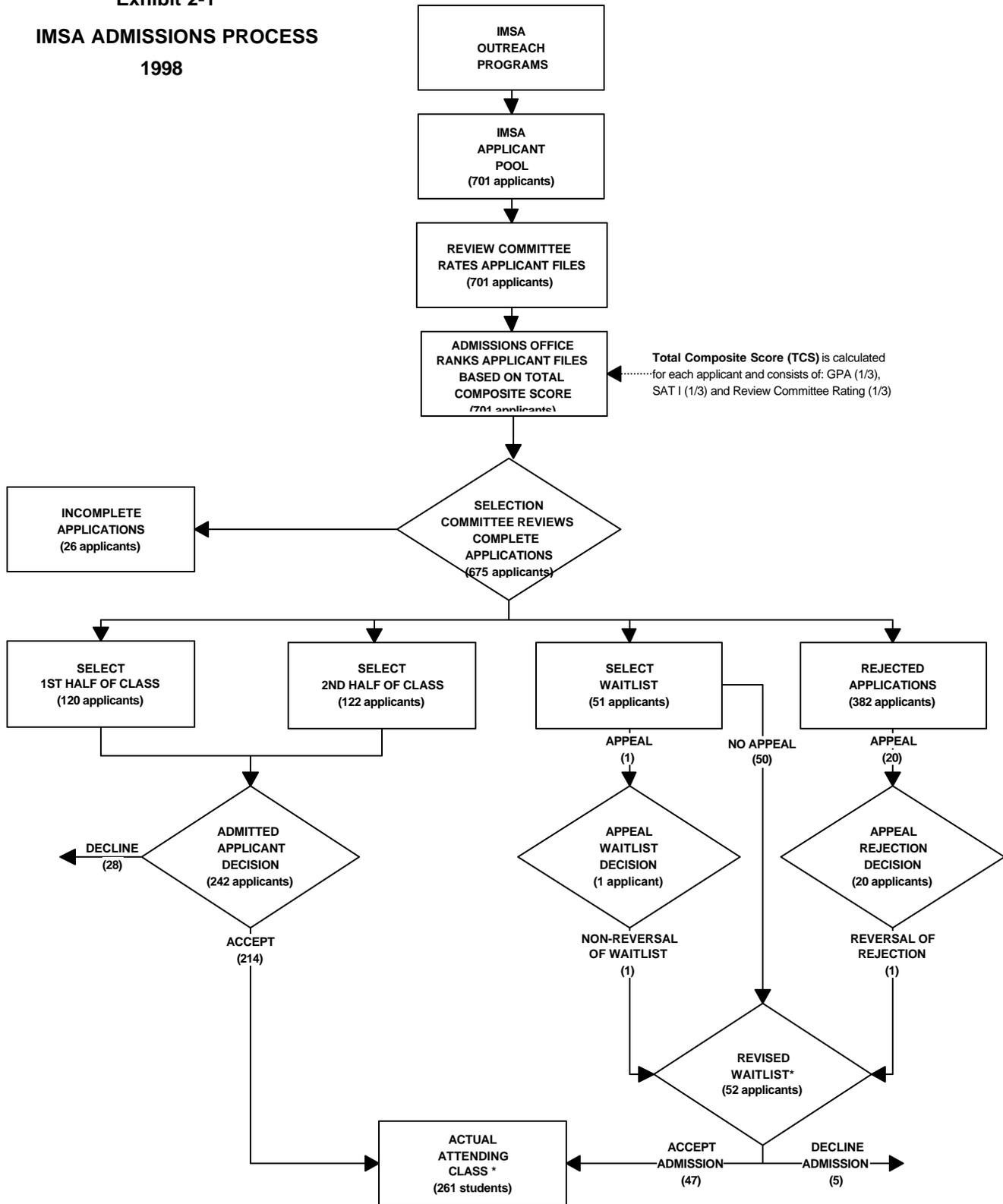
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## **IMSA APPLICATION AND ELIGIBILITY**

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Exhibit 2-1 depicts the flow of the admissions process beginning with IMSA conducting outreach programs to encourage students to apply to the Academy and ending with the students who actually attend the Academy. For purposes of this report, we will focus on the group of students who are extended invitations to the Academy. This group best measures the direct results of the admission process before invitations to attend the Academy are rejected and IMSA uses the waitlisted students to fill the vacated spots.

**Exhibit 2-1**  
**IMSA ADMISSIONS PROCESS**  
**1998**



Source: OAG analysis of IMSA data

Note: \* In 1998, due to administrative error, all waitlisted applicants were invited to attend, resulting in an attending class size of 261 rather than the projected 242. In other years, the number of waitlisted applicants extended offers replaced applicants from the 1st half and 2nd half of the class who declined the invitation to attend IMSA.

To be eligible to attend the Academy, students must be Illinois residents who have completed the equivalent of nine years of education, excluding preschool and kindergarten, and not be currently enrolled beyond the ninth grade. Illinois residency must be established by the start of the school year.

IMSA’s application is extensive and requests demographic information; SAT I information; student essays; counselor/principal evaluations; and math, science and English teachers’ evaluations (See Appendix B).

Completed applications must be postmarked by March 1<sup>st</sup> each year. An IMSA official stated that the number of qualified applicants always exceeds the number of slots open in the 10<sup>th</sup> grade class. According to IMSA policy, applicants who are not admitted as 10<sup>th</sup> graders cannot apply again (i.e., IMSA does not accept applications for 11<sup>th</sup> and 12<sup>th</sup> grade).

One section of the application asks the students to identify their ethnicity. Exhibit 2-2 shows the different ethnicity choices the students have along with the ancestral origin each represents.

<b>Exhibit 2-2 IMSA ETHNIC CODES</b>	
<b>Ethnic Group</b>	<b>Ancestral Origin</b>
American Indian or Alaskan Native	North America and maintaining cultural identification through tribal affiliation or community recognition
African American	Any of the black racial groups of Africa
Asian or Pacific Islander	Far East, Southeast Asia, Indian subcontinent, Pacific Islands including China, Japan, Korea, the Philippine Islands, and Samoa
Latino	Mexican, Puerto Rican, Cuban, Central or South America, or other Spanish ancestral origin regardless of race
White	Europe, North Africa, or the Middle East
Bi-Cultural	Application asks student to specify from above.
Source: IMSA Application for Admission	

IMSA statutes and admissions policy allows the admission of students with the academic equivalent of 9<sup>th</sup> grade education. While IMSA’s policy does not define the qualifications for the “academic equivalent of 9<sup>th</sup> grade,” their practice has been to admit 8<sup>th</sup> graders with specific course patterns (math and science) into the sophomore class. In past years, approximately 25 percent of the applicant pool consisted of 8<sup>th</sup> graders.

### **Criteria Used in the Selection Process**

After March 1 of each year, IMSA staff creates files for each applicant and conducts a file audit to ensure all necessary documentation has been submitted by either the student or their school. A checklist is included in each file to note any missing items. Information on each student is then entered into the IMSA database.

IMSA's admissions policy, approved by the Board, establishes certain criteria that are to be reviewed in determining whether an applicant will be selected for admission to the Academy (Appendix C). IMSA ranks each applicant based on a total composite score which is based on three equally weighted components: (1) SAT I scores, (2) Grade Point Average, and (3) Review Committee Rating.

**SAT I Scores (1/3)** - Students must take the SAT I test which is used by the Academy in the admissions process. The Educational Testing Service administers the test to prospective college students on multiple dates at many sites across the State each year. IMSA also administers an institutional SAT I testing program at 35 sites around the State each year. The test must be taken prior to March 1<sup>st</sup> in the academic year prior to the year for which they are applying.

According to IMSA literature, SAT I scores are an estimate of developed abilities in verbal and mathematics reasoning, which is moderately correlated with future grades and is related to an individual's previous opportunity to learn. IMSA literature also states that scores cannot be interpreted to be precise or perfect measures of intellectual ability.

**Grade Point Average (1/3)** - Applicants are required to submit transcripts of their schoolwork for the 2 ½ years prior to application. For most students, this includes 7<sup>th</sup>, 8<sup>th</sup> and first semester 9<sup>th</sup> grade marks. To reduce some of the variability in grade point averages from school to school, IMSA staff re-compute each applicant's grades into a commonly defined GPA, using the same subjects and time frame for the computation. Specifically, English, mathematics, and science grades are included for the five semesters preceding application to IMSA. According to IMSA policy, no extra weight is given to honors or accelerated coursework because of the district-to-district differences in honors course opportunities.

**Review Committee Rating (1/3)** - Each student file is evaluated by one of several Review Committee teams consisting of three or four individuals.

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## REVIEW COMMITTEE EVALUATION

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The Review Committee evaluates each student file. In 1999, the Committee consisted of 76 members divided into 22 teams of three to four members. These members were educators (30), business people from throughout Illinois and others (19), or IMSA staff members (27).

The Review Committee meets at IMSA for a two-day period. Applicant files are divided and distributed to the Committee teams for evaluation. Review Committee teams evaluate the entire application file with the exception of the SAT I scores and GPAs. The review teams evaluate student essays which describe themselves, describe a stressful situation, describe their interest in math and science, and describe an ethical decision they had to make. They also consider math, science, and English teacher recommendations,

and extracurricular activities. Each team member is required to read every file assigned to the team, take notes, and score the applicants in five areas. The team then discusses the individual applicants and develops the team's scores in each of the same five areas. Team scores are recorded and remain in the applicant files. Training on file evaluation is held for both new and returning Committee members.

The five dimensions used to rate applicants are:

- potential for mathematics reasoning
- potential for scientific reasoning
- communication skills
- interpersonal relations, and
- skill application.

The rating (20 to 80) is a combination of these five evaluations. Information provided to Review Committee members about how to score candidates states that students evaluated in the 20-40 point range generally were judged not to be appropriate candidates for IMSA. Students scoring 70-80 points were judged to be very strong candidates and those scoring 50-60 points are students who could greatly benefit from the IMSA experience.

Instructions to the Review Committee suggests the following questions for consideration as they review the files:

*Did the applicant take advantage of the resources of the community?  
Is there evidence that the student is willing to take on challenges?  
Remember that taking a 4-H sewing project to the State Fair requires long term commitment to a difficult task in a way similar to the development of a science fair project.*

*Has the student demonstrated a commitment to achievement "out of proportion" to the environmental supports available to him or her?  
Overcoming barriers such as poverty, family crises, non-native English speaker, physical disabilities, frequent changes in residency are examples of ways a student might achieve "out of proportion" to expectations.*

*Does the file have integrity? Do all parts of the application fit together?  
Are the comments by the individual evaluators consistent? If not, look carefully at the inconsistencies and try to determine why there are differences.*

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## CLASS SELECTION

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The next part of the admissions process is the selection of the students to be invited to the Academy. Those invited in the first one half of the class are chosen based on a combination of the three different factors: SAT I, GPA, and Review Committee Rating. Each of the three scores are combined to determine a “total composite score” which is used to rank the student applicants. IMSA gives equal weight to the three scores in determining the composite: 1/3 SAT I score, 1/3 GPA, and 1/3 Review Committee Rating.

Once all applicants have been ranked using the “total composite score,” a Selection Committee meets to identify the students that will be extended invitations to the Academy. The Committee consists of 11 voting IMSA staff. Over a four-day period, the Selection Committee identifies the qualified candidates from the applicant pool, identifies the first half of the class, and selects the second half of the class.

IMSA admissions policy states that applicants are ranked numerically in accordance with their total composite scores. To select the first half of the class, the Selection Committee selects the applicants with the highest numerical rank of total composite score. The first half of the class is approximately 120 students.

In selecting the second half of the class, each applicant file is presented to the Selection Committee by one of the Admissions Counselors to determine whether or not the applicant is qualified for admission. According to IMSA’s admissions policy, only applicants who are qualified for admission will be considered by the Selection Committee in selecting the second half of the class. In our observations, the qualification process narrowed the applicant pool by approximately 100 applicants.

Before the second half of the class is selected, IMSA evaluates the demographic make-up of the first half of the class in terms of ethnicity, geographic location, and gender. The IMSA Admissions Director also sets “goals” for the number of applicants to be invited to IMSA. The “goals” are a calculation of the percentage of applicants meeting each demographic characteristic in the applicant pool applied to the number of students in the final class (i.e., for the geographic location, if the North Suburban region represented 15 percent of the applicant pool and the desired class size is 240, then the goal for admission from that region would be  $240 \times .15$ , or 36).

When selecting the second half of the class, the Selection Committee sorts the qualified candidates into 18 regions defined by zip codes. The 18 regions are identified in Exhibit 2-3 along with the zip codes assigned to each region.

The Selection Committee discusses each applicant by zip code region to determine whether to leave the applicant in the pool or to eliminate the applicant. Because all applicants are qualified at this stage, the procedure is actually more a process of elimination rather than selection. The Selection Committee may have to cycle through

the 18 zip code regions several times before enough candidates have been eliminated to bring the pool down to the desired class size.

In the process of eliminating candidates, IMSA considers many characteristics of the student revealed in their applicant file. Exhibit 2-4 shows the items contained in an applicant file at the time the Selection Committee is making its decisions.

IMSA provided the following guidance to the Selection Committee to determine whether or not a student should be eliminated from the applicant pool:

- Does the student demonstrate exceptional talent or potential for exceptional talent in the areas of mathematics and science?
- Has the student completed the “equivalent of the 9<sup>th</sup> grade”?
- Does the student demonstrate a potential for future leadership?

<b>Exhibit 2-3 IMSA SELECTION COMMITTEE ZIP CODE REGIONS</b>	
<b>REGION</b>	<b>FIRST THREE DIGITS OF ZIP CODE</b>
1. North Suburban	600-603
2. South Suburban	604-605
3. Chicago	606-608
4. Kankakee	609
5. Rockford	610-611
6. Rock Island	612
7. LaSalle	613
8. Galesburg	614
9. Peoria	615-616
10. Bloomington	617
11. Champaign	618-619
12. East St. Louis	620-622
13. Quincy	623
14. Effingham	624
15. Springfield	625-627
16. Centralia	628
17. Carbondale	629
18. Out-of-State	N/A
Source: IMSA Selection Committee 1999	

- Has the student demonstrated a pattern of ethical decision making?
- Is “interesting” behavior described in the applicant’s file consistent with what we know about *gifted* learners?

<b>Exhibit 2-4 DOCUMENTS IN APPLICANT FILE</b>	
File Audit Checklist	Transcripts
Application for Admission	GPA Calculation Sheet
Counselor/Principal Form	SAT I Report
Mathematics Teacher Form	File Audit Letter
Science Teacher Form	Individual Review Worksheets
English Teacher Form	Team Review Summary
	Decision Letter
Source: IMSA	

- Is it reasonable to expect this applicant will be successful in the IMSA program, recognizing the institution’s responsibility to provide support for unique needs of individual learners?

- In the event choices must be made between students of equal ability and motivation, is it possible to determine the degree to which the student’s talent can or will be developed at the home school versus IMSA?

**Waitlist**

During the final Selection Committee session, a waitlist of students for possible admission to the Academy is developed. The waitlist is used in the event any of the original class of students do not attend. Students are selected from the waitlist for admission based first on institutional capacity (if a room in the female dorm opens up, then IMSA would select a female replacement). After gender, and depending on the timing of the waitlist decision, the following factors are considered: student total composite scores, broad geography to replace the student not attending (not necessarily zip code region but rural for rural, or suburban for suburban), scores on placement tests taken by both invited and waitlisted students, and scheduling requirement of student (especially late in the summer).

IMSA enrolls waitlisted students until the move-in day in the fall. According to an IMSA official, approximately 40-50 students are placed on the waitlist and about 50 percent of the waitlisted students are eventually admitted to the Academy.

### **Appeals Process**

IMSA's admissions policy states that students placed on the waitlist or denied admission may appeal the decision. The decision is reviewed by the Appeal Committee which may uphold, reverse, or modify the Selection Committee's decision. According to an IMSA official, there are approximately 20-30 appeals requested and 1-2 reversals each year. The Appeals Committee is composed of IMSA staff who are not directly involved in the review and selection process, but know the process well enough to review the applicant file. An IMSA official said that the appeals process is used to review whether or not the student received adequate consideration for admission and not to determine whether the student was qualified for the Academy.

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## **ADEQUACY OF IMSA ADMISSIONS POLICY**

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IMSA's admissions policy was originally approved by the Board of Trustees in 1986 when the school opened. Over the years, IMSA officials stated that admissions practices have been modified so they could more effectively meet their statutory requirements; however, the formal policy was not updated and approved by the IMSA Board of Trustees until January 1999. Therefore, IMSA's actual admissions practices have deviated from Board of Trustees' approved policy for several years. In addition, many terms and criteria used in current admissions are not defined in the newly approved policy.

### **Comparison of Old and New Admissions Policies**

There are similarities between IMSA's original admissions policy and the new policy adopted in January 1999. Appendix C contains a copy of the new policy. For example, both policies require the admission of the first half of the class based on a competitive rank, and the second half based on qualifications and demographic considerations. Also,

both policies use SAT and GPA scores, teacher recommendations, and certain student characteristics and traits in the selection process.

There are, however, several major differences between IMSA’s old admissions policy and the admissions policy adopted by the Board in January 1999. The major differences are:

- The new policy addresses demographic representation by having the admissions decisions approximate the diversity of the **applicant pool**. The old policy did not require admissions to reflect the applicant pool.
- The old policy limited the number of candidates from the applicant pool that would be considered for admission, whereas the new policy is more general, saying only that “qualified” applicants will be considered for admission. Under the old policy, the size of the candidate pool was twice the size of the class to be admitted. For example, if there were 800 applicants, and the size of the class to be admitted was 220, the candidate pool would be the 440 students with the highest total composite scores. Under IMSA’s new policy, all qualified applicants out of the 800 would be considered for admission.
- Both policies require the admission of the first half of the class purely on the basis of applicants with the highest total composite score. The old policy fills the second half of the class by drawing “from the remaining candidate pool those students whose **competitive ranking** will permit the Board to best meet its statutory obligation to assure adequate representation” (emphasis added). Under the new policy, competitive ranking is only one factor considered. As discussed later in this chapter, more subjective criteria, such as the student’s home environment or whether a student has taken advantage of all opportunities at his or her current school, go into selecting students for the second half of the class.
- The original policy did not discuss the Review Committee and the Selection Committee separately as two distinct groups of people. In the January 1999 policy, the Review Committee and the Selection Committee are described as separate and distinct groups of participants.
- The old policy specifically targeted gifted and talented children for admission (those eligible for support under Article 14.A of the School Code and defined in Exhibit 2-5). The new policy does not discuss this target group but instead discusses offering a “challenging education for students talented in mathematics and science.”

<b>Exhibit 2-5 GIFTED AND TALENTED CHILDREN</b>
<p>“..means children whose mental development is accelerated beyond the average or who have demonstrated a specific aptitude or talent and can profit from specially planned educational services to the extent they need them. The term includes children with exceptional ability in academic subjects, high level thought processes, divergent thinking, creativity and the arts.”</p>
<p>Source: 105 ILCS 5/14A-2</p>

### Consistency of New Policy with Statutes

Statutes require admissions based on competitive examination. The IMSA Board of Trustees is also required by statute to establish criteria to be used in determining eligibility of applicants for enrollment. These criteria are to ensure adequate geographic, sexual, and ethnic representation.

Regarding the statutory requirement that admissions be competitive, IMSA's policy dictates that the first half of the admitted class be selected by inviting the students with the highest total composite scores (which includes SAT I, GPA, and Review Committee Rating). The selection of the first half is competitive based on these three factors. The selection of the second half of the class is also competitive, although the applicants with the highest total composite scores may not be selected. Given the statutory requirement that admissions should ensure adequate demographic representation, the applicants are evaluated against each other with their demographic attributes taken into consideration.

State law requires that eligibility criteria established by the Board shall ensure “**adequate** geographic, sexual, and ethnic representation” (emphasis added). An IMSA official stated that the ultimate goal of the selection process is to approximate the demographics of the State. The original IMSA admissions policy noted that a fact sheet regarding the Governor's Illinois Math and Science Academy Initiative stated “the student population will be selected to approximate the demographics of Illinois.”

IMSA's admissions policy, however, directs that admissions reflect the diversity of the applicant pool. The “Geographic, Gender, and Ethnic Representation” section of IMSA's admissions policy (Appendix C) states that IMSA will “ensure adequate geographic, gender, and ethnic representation in admission decisions by approximating the diversity of the **applicant pool**” (emphasis added). Except for gender, IMSA's admissions practice appears to follow this general policy; the “goals” established during the admissions process reflect the demographics of the applicant pool. For gender, IMSA's goal is 50 percent male and 50 percent female. The gender composition of the applicant pool closely approximates the 50 percent split, with the largest variation over the past three years occurring in 1997, when 53 percent of the pool was male and 47 percent was female.

In materials distributed to its Selection Committee, IMSA noted that the goals it establishes in the selection process are:

*...goals only and do not imply quotas. In fact, our true goal is to achieve appropriate representation of state demographics. We will continue our practice of admitting only those students who we believe are capable of completing the IMSA program and will not admit students to meet arbitrary enrollment levels.*

The issue of ensuring adequate demographic representation, and specifically establishing demographic goals and quotas in school admissions, has been the subject of litigation in recent years. According to an IMSA official, IMSA's admissions policy has not been legally challenged. However, other schools' admission policies which incorporated demographic goals or quotas have been challenged.

One of the most publicized challenges occurred in Boston, Massachusetts. One of Boston's public schools, the Boston Latin Academy, has been involved in two lawsuits concerning its admission practices. The first was in 1995 and involved a white female who was denied admission. Prior to the 1995 lawsuit, the school reserved 35 percent of its student body for minorities (African American and Latino students). The Boston Exam schools agreed to revise this policy and the case was dismissed. The revised policy reserved half of the seats in the "exam schools" for students with the highest test scores. The other slots were filled through a system that considered both test scores and race.

A second lawsuit was filed in 1998 and was similar to the first lawsuit. In May 1998, the U.S. District Court upheld the revised Boston Latin School's admissions policy; however, that decision was overturned by the U.S. Circuit Court of Appeals. The Boston Public School Committee voted not to appeal the 1998 decision. In complying with the Appeals Court decision, for the 1999-2000 school year, candidates were invited to attend the Boston Exam Schools by merit only without regard to race. According to an official, this admissions policy is currently under review and, therefore, may change for the following school year.

### **Clarification of Selection Criteria**

The Board's admissions policy contains certain selection criteria (such as SAT I and GPA scores). It also lists other factors that will be taken into consideration in the selection process (such as the strengths of the individual applicants and the demographics of the applicant pool). We did conclude, however, that the policy could be further clarified regarding certain selection criteria. This would help ensure that the actual selection process is consistent with statutory requirements and the Board's policy.

Many of the terms used in the admission process have not been defined in the recently approved admissions policy. In addition, some criteria used to choose the second half of the class are not documented in the new policy. According to IMSA staff, the same criteria have been used in past years' selection processes.

### **Terms Not Defined in New Policy**

Statutes and policy state that IMSA may admit students with the "academic equivalent of 9<sup>th</sup> grade." IMSA's admissions policy does not define the core requirements that constitute the academic equivalent of a 9<sup>th</sup> grader. Such a definition is critical given that IMSA admits 8<sup>th</sup> grade students. Without clearly defining the academic equivalent of a

9<sup>th</sup> grader, it is difficult to determine whether an admitted 8<sup>th</sup> grader was truly qualified for admission.

In addition, the new policy does not describe which qualifying 8<sup>th</sup> graders will be admitted. In our observation of the selection process from the 1999 applicant pool, an IMSA official made the decision to only admit 8<sup>th</sup> graders if they were in the first half of IMSA's admitted class. An IMSA official said this decision was made because 8<sup>th</sup> grade applicants have the opportunity to apply the next year. The IMSA official also stated the number of 8<sup>th</sup> graders in the first half of the class was larger than any previous year (32). The 1999 Selection Committee's decision not to admit 8<sup>th</sup> graders in the second half of the class eliminated 135 8<sup>th</sup> graders from the selection pool. Given the importance of the decision not to admit any 8<sup>th</sup> graders in the second half of the class, IMSA's admissions policy should specifically address how 8<sup>th</sup> grade applicants will be handled during the selection process.

The new policy states that only applicants who are "qualified" will be considered by the Selection Committee in selecting the class. However, IMSA's admissions policy does not define a "qualified" candidate, and there are no documented formal criteria used to determine if an applicant is qualified. However, based on our observation of the selection process, some determining factors for students who were judged not to be "qualified" included:

- The applicant stated they did not like math and grades indicated they were not strong in science.
- The applicant had a low GPA (under 3.0) and no compelling reason to support a drop in grades.
- The applicant had an incomplete file, such as no SAT I scores or no transcripts.
- The applicant had low SAT I and GPA scores and had an average interest in math and science.
- Eighth grade applicants had only general science classes and did not have a full year of Algebra I.

Additional policy guidelines such as establishing a minimum SAT I, GPA, Review Committee Rating, or total composite score would provide additional guidance to both the Selection Committee and applicants, as well as help ensure that the students being admitted to IMSA meet the Board's understanding of "qualified."

As discussed earlier in this chapter, we found that IMSA uses "goals" to monitor its progress towards geographical, sexual and ethnic representation required in statutes. These goals represent the number of students needed in the invited class to approximate the demographics of the applicant pool. The process of establishing or implementing goals is also not addressed in the admissions policy.

Another item not included in IMSA's new policy concerns the 18 zip code areas IMSA uses in the selection process. IMSA uses the more commonly known seven regions which are based on county lines for external reporting purposes.

Finally, IMSA does not define the composition of either the Review Committee or the Selection Committee in their policy. Including such definitions would ensure that the composition of the Committees are consistent with the Board's policy.

### **Some Selection Criteria or Factors Not Addressed in Policy**

Although some of the selection criteria for the second half of the class are addressed in the new admissions policy, we noted in our observation of the 1999 selection process additional criteria or factors that were also considered in the selection process. The answers to the following questions helped the Selection Committee determine whether to eliminate the candidate or leave them in the pool.

1. In what math and science course is the applicant currently enrolled? Will the applicant run out of math and science classes and/or opportunities to advance in math and science at their school?
2. What was the applicant's class rank?
3. If the GPA is low, was there a contributing reason (i.e., a home situation or environment)? Has the student been able to maintain a good GPA despite a difficult home situation?
4. What language is spoken at home? Did this have an effect on the SAT I verbal score?
5. What is the quality of the applicant's home school and what resources/opportunities does the school have in math and science?
6. Did the student attend an IMSA outreach program and if so was there a recommendation to admit the student?

The selection of the second half of the class is more subjective than the first half and involves judgment by the Selection Committee. Exhibit 2-6 lists selection criteria contained in IMSA’s admissions policy. The policy does not prioritize criteria used in the selection of the second half of the class. Since this portion of the process is more subjective, IMSA should more clearly state the relative importance of these criteria.

<b>Exhibit 2-6 IMSA POLICY – STUDENT SELECTION</b>
<p>“In order to ensure adequate geographic, gender, and ethnic representation, in selecting the second half of the class the Selection Committee considers the applicants’ rankings, the demographics of the selected class thus far, the demographics of the applicant pool, the demographics of the State of Illinois, and the strengths of the individual applicants.”</p>
<p>Source: IMSA Admissions Policy</p>

Providing more details on the selection criteria in the admissions policy would allow the Board of Trustees to be ensured that the actual practice of admissions is implemented as the Board intended and meets statutory requirements. Also, because IMSA cannot admit all applicants, some unsuccessful candidates appeal their decision and question the selection process. A more detailed description of the selection criteria and process in the admissions policy may help clarify for unsuccessful applicants why they were not selected.

<b>ADMISSIONS POLICY</b>	
<b>RECOMMENDATION</b>  <b>1</b>	<p><i>The Illinois Mathematics and Science Academy’s Board of Trustees should periodically review and update its admissions policy, define all pertinent terms and criteria used in the selection process in the policy, and should consider prioritizing the criteria being used in the selection of the second half of the class.</i></p>
<b>ILLINOIS MATHEMATICS AND SCIENCE ACADEMY RESPONSE</b>	<p>In the spring of 2000, and thereafter at least once every other year, the IMSA Board of Trustees will formally review its admissions policy and will modify the policy as appropriate. The initial modification will include greater specificity of key terms and criteria. The Board also will consider the priority of criteria for selecting the second half of the class. Questions we use in considering applicants for the second half will be considered as a single qualitative criterion.</p>

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## APPLICANT INTEREST IN MATHEMATICS AND SCIENCE

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The audit resolution directed us to determine whether IMSA has established and implemented procedures to ensure that applicants with high academic skills and talents in science are granted equal standing with applicants whose academic skills are in mathematics.

IMSA policy and authorizing statute do not contain a requirement that the Academy must have a certain percentage of math or science students nor do they require that math and science be granted equal standing in the admissions process. The admissions application does not require students to designate an area of concentration in math or science. Rather, students must take classes in both math and science in order to meet graduation requirements.

IMSA's admissions process weights math and science equally in the GPA calculation as well as in the Review Committee evaluation; however, the SAT I scores only include math and not science. Therefore, it is possible that an applicant strong in science, but not in math, may not be granted equal consideration in the selection process when considering only scores. IMSA's application also allows applicants an opportunity to express their interest/successes in math or science through answers to the essays and through the listing of activities. One essay question asks the students to describe themselves and another asks the students to describe their interest in math and science, both in and out of school.

Since there is no statutory requirement to grant equal consideration to the two areas of interest, IMSA does not require applicants to make a designation of interest, nor do they assess applicants' areas of concentration.

IMSA officials, however, did provide analyses of what are the best predictors of academic success at IMSA as measured by IMSA GPA. This study indicated that students' GPA prior to arriving at IMSA is the best predictor of their GPA at IMSA, both overall and for math and science grades. The second best predictor for both overall and math and science grades is the math SAT I score.

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## **OTHER SPECIALIZED SCHOOLS OF MATHEMATICS AND SCIENCE**

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There are other schools across the United States which are similar to the Illinois Mathematics and Science Academy. To see how IMSA's admissions policy compared to these other schools, we contacted 11 other similar schools in the National Consortium for Specialized Secondary Schools of Mathematics, Science and Technology (of which IMSA is a member).

Based on comparisons of admissions policies and procedures, we found IMSA's structure and admissions criteria to be similar to those of other Specialized Secondary Schools of Mathematics and Science. We compared other schools' structures, admissions criteria, and student selection processes. Exhibit 2-7 shows the similarities and differences in the schools' processes.

The exhibit shows that all of the schools we contacted, except California, are residential schools. They serve varying grade levels between the 9<sup>th</sup> and 12<sup>th</sup> grades. Every school

except Maine requires that students be legal residents of their state. All of the schools require some form of standardized test scores, transcripts or previous grades, counselor and/or teacher recommendations, student essays, and interviews as part of the evaluation of applicants.

All of the Secondary Schools of Mathematics and Science we contacted had selection processes that involved some level of subjectivity in selecting their students. Some of the schools had some type of student ranking system; however, only IMSA selected part of their class in competitive score order.

<b>Exhibit 2-7</b>								
<b>SUMMARY OF INFORMATION ON SPECIALIZED SECONDARY SCHOOLS</b>								
<b>State</b>	<b>Grade Levels</b>	<b>Residential</b>	<b>Legal Residency</b>	<b>Transcripts/ Previous Grades</b>	<b>Counselor and /or Teacher Recommendations</b>	<b>Standardized Test Scores</b>	<b>Essay</b>	<b>Interview</b>
Alabama	10-12	Yes	Yes	Yes	Yes	SAT or ACT	Yes	Yes
Arkansas	11-12	Yes	Yes	Yes	Yes	SAT or ACT or PSAT or PLAN	Yes	Yes
California	9-12	No	Yes	Yes	Yes	Stanford 9	Yes	Yes
<i>ILLINOIS</i>	<i>10-12</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>SAT I</i>	<i>Yes</i>	<i>Yes*</i>
Indiana	11-12	Yes	Yes	Yes	Yes	SAT I and SAT II (writing sample)	Yes	Yes
Louisiana	11-12	Yes	Yes	Yes	Yes	SAT I or ACT	Yes	Yes
Maine	11-12	Yes	No	Yes	Yes	SAT I	Yes	Yes
Mississippi	11-12	Yes	Yes	Yes	Yes	PLAN/ACT	Yes	Yes
North Carolina	11-12	Yes	Yes	Yes	Yes	SAT	Yes	Yes
Oklahoma	11-12	Yes	Yes	Yes	Yes	ACT	Yes	Yes
South Carolina	11-12	Yes	Yes	Yes	Yes	PSAT	Yes	No
Texas	11-12 and earn 60 or more hours of college credit	Yes	Yes	Yes	Yes	SAT Total 1100 minimum 600 Math minimum	Yes	Yes

**Source:** Survey of other states and IMSA  
*\* Interviews are optional and not a regular part of the admissions process*

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## OTHER SCHOOLS CONTACTED

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We also contacted two other schools who were similar to IMSA--University Laboratory Schools in Urbana, Illinois and Normal, Illinois.

### Urbana

The University Laboratory High School in Urbana, IL, referred to as “Uni,” is a highly selective public school with approximately 300 students enrolled in five accelerated grade levels: subfreshman (combined 7<sup>th</sup> and 8<sup>th</sup> grade program) through seniors. Uni students

who are at least 15 years old and have earned a “B” average may enroll concurrently in University of Illinois courses.

Uni has an Admission Committee that reviews applications on a name-blind basis and makes admission decisions. Each year Uni accepts 60 students into its subfreshman class. The Admission Committee considers the following criteria when making its decision: previous school record; evidence of strong academic motivation; scores on the Secondary School Admission Test; and evidence of outstanding creativity, leadership, initiative, or interests.

### **Normal**

Student selection at University High School in Normal (referred to as U-High) is different from the student selection at IMSA, and involves several components. At U-High, a computer program is used to sort the students’ applications using four different variables: district of residence, race, gender, and income. According to a U-High official, U-High is set up to consider ethnic representation, certain income levels, grades, and activities of prospective students. The program also factors in the variable of a sibling attending U-High. U-High’s admissions procedures also mention that they make every attempt to accommodate siblings, but other considerations and needs may make this impossible.

After the data on the student is categorized, the principal and selection committee use this information to identify a demographically balanced population. A committee of teachers, counselors, and administrators evaluates each application according to the demographic needs at each level and makes selections. U-High tries to maintain a balance of students at least as diverse as the Bloomington/Normal area. The student population is also representative of schools throughout Illinois.

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Chapter Three

# **SELECTION AND ENROLLMENT**

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## **CHAPTER CONCLUSIONS**

IMSA's admissions policy states that the Academy shall ensure adequate geographic, gender, and ethnic representation in admission decisions by approximating the diversity of the applicant pool. A three-year history of IMSA admissions in terms of geographic distribution shows that while there is some variation, the applicant pool is generally consistent with the statewide distribution of 9<sup>th</sup> graders and the invited class. In terms of gender distribution, there is approximately an even split between male and females in the statewide population, the applicant pool, and the invited class.

The ethnic distribution has the most variation when compared to the statewide population of 9<sup>th</sup> graders. Over the three years reviewed, African Americans and Latinos were consistently underrepresented in the applicant pool and the invited class when compared to the number of African Americans and Latino 9<sup>th</sup> graders in the State. Conversely, Asian Americans were consistently overrepresented in both the applicant pool and the invited class, when compared to the percent of Asian American 9<sup>th</sup> graders in the State.

One result of IMSA's attempt to comply with its statutory requirement to admit a class with adequate geographic, ethnic and gender representation is that qualified applicants with lower total composite scores, but who meet one of IMSA's demographic goals, are admitted to IMSA in the second half of the class over applicants with higher scores but whose demographics are adequately represented. The total composite score is a computed score that is a combination of 1/3 GPA, 1/3 SAT I, and 1/3 Review Committee Rating.

For example, in 1998, 143 applicants in the upper half of the applicant pool based on total composite score were not admitted, whereas 48 applicants in the lower half of the applicant pool based on total composite score were admitted. However, only 4 of the 45 (9 percent) students admitted to IMSA as one of the last 10 based on total composite score in each of the past five years were sent home for academic reasons. Overall, these 45 students' retention rate was 78 percent compared to IMSA's retention rate of 88 percent over the past five years.

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## **IMSA SELECTION AND ENROLLMENT HISTORY**

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IMSA's statute requires the Academy to have competitive admissions and requires its Board of Trustees to establish criteria for eligibility for enrollment that ensures adequate

geographic, gender, and ethnic representation. The data in this section presents a comparative history of IMSA demographics for applicants and invited students to the statewide distribution of 9<sup>th</sup> graders for the three-year period 1996 through 1998.

IMSA’s policy states they shall ensure adequate geographic, gender, and ethnic representation in admission decisions by approximating the diversity of the applicant pool (i.e., if 53 percent of 9<sup>th</sup> graders statewide are from Chicagoland, but 45 percent of the applicant pool is from Chicagoland; then, IMSA’s goal is to select 45 percent of the class from the Chicagoland region).

This policy is also supported in the way IMSA sets its “goals” for invitations to the Academy. IMSA sets “goals” for admissions using the percentage of the applicant pool for a particular demographic characteristic in order to achieve the same percentage in the invited class. An IMSA official stated they try to approximate the demographics of the applicant pool because they cannot admit students to the Academy who do not apply nor can they tell qualified students not to apply.

Exhibit 3-1 shows the number of applicants and admitted students for each of the three demographic criteria outlined in the statute for which IMSA must ensure adequate representation.

Exhibit 3-2 shows the percentage of statewide 9<sup>th</sup> graders, the applicant pool, and admitted class for each IMSA region for 1996, 1997, and 1998. As the exhibit shows, although there is some variance, the admitted class is fairly consistent with the statewide geographic distribution of ninth graders and the applicant pool in each of IMSA’s seven regions. For example, in 1998, 7.0 percent of the admitted class and 6.8 percent of the applicant pool were from the Central region.

<b>Exhibit 3-1 APPLICANTS AND ADMISSIONS BY REGION, ETHNICITY, AND GENDER 1998</b>		
	Applicants (701)	Admitted (242)
<b>Region</b>		
Chicagoland	475	143
Northern	57	29
Central	48	17
East Central	34	10
West Central	20	9
Metro East	36	15
Southern	29	19
Out-of-State	2	0
<b>Ethnicity</b>		
African American	90	30
Asian American	195	65
Latino	20	12
White	352	119
Native American	1	1
Bi-Cultural	25	8
Other/NR	18	7
<b>Gender</b>		
Male	362	121
Female	339	121
Source: OAG analysis of IMSA data.		

There were, however, some pronounced variations between the regional distributions in the applicant pool and the invited class. For example, in 1998, 12 percent of the admitted class, but only 8.1 percent of the applicant pool came from the Northern region.

Exhibit 3-2 also shows a pattern in the regional admissions data. For the three years, the percentage of students invited from the Chicagoland area was less than both the statewide and applicant pool representations. Conversely, the percentage of students from the Northern region invited to the Academy is higher than their statewide and pool

<b>Exhibit 3-2 GEOGRAPHIC DISTRIBUTION OF IMSA APPLICANTS 1996-1998</b>									
<b>Region*</b>	<b>1996</b>			<b>1997</b>			<b>1998</b>		
	<i>State</i>	<i>Pool</i>	<i>Admit</i>	<i>State</i>	<i>Pool</i>	<i>Admit</i>	<i>State</i>	<i>Pool</i>	<i>Admit</i>
Chicagoland	63.0%	68.6%	58.7%	62.6%	69.0%	61.7%	62.9%	67.8%	59.1%
Northern	9.4%	9.2%	13.2%	9.4%	8.2%	9.6%	9.5%	8.1%	12.0%
Central	9.7%	7.1%	12.3%	9.6%	7.3%	10.4%	9.6%	6.8%	7.0%
East Central	4.2%	4.8%	4.3%	4.2%	2.6%	3.3%	4.2%	4.9%	4.1%
West Central	3.3%	3.1%	3.4%	3.3%	3.6%	3.3%	3.2%	2.9%	3.7%
Metro East	4.7%	3.4%	3.4%	5.0%	5.3%	5.4%	4.8%	5.1%	6.2%
Southern	5.7%	3.8%	4.7%	5.8%	4.0%	6.3%	5.8%	4.1%	7.9%
Out of State	N/A	0%	0%	N/A	0%	0%	N/A	<1%	0%

Notes: \* The county composition of each region is shown on page 5 in Chapter 1. Columns may not add to 100% due to rounding  
 State = Percent of statewide 9<sup>th</sup> graders from each IMSA region.  
 Pool = Percent of IMSA applicant pool from each region.  
 Admit = Percent of students IMSA invited for admission from each region.  
 Source: OAG analysis of IMSA and SBE data.

representations for all three years.

<b>Exhibit 3-3 IMSA SELECTION COMMITTEE REGIONS 1998</b>							
<i>Zip Code Region</i>	<i>First Three Digits of Zip Code</i>	<i>Statewide 9<sup>th</sup> Graders</i>		<i>Applicant Pool</i>		<i>Admitted Class</i>	
North Suburban	600-603	41,727	24%	197	28%	65	27%
South Suburban	604-605	30,092	17%	201	29%	56	23%
Chicago	606-608	42,694	25%	90	13%	30	12%
Kankakee	609	2,437	1%	15	2%	7	3%
Rockford	610-611	8,297	5%	17	2%	10	4%
Rock Island	612	3,258	2%	10	1%	5	2%
LaSalle	613	2,344	1%	18	3%	7	3%
Galesburg	614	1,977	1%	6	1%	2	1%
Peoria	615-616	5,194	3%	11	2%	3	1%
Bloomington	617	3,045	2%	8	1%	2	1%
Champaign	618-619	4,647	3%	19	3%	2	1%
East St. Louis	620-622	10,945	6%	44	6%	22	9%
Quincy	623	1,651	1%	4	1%	3	1%
Effingham	624	2,164	1%	5	1%	1	<1%
Springfield	625-627	7,266	4%	33	5%	13	5%
Centralia	628	2,951	2%	6	1%	4	2%
Carbondale	629	3,088	2%	15	2%	10	4%
Out-of-State	N/A	N/A	N/A	2	<1%	0	0%
<b>Total</b>		<b>173,777</b>	<b>100%</b>	<b>701</b>	<b>100%</b>	<b>242</b>	<b>100%</b>

Source: OAG analysis of IMSA Selection Committee 1998 data. Columns may not add to 100% due to rounding

During the selection process, the applicant pool is sorted into 18 regions based on the first three digits of their zip codes. Exhibit 3-3 shows the more detailed zip code distribution of the statewide 9<sup>th</sup> graders, the applicant pool, and the admitted class.

Exhibit 3-3 shows some pronounced variations between the statewide, applicant pool, and the admitted class among zip code regions. For example, the North Suburban, South Suburban, and Chicago zip code regions in Exhibit 3-3 generally comprise the Chicagoland region in Exhibit 3-2. While over the past 3 years the percentage of the invited class from the Chicagoland region was within 5 percent of the statewide percentage, when examined at the zip code level, a significant difference appears. The South Suburban region is significantly overrepresented in both the applicant pool and the invited class compared to the percentage of the statewide population it comprises (17 percent statewide vs. 29 percent applicants and 23 percent invited), while the Chicago region is significantly underrepresented in the pool and invited class (25 percent statewide vs. 13 percent applicants and 12 percent invited).

Exhibits 3-4 and 3-5 show a three-year history of the ethnic and gender distributions in the statewide population of 9<sup>th</sup> graders, the applicant pool, and the admitted class. While for IMSA’s seven geographic regions and the gender categories, the admitted class is fairly representative of statewide distribution, the ethnic distribution of the invited class much more closely approximates the applicant pool and not statewide demographics.

<b>Exhibit 3-4</b>									
<b>ETHNIC DISTRIBUTION OF IMSA APPLICANTS</b>									
<b>1996-1998</b>									
<b>Ethnic Group</b>	<b>1996</b>			<b>1997</b>			<b>1998</b>		
	<i>State</i>	<i>Pool</i>	<i>Admit</i>	<i>State</i>	<i>Pool</i>	<i>Admit</i>	<i>State</i>	<i>Pool</i>	<i>Admit</i>
African American	22.5%	8.6%	10.6%	22.4%	11.5%	10.0%	22.0%	12.8%	12.4%
Asian American	3.1%	30.2%	26.8%	3.1%	31.2%	25.0%	3.0%	27.8%	26.9%
Latino	12.0%	4.3%	5.5%	12.7%	4.3%	7.1%	12.9%	2.9%	5.0%
White	62.2%	54.2%	53.2%	61.7%	47.0%	51.3%	61.9%	50.2%	49.2%
Native American	<1.0%	<1.0%	0.0%	<1.0%	<1.0%	<1.0%	<1.0%	<1.0%	<1.0%
Bi-Cultural <sup>1</sup>	0.0%	0.0%	0.0%	0.0%	3.1%	4.6%	0.0%	3.6%	3.3%
Other/NR	0.0%	2.6%	3.8%	0.0%	2.8%	1.7%	0.0%	2.6%	2.9%

Note: Numbers may not add to 100 percent due to rounding.  
<sup>1</sup> SBE does not report a bi-cultural classification; IMSA began using the bi-cultural classification in 1996  
 State = percent of statewide 9<sup>th</sup> graders from each ethnicity.  
 Pool = percent of IMSA applicants from each ethnicity.  
 Admit = percent of students IMSA invited for admission from each ethnicity.  
 Source: OAG analysis of IMSA and SBE data

The three-year history indicates that one ethnic group greatly exceeded its statewide representation, while others were under their respective statewide percentages of 9<sup>th</sup> graders. Exhibit 3-4 shows that Asian Americans have consistently comprised approximately 3 percent of the statewide population of 9<sup>th</sup> graders but comprised 25 percent to 31 percent of the applicant pool and the invited class. Conversely, African

Americans have consistently comprised approximately 22 percent of the statewide population of the 9<sup>th</sup> graders. However, they have only comprised between 9 percent and 13 percent of the applicant pool and invited class. Latinos have also been underrepresented in the applicant pool and invited classes. Latinos have comprised approximately 3 percent to 4 percent of the applicant pool and 5 percent to 7 percent of the invited classes in the past three years as compared to 12 percent to 13 percent representation in the State. Whites are also similarly underrepresented. As will be discussed in Chapter Four, IMSA has made efforts to attract applicants from the underrepresented groups in the applicant pool.

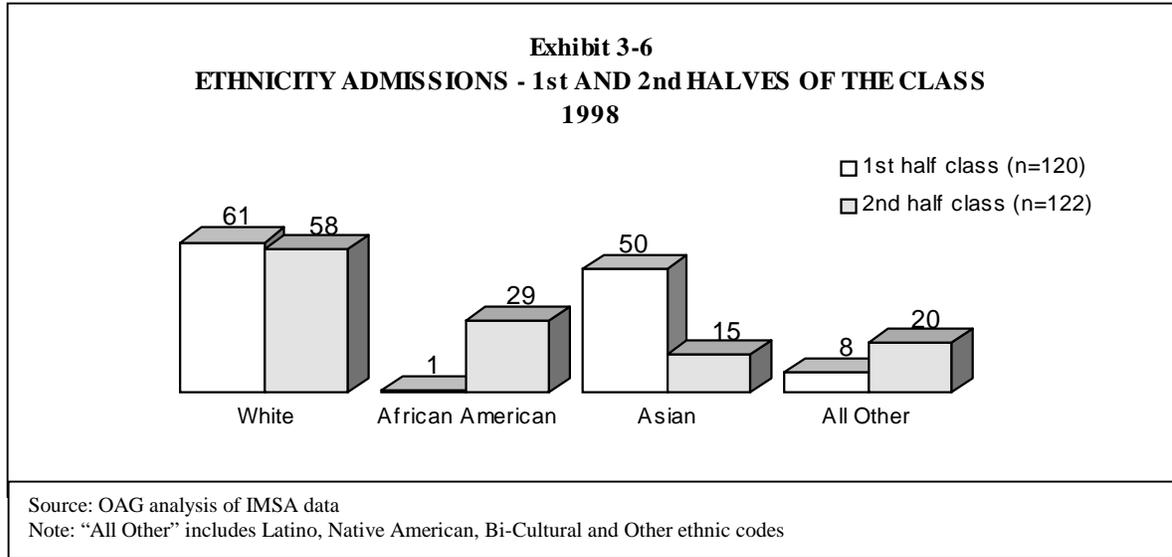
Our analysis of ethnic data was limited due to IMSA’s introduction of a new ethnic classification in the 1996 applicant pool. In 1996, the bi-cultural classification was added. We were unable to determine the extent to which the new classification reduced the number of applicants in the other ethnic classifications.

Exhibit 3-5 shows that in terms of gender, the applicant pool, admitted class, and statewide distributions are within plus or minus 3 percent of a 50 percent male and 50 percent female distribution.

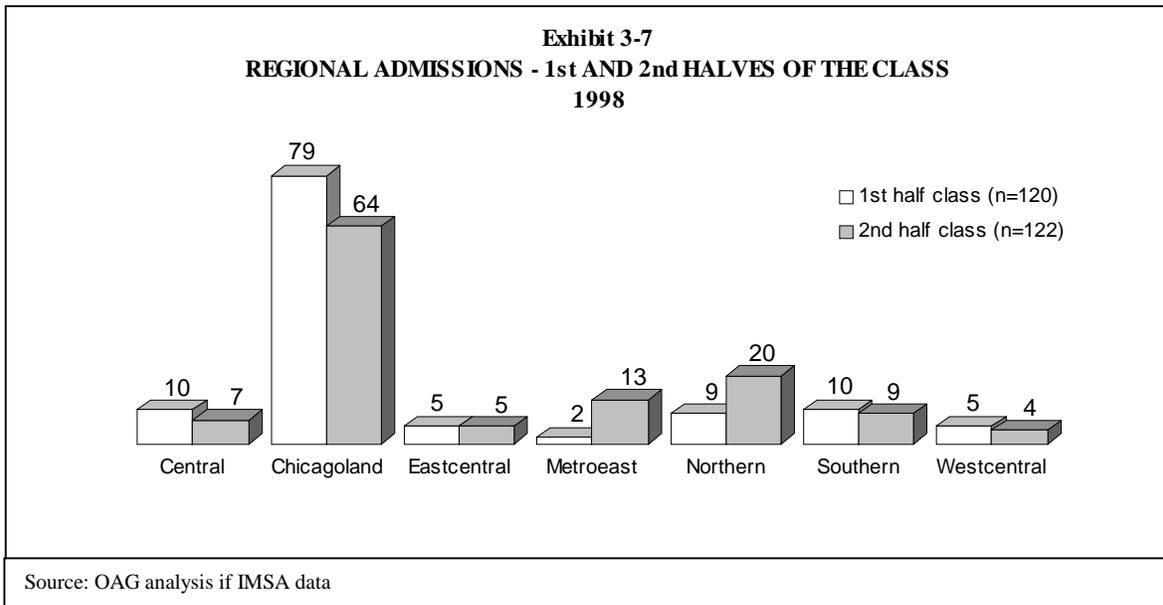
<b>Exhibit 3-5 GENDER DISTRIBUTION OF IMSA APPLICANTS 1996-1998</b>									
	<b>1996</b>			<b>1997</b>			<b>1998</b>		
	<i>State</i>	<i>Pool</i>	<i>Admit</i>	<i>State</i>	<i>Pool</i>	<i>Admit</i>	<i>State</i>	<i>Pool</i>	<i>Admit</i>
Male	51.0%	51.8%	50.2%	52.2%	52.7%	52.9%	52.1%	51.6%	50.0%
Female	49.0%	48.2%	49.8%	47.8%	47.3%	47.1%	47.9%	48.4%	50.0%
Note: May not add to 100% due to rounding. State = Percent of statewide 9 <sup>th</sup> graders from each gender. Pool = Percent of IMSA applicant pool from each gender. Admit = Percent of students invited for admission from each gender. Source: OAG analysis of IMSA and SBE data.									

### **Demographic Composition of IMSA Classes**

For the regional and ethnic demographic criteria, the composition of the second half of IMSA’s admissions differs significantly from the first half selected. As discussed in Chapter 2, the first half is selected by taking the applicants with the highest total composite scores. According to IMSA policy, a consideration in selecting the second half of the class is to ensure adequate geographic, gender, and ethnic representation. For example, in 1998, 61 white students were selected in the first half of the class. IMSA’s “goal” was to select a total of 121 (50 % of 242 desired class size) whites because whites represented 50 percent of the applicant pool. Since IMSA tries to have the invited class closely approximate the applicant pool, IMSA’s goal was to select approximately 60 additional white students in the second half of the class.



The effect of the first half of the class on the selection of the second half can be seen in Exhibits 3-6 and 3-7. If the number of applicants from one ethnic group or region selected in the first half of the class approximates the "goal" for that region or ethnic group, it reduces the chances for applicants with the same demographic characteristics being selected in the second half of the class. This occurs because the number of students needed to reach the goal is less. The reverse is also true; if a low number of applicants with a particular demographic characteristics are selected for the first half of the invited class, the chances of selection for other students with the same demographic characteristics in the second half of the class is greater.



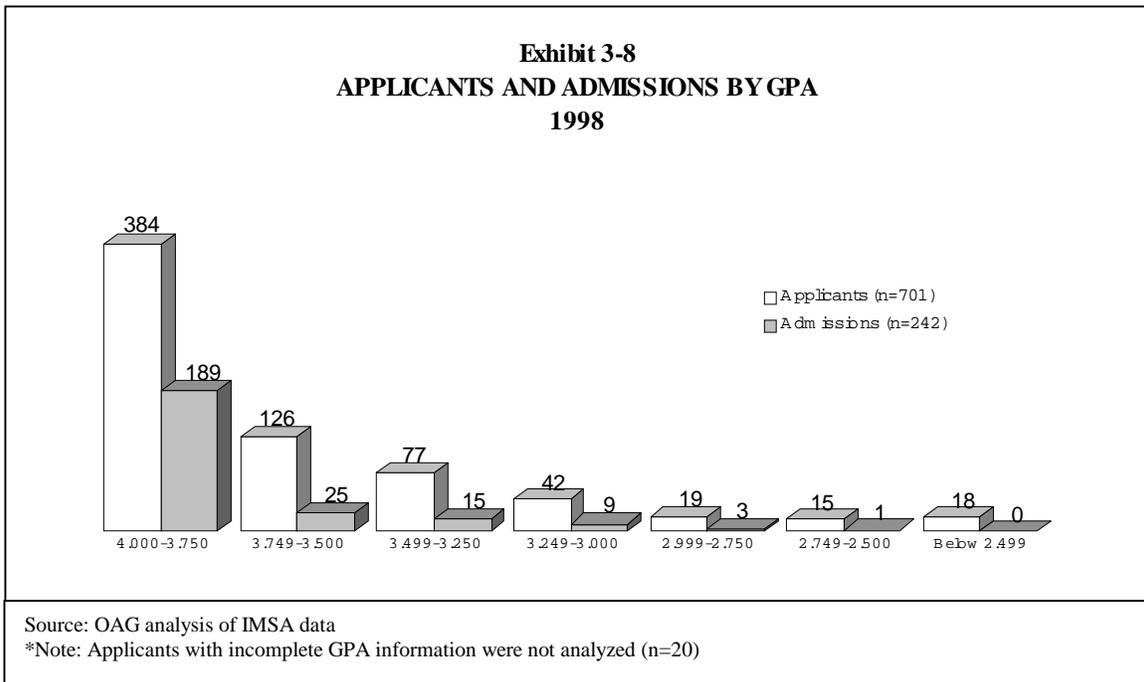
In terms of ethnicity, Exhibit 3-6 shows that the first half of the class selected based on total composite score was composed of 111 (93 percent) Whites and Asian Americans. Nine other students were selected in the first half from the other 5 ethnic groups. The second half of the class had a wider distribution among the different ethnic groups.

Exhibit 3-7 shows a similar presentation for the regional distributions of students selected in the first half and the second half of the invited class in 1998. On a regional basis, the exhibit shows the first and second halves of the invited class had notable differences. For example, the Chicagoland region had 79 students admitted in the first half of the class and 64 in the second half of the class. The more notable differences were in the Northern and Metro East regions where there was a significant increase in the number admitted in the second half of the class.

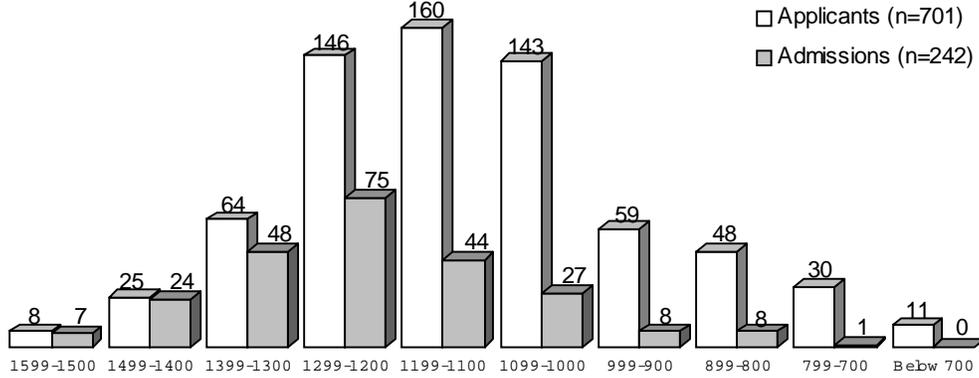
### Score Distributions for IMSA Applicants and Admissions

The admissions process IMSA developed to meet its statutory requirement of adequate representation in the invited class resulted in applicants with lower GPA, SAT I, Review Committee Ratings, and total composite scores being admitted while applicants with higher scores were not. Exhibits 3-8, 3-9 and 3-10 show the GPA, SAT I, and Review Committee Rating distribution of both the 1998 applicant pool and the invited class.

GPA's for the applicant pool range from 4.00 to below 2.00 and the GPA's of the admitted class range from 4.00 to 2.73. The combined SAT I scores in the applicant pool range from 1,590 to 450 and in the admitted class they range from 1,590 to 740. Overall, Review Committee ratings ranged from 75 to 30 while students invited to IMSA had ratings ranging from 75 to 45.



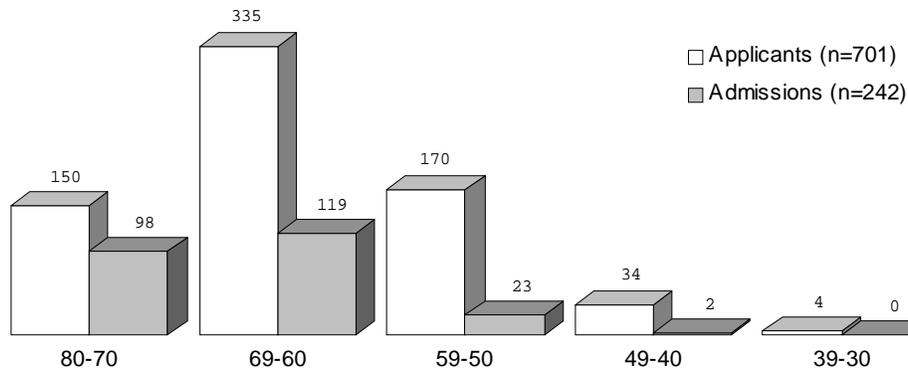
**Exhibit 3-9**  
**APPLICANTS AND ADMISSIONS BY TOTAL SAT I SCORE**  
**1998**



Source: OAG analysis of IMSA data

\*Note: Applicants with incomplete SAT I information were not analyzed (n=7)

**Exhibit 3-10**  
**APPLICANTS AND ADMISSIONS BY REVIEW COMMITTEE RATING**  
**1998**

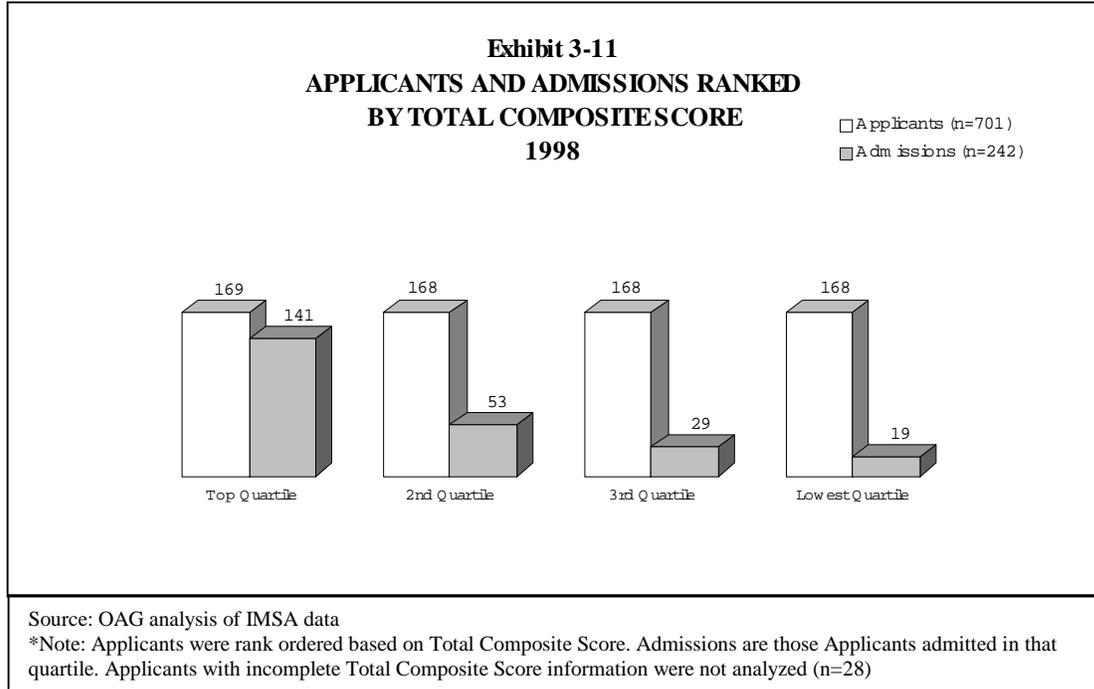


Source: OAG analysis of IMSA data

\*Note: Applicants with incomplete Review Committee Rating information were not analyzed (n=8)

In addition, Exhibit 3-11 shows the applicant pool and the invited students in categories based on their total composite scores. The total composite score is a computed score that is a combination of 1/3 GPA, 1/3 SAT I and 1/3 Review Committee Rating. In 1998, 143 applicants in the upper half of the applicant pool based on total composite score were not

admitted, whereas 48 applicants in the lower half of the applicant pool based on total composite score were admitted.



To determine how successful enrolled students with lower total composite scores were at the Academy, we requested the status of the 10 applicants with the lowest total composite scores invited to the Academy in each of the past 5 years. Of the 50 students, 5 declined IMSA’s invitation. Of the remaining 45, 78 percent (35 of 45) have either graduated or are still attending, 9 percent (4 of 45) withdrew for academic reasons, 7 percent (3 of 45) were sent home for disciplinary reasons, and 7 percent (3 of 45) voluntarily left IMSA. The 78 percent retention rate is lower than IMSA’s overall retention rate of 88 percent over the past five years.

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Chapter Four

# **IMSA OUTREACH EFFORTS**

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## **CHAPTER CONCLUSIONS**

IMSA has both general and targeted outreach programs to attract qualified candidates interested in the Academy. IMSA conducted general outreach programs in all seven of its regions. In 1997/1998, IMSA held informational meetings in 53 locations across the State and offered programs for potential applicants at IMSA and in other cities. IMSA also conducted several targeted outreach programs for minorities.

In the past five years, 5,535 potential applicants attended IMSA's informational meetings across the State. An additional 1,677 potential applicants participated in other outreach programs such as the Early Involvement Program and the Summer Enrichment for Academics in Mathematics and Science program. Of the 1,677 participants in these programs, 371 students applied and 157 were admitted to IMSA.

IMSA has targeted some outreach efforts to attract more applicants from underrepresented ethnic groups in the State and should continue outreach efforts in additional areas of the State and towards students who are underrepresented in the applicant pool and invited class.

IMSA does not have any policies or procedures for how many applicants can be admitted from any one particular school nor does its statutory authorization require it. Over the past five years, IMSA has admitted 9<sup>th</sup> grade students from a total of 403 schools, or 37 percent of the schools in Illinois serving 9<sup>th</sup> grade students. IMSA also admitted 109 8<sup>th</sup> graders from an additional 66 schools serving 8<sup>th</sup> graders.

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## **IMSA OUTREACH**

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IMSA's outreach efforts across the State are critical to ensuring the diversity of the applicant pool and the class. IMSA has developed several outreach programs to attract the candidates from across the State.

IMSA has divided the State into seven regions based on county lines. Statistics in Chapter 3 showed that applicants in terms of geographic location and gender generally compared to the statewide statistics for these characteristics. Ethnicity is the

demographic attribute of the admitted class which deviates most significantly from the statewide demographics.

**Planning Outreach Efforts**

IMSA’s admissions team meets each year to plan, schedule, and assign responsibilities for the year’s outreach efforts. At that time IMSA determines what efforts will be repeated, eliminated, and added. IMSA evaluates the composition of the previous applicant pool and determines if extra emphasis is needed in any of the regions or ethnic groups.

**General Outreach Programs**

One purpose of IMSA’s outreach effort is to create interest and awareness in the Academy and to have qualified students who are representative of the statewide demographics apply to the Academy. Some programs also provide direct skill intervention for students. In addition, some of these outreach programs help motivate students to participate in challenging academic programs. Informational meetings held across the State are one of the broadest of IMSA’s outreach programs with meetings in 53 locations statewide in 1997/1998. Informational meetings are held between November and January each year. IMSA also developed a internet web site which offers information about the school and the option to request an application.

Exhibit 4-1 shows the number of potential applicants attending informational meetings for the past five years. According to an IMSA official, students who attend these meetings and request to be placed on IMSA’s mailing list receive application information each year until they are no longer eligible for admission.

<b>Exhibit 4-1 IMSA INFORMATIONAL MEETING ATTENDANCE 1994-1998</b>		
<i>Year</i>	<i>Number of Meetings</i>	<i>Number Attending</i>
1994	51	1,348
1995	50	1,072
1996	44	928
1997	45	1,022
1998	53	1,165
Source: IMSA .		

Exhibit 4-2 shows the locations in each region where informational meetings were held for the past 5 years. It also shows that IMSA has generally held informational meetings in the same locations over the past five years. IMSA’s outreach efforts are advertised in newspapers to inform potential participants of the programs available or how to find out more about the Academy.

A second broad outreach effort is IMSA’s mass mailing of applications to approximately 2,900 public and private schools serving 8<sup>th</sup> and 9<sup>th</sup> grade students in the State. At each school, applications are sent to counselors and principals. In addition, the superintendents of each district receive applications. Other general outreach programs undertaken by IMSA include:

<b>Exhibit 4-2</b>					
<b>LOCATIONS OF IMSA INFORMATIONAL MEETINGS</b>					
<b>1993/1994 to 1997/1998</b>					
	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998
<b><i>Chicagoland</i></b>	Bolingbrook Chicago (7 Sites) Country Club Hills Crystal Lake  Elgin Elmhurst Evanston  Grayslake Harvey Hazel Crest Hoffman Estates Joliet Maywood  Northbrook  Pontiac Vernon Hills Waukegan West Chicago	Bolingbrook Chicago (7 Sites) Country Club Hills Crystal Lake  Elgin Elmhurst Evanston  Grayslake Harvey Hazel Crest Hoffman Estates Joliet Maywood  Northbrook Palos Heights  Vernon Hills West Chicago	Bolingbrook Chicago (7 Sites)          Evanston  Grayslake Harvey Hazel Crest  Joliet Maywood  Northbrook      Woodstock	Bolingbrook Chicago (7 Sites)          Evanston  Grayslake Harvey Hazel Crest  Joliet Maywood  Northbrook      Wheeling Woodstock	Bolingbrook Chicago (7 Sites)  Crystal Lake Darien Elgin  Evanston Glen Ellyn Grayslake Harvey Hazel Crest  Joliet  Melrose Park Northbrook Palos Heights  Vernon Hills Waukegan West Chicago Wheeling
<b><i>Northern</i></b>	DeKalb Dixon (2 Sites) Freeport Galena Moline Oglesby Rockford	DeKalb Dixon Freeport  Moline Oglesby Rockford	Dixon Freeport  Moline Oglesby Rockford	Dixon Freeport  Moline Oglesby Rockford	Dixon Freeport  Moline Oglesby Rockford
<b><i>West Central</i></b>	Galesburg Jacksonville  Macomb Quincy	Galesburg Jacksonville  Macomb Quincy	Galesburg Jacksonville Jerseyville Macomb Quincy	Galesburg Jacksonville Jerseyville Macomb Quincy	Galesburg Jacksonville Jerseyville Macomb Quincy
<b><i>Central</i></b>	Carlinville Decatur  Normal Peoria  Springfield	Carlinville Decatur  Normal Peoria Pontiac Springfield	Decatur Litchfield Normal Peoria  Springfield	Carlinville Decatur  Normal Peoria  Springfield	Carlinville Decatur  Normal Peoria  Springfield
<b><i>East Central</i></b>	Danville Kankakee Mattoon  Urbana	Danville Kankakee Mattoon Paris Urbana	Danville Kankakee Mattoon  Urbana	Champaign Danville Kankakee Mattoon	Champaign Danville Kankakee Mattoon
<b><i>Metro-East St. Louis</i></b>	Collinsville East St. Louis	Collinsville East St. Louis	Belleville East St. Louis	Belleville East St. Louis	Belleville East St. Louis Edwardsville
<b><i>Southern</i></b>	Effingham  Marion Mt. Vernon Olney	Carterville Effingham Flora  Mt. Vernon	Carmi Carterville Effingham Flora  Mt. Vernon  Robinson Sparta	Carmi Carterville Effingham Flora  Mt. Vernon  Robinson Sparta	Carmi Carterville Effingham Flora  Mt. Vernon  Robinson Sparta

Source: IMSA 1993/1994 to 1997-1998 Informational Meeting Sites.

- **Admission counselor presentations** are conducted by IMSA for entities requesting a presentation (i.e., rotary clubs, schools, professional education groups).
- **Summer 'AD' Ventures Programs** for Illinois students entering grades 7 or 8. This is a one-week residential program offered at IMSA or selected Illinois university campuses. Students interested in math and science are chosen for this program which is the culmination of a year long series of curriculum and instruction development activities for teachers. It provides academic experiences for students paired with social and recreational activities supervised by the professional staff.
- **Distribution of applications to State Legislators.** IMSA mails applications to State Senators and Representatives.

### Targeted Outreach Programs

Other efforts are focused on the underrepresented populations in the applicant pool and are concentrated in the Chicagoland area. These efforts vary based on what is needed to reach the desired student populations. All of the targeted outreach efforts were funded by private dollars. According to an IMSA official, other efforts in outreach have included:

- **Early Involvement Program (EIP)** which serves 9<sup>th</sup> grade minority and economically disadvantaged students in Chicago, Aurora, Springfield, and Rockford. This is a Saturday academic program designed to enhance learning, motivation, and study skills. The program is for 9<sup>th</sup> graders from underrepresented groups (African Americans and Latinos) and/or economically disadvantaged students talented in math and science who are interested in seeking admission to IMSA. Admission to EIP is competitive.
- **Project School Visit (PSV)** which is designed to expose junior high school students from schools in Chicago, Joliet, Aurora, and Elgin to the IMSA environment. This program consists of a one-day field trip which includes a tour of the campus, opportunities to interact with Academy faculty and students in both an academic and social setting. Participants are placed on a mailing list and the program serves between 15 and 18 schools per year.
- **Summer Enrichment for Academics in Mathematics and Science (SEAMS)** which is a three week academic and residential enrichment program. SEAMS is designed to enhance student academic skills and engage them in problem-based learning, experimentation, and discovery. This program serves 9<sup>th</sup> grade underrepresented minority students from Chicagoland. Selection for participation in the program is based on previous school performance, teacher recommendation, interest in math and science, and motivation for participating in SEAMS.
- **Mathematics Partnership Program** which is a continual partnership between the East Saint Louis school district math teachers and the IMSA math team. The two teams

develop enlightened programs to enhance the educational experience for 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> graders in the East Saint Louis area. The two teams visit each others’ classrooms to get a “feel” for the curriculum, styles of teaching, and type of students. The teams work together to develop workshops for the district, as well as curriculum development suggestions.

Exhibit 4-3 shows the number of potential applicants served by several of the outreach programs mentioned above. In Chapter 3 we noted that the Chicago zip code region was underrepresented in

<b>Exhibit 4-3 IMSA OUTREACH PROGRAM PARTICIPATION Total for 1994-1998</b>			
<b>Program Name</b>	<b>Number Participating</b>		
	<i>Participate</i>	<i>Applied</i>	<i>Admitted</i>
Project School Visit 1995-1998	1,050	30	16
Early Involvement Program 1994 -1998	259	197	92
Summer ‘AD’ Ventures	309	120	48
SEAMS 1997 –1998	59	24	1
<b>Total</b>	<b>1,677</b>	<b>371</b>	<b>157</b>
Note: The number of participants is a duplicated count (i.e. a student could have attended more than one outreach program). Source: IMSA			

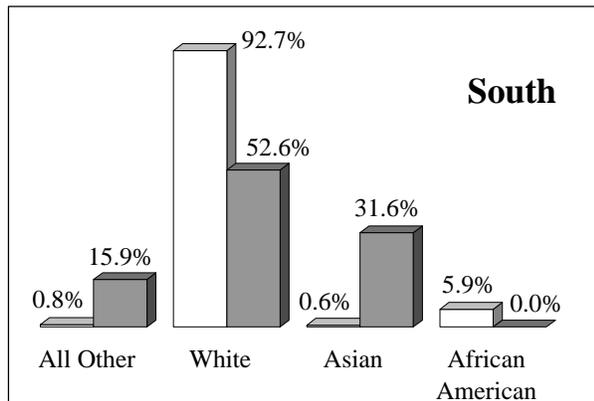
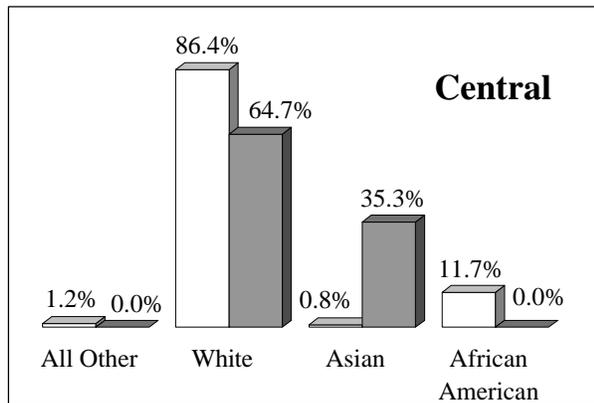
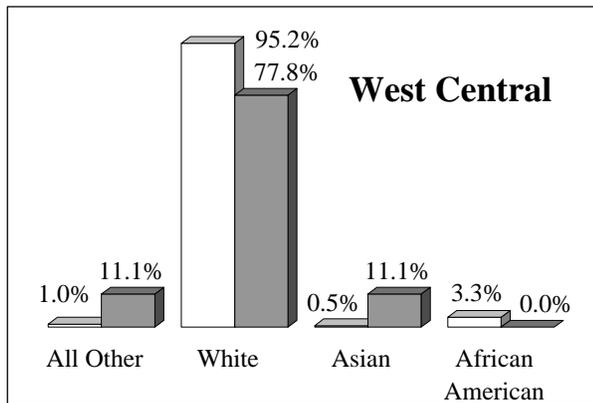
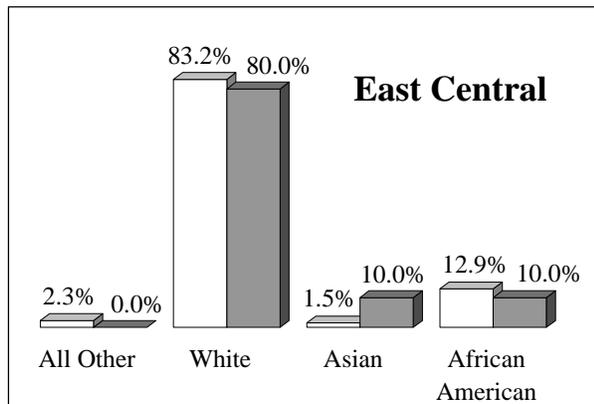
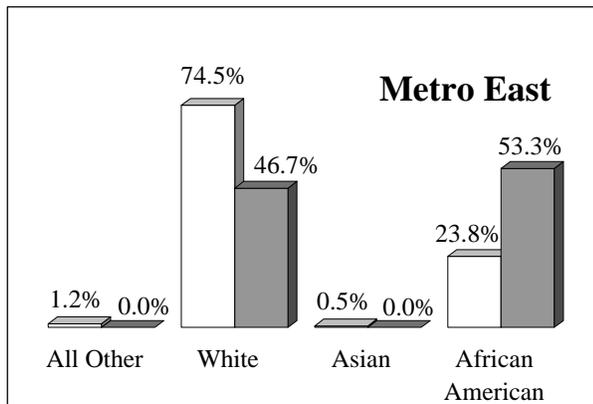
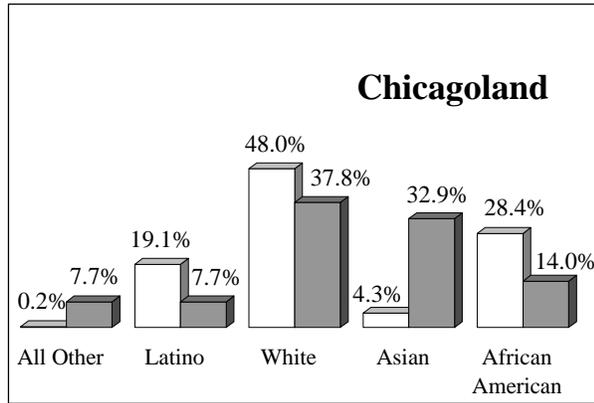
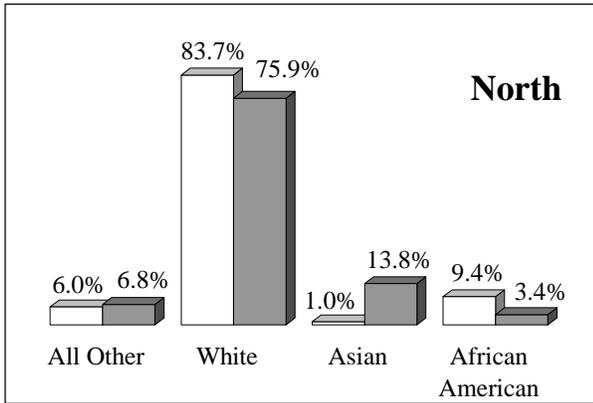
the applicant pool and admissions while the South Suburban Region was overrepresented in the applicant pool and admitted class. While IMSA has devoted a considerable portion of its outreach resources to the Chicago area, they should continue to conduct outreach programs in this area to make the applicants and admissions from this area more reflective of statewide demographics.

Exhibit 4-4 compares the ethnic composition of each region’s 9<sup>th</sup> grade population to the ethnic composition of the region’s admissions in 1998. The exhibit shows that the Chicagoland and Metro East regions had the largest African American admissions to IMSA on a regional basis. The exhibit shows, however, that the Central and North regions also had notable percentages of African Americans (11.7 percent and 9.4 percent respectively) but no corresponding percent of admissions to IMSA. Also, there was only one African American from the Northern region and none from the Central region who applied to IMSA in 1998. The West Central and Southern regions also had no African American applicants.

In addition, Exhibit 4-4 shows that in the six regions with Asian American admissions, the percent of Asian Americans in these regions ranged from .5 percent to 4.3 percent while the percentage of Asian Americans in the invited class ranged from 10 percent to 35.3 percent. The exhibit also shows White students comprised the largest proportion of the invited class and regional 9<sup>th</sup> graders in each region, except in the Metro East region where more African Americans were admitted than Whites.

**Exhibit 4-4  
COMPARISON OF THE PERCENTAGE OF STATEWIDE 9TH GRADERS AND IMSA  
ADMISSIONS BY REGION AND ETHNICITY**

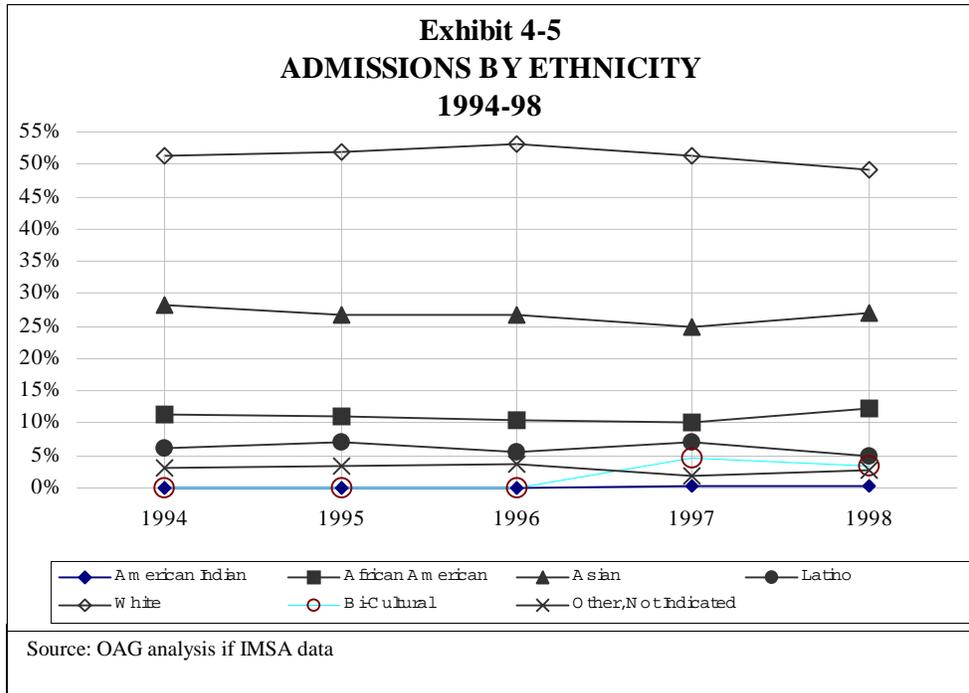
**1998**



% of Regional Admissions  
 % of Regional 9th Graders

Note: See map of IMSA regions on page 5.  
Source: Analysis of IMSA and State Board of Education Data.

The demographics of the first class of students admitted in 1986 were significantly different from those admitted in 1998. In terms of gender, 57 percent of the 1986 class was male and 43 percent female. By comparison, in 1998 there was a 50 percent gender split. Geographically, the Chicago zip code region had only 4.3 percent in 1986 admissions compared to the 1998 class where there were 12 percent admissions. Similarly, the East St. Louis zip code region had 5.2 percent admissions in 1986 and 9 percent admissions in 1998.



In terms of ethnicity, White representation in the admitted class has dropped from 70 percent in 1986 to 49 percent in 1998. For all other ethnic groups, the representation has increased from 1986 to 1998. Most notably, the percent of Asian Americans in 1986 was 15 percent and in 1998 it was 27 percent. African Americans represented 10 percent of the class in 1986 and 12 percent of the 1998 class. The percentage of Latinos in 1986 and 1998 increased (3 percent and 5 percent respectively).

Exhibit 4-5 shows a history of IMSA admissions by ethnicity for 1994 through 1998. Admissions from year-to-year have remained relatively stable. The Bi-Cultural classification was added as a choice in the 1996 student application. Whites have consistently comprised about 50 percent of the admitted class, Asian Americans 25–30 percent of the class, African Americans 10–12 percent of the class, Latinos 5–7 percent of the class, Bi-Cultural 4–5 percent of the class, and other 3–4 percent of the class.

### History of Admissions by School

IMSA is not required to have, and does not have, any policies or guidelines for the number of applicants who can be admitted from any particular school. In the past five years, IMSA has admitted students from 37 percent (403 of 1094) of Illinois schools serving 9<sup>th</sup> graders in 1998. IMSA also admitted 109 8<sup>th</sup> graders from an additional 66 schools serving 8<sup>th</sup> graders. Thirteen percent of the 9<sup>th</sup> graders in the 1996/97 admitted class and 11 percent of the 9<sup>th</sup> graders in the 1997/98 admitted class came from private schools which is comparable to the number of 9<sup>th</sup> graders statewide attending private schools (10.1 percent and 10.2 percent respectively).

We reviewed IMSA’s data on enrollment for the past five years to see how many students were admitted from each school and to see if any schools had high enrollment. There were 16 schools with 10 or more students enrolled over the past 5 years (See Exhibit 4-6). The largest enrollment came from Whitney M. Young Magnet High School in Cook County. Many of the schools with a high number of admissions were located in Cook and the surrounding counties. Another 51 schools had between 5 and 9 students admitted.

<b>Exhibit 4-6 SCHOOLS ADMITTING TEN OR MORE STUDENTS TO IMSA IN PAST FIVE YEARS 1994-1998</b>			
<i>School</i>	<i>County</i>	<i>Average # of 9<sup>th</sup> Graders</i>	<i>Number Admitted Five Year Total</i>
Whitney M. Young Magnet School	Cook	512	37
Lincoln Park High School	Cook	599	20
Waubonsie Valley High School	DuPage	792	13
Ottawa Township High School	LaSalle	394	12
Aurora West High School	Kane	789	12
Elgin High School	Cook	846	12
Naperville Central High School	DuPage	665	11
Avery Coonly School*	DuPage	31	11
William Fremd High School	Cook	664	11
Charleston High School	Coles	255	11
Schaumburg High School	Kane	741	10
DeKalb High School	DeKalb	304	10
East St. Louis Senior High School	St. Clair	97	10
Moline Senior High School	Rock Island	643	10
Harry D. Jacobs High School	McHenry	454	10
Richwoods High School	Peoria	328	10
Source: OAG analysis of IMSA data.			
* This school served 8 <sup>th</sup> grade students			

Of the ten public schools with the largest population of 9<sup>th</sup> graders, the five schools in Exhibit 4-7 had no student applicants or admissions to IMSA in the past five years. Similarly, of the 10 private schools with the largest number of 9<sup>th</sup> graders, there were two

with no applicants or admissions in the past five years. Of all schools in Exhibit 4-7, only Boylan Central Catholic High School was not located in Cook County and all schools except the two private schools, Boylan Central Catholic High School and American School, were in the City of Chicago District 299.

An IMSA official stated many of the schools in Exhibit 4-7 would not necessarily produce IMSA applicants.

According to an IMSA official, many of the talented students in the Chicago Public Schools attend magnet schools like Whitney M. Young Magnet School which already has the largest number of admissions

to IMSA over the past five years (see Exhibit 4-6). Consequently, one would expect fewer admissions from the other Chicago Public Schools. IMSA should, however, periodically review the number of applicants from each of the State’s schools to identify those where additional outreach may be necessary to inform and encourage students to apply to IMSA.

<b>Exhibit 4-7 SCHOOLS WITH LARGE 9<sup>TH</sup> GRADE POPULATIONS WITH NO ADMISSIONS TO IMSA IN PAST FIVE YEARS</b>		
<b>School</b>	<b>County</b>	<b># of 9<sup>th</sup> Graders in 1998</b>
<b>PUBLIC SCHOOLS</b>		
Schurz High School	Cook	992
Farragut Career Academy High School	Cook	909
Curie Metropolitan High School	Cook	844
Kelly High School	Cook	842
Dunbar Vocational High School	Cook	840
<b>PRIVATE SCHOOLS</b>		
American School	Cook	572
Boylan Central Catholic High School	Winnebago	389
Source: State Board of Education and IMSA data.		

<b>OUTREACH</b>	
<b>RECOMMENDATION NUMBER</b>  <b>2</b>	<i>The Illinois Mathematics and Science Academy should continue to direct its outreach efforts towards underrepresented populations of students and consider expanding its outreach in regions where significant underrepresented populations are located. IMSA should also consider conducting analyses of schools with few applicants and admissions in past years to ensure that current outreach efforts are reaching all potential IMSA applicants.</i>
<b>ILLINOIS MATHEMATICS AND SCIENCE ACADEMY RESPONSE</b>	We will continue to direct our outreach efforts towards historically underrepresented populations of students and will seek additional funding (both public and private) to enable us to expand outreach efforts to other areas of the State. We will also conduct analyses of schools with few applicants and admissions in past years to help us determine if we should make any changes in our outreach efforts.

# APPENDICES



APPENDIX A  
LAC Resolution Number 115

## Legislative Audit Commission

### RESOLUTION NO. 115

Presented by Senator Demuzio

WHEREAS, the Illinois Mathematics and Science Academy (IMSA) is a State school located in the Fox River Valley in the Fox River Valley in close proximity to the national science laboratories based in Illinois; and

WHEREAS, the primary role of IMSA is to offer a uniquely challenging education for Illinois' students, talented in the areas of mathematics and science, who have completed the academic equivalent of the ninth grade; and

WHEREAS, IMSA is to demonstrate and provide excellence in mathematics and science education in order to nourish an informed citizenry, assure technological skills for the work force, and assist in the preparation of professionals to serve the interests of Illinois in such fields as engineering, research, teaching, and computer technology; and

WHEREAS, IMSA spends millions of dollars in State and federal funds to both directly and indirectly serve the people of Illinois as a preparatory institution and the school system of the State as a catalyst and laboratory for the advancement of teaching; therefore be it

RESOLVED, BY THE LEGISLATIVE AUDIT COMMISSION of the State of Illinois that the Auditor General is directed to conduct a management and program audit of the Illinois Mathematics and Science Academy; and be it further

RESOLVED, that this audit shall include, but need not be limited to, the following determinations:

- Whether IMSA enrollment policies are consistent with and adequately satisfy federal and State requirements set by statute and regulations as to geographic, sexual, and ethnic representations;
- Whether IMSA has established and implemented procedures to ensure that applicants with high academic skills and talents in science are granted equal standing with applicants whose academic skills are in mathematics;
- Whether IMSA has conducted sufficient outreach programs in each of their seven regions to ensure that the number of applications for enrollment received from each region is commensurate with the ninth grade student percentages of the region as part of the state population of ninth grade students;
- Whether a historic review of IMSA admissions indicated sexual, ethnic, and geographic

APPENDIX B  
IMSA Admissions Application





ILLINOIS MATHEMATICS AND SCIENCE ACADEMY

*...we're more than you think!*

Learning  
comes in many  
styles Sizes  
colOrs

*application for admission ~1998*





## ILLINOIS MATHEMATICS AND SCIENCE ACADEMY

*A Pioneering Educational Community*

### 1998 APPLICATION PROCESS

#### Mission

The mission of the Illinois Mathematics and Science Academy, a pioneering educational community, is to transform mathematics and science teaching and learning by developing ethical leaders who know the joy of discovering and forging connections within and among mathematics, science, the arts, and the humanities by means of an exemplary laboratory environment characterized by research, innovative teaching and service.

#### Academic Program

IMSA is an educational laboratory serving students and teachers throughout the state of Illinois. The 650 students completing the three-year educational program are enrolled in rigorous courses in mathematics, science, art and humanities, emphasizing interconnections between and among the various disciplines. Students are engaged in the research activities of the institution, both as initiators of research and as participants and subjects of the research of others. Some students are assigned to particular courses of study while others may have greater flexibility in course selection. All, however, complete an educational program encompassing core competencies required of all IMSA students. To help promote collaborative exploration and discovery, neither grade point averages nor class rank are used. The unique 20-mod block schedule features an Inquiry Day, allowing students to participate in independent and group research, special seminars and symposia, academic consultation with faculty and mentorship. The academic program is complemented by extensive extracurricular and co-curricular activities as well as competitions and social and recreational activities.

#### Eligibility

Illinois residents who have completed the equivalent of nine years of education, excluding preschool and kindergarten, and are not currently enrolled beyond the ninth grade are invited to apply to the Academy. **Students who have not yet enrolled in the 9th grade must submit documentation of having completed an academic program comparable to high school level work in mathematics, science and English.** Current tenth-grade and eleventh-grade students are not eligible for admission. Continuation in the IMSA program is dependent upon satisfactory academic performance and compliance with all Academy expectations, including participation in institutional research projects and in residential work and community service responsibilities.

#### Admission

Admission to IMSA is highly competitive. Talented students enrolled in the equivalent of a ninth grade program are eligible for consideration. Multiple criteria are used to evaluate candidates, including teacher recommendations, written statements from candidates and their parents or guardians, previous grades and coursework, test scores, and co-curricular interests and achievements.

IMSA is committed to equity in access to all students in Illinois regardless of race, religion, gender or geography. **Tuition and most room and board expenses are provided for all students invited to attend the Academy; however, an annual fee**

is charged. Sophomore fees for the 1997-98 academic year were \$970.00.

Fee waivers are available to students demonstrating financial need. Certification of Illinois residency is required of all students.

- 1 Students who are not invited to attend the Academy or who are waitlisted may request a review of the decision. This request must be submitted in writing to the President of IMSA within two weeks of the receipt of the decision.

## Waitlist

- 2 The number of students invited to attend IMSA each year is determined by availability of space. An additional group of students are identified for a waitlist. Invitations are extended to students on the waitlist as spaces open, however, none will be extended until after July 1, 1998. **The trend has been that approximately half of the students on the waitlist ultimately are invited to attend.**

## Conditional Admission

- 3 Some students may be invited to attend IMSA contingent upon successful completion of a prescribed program. Each year approximately 50 students are required to attend EXCEL, a three-week summer preparation program on the IMSA campus. Students are identified for EXCEL through either application or placement test information. In 1998, EXCEL will be held July 12 - August 2. All applicants should reserve these dates in the event they are required to attend. Self selection to EXCEL is not permitted.

## Placement Testing

- 4 All students invited to attend the Illinois Mathematics and Science Academy are required to complete a series of placement tests prior to registration. Placement tests for students entering in the fall of 1998 are scheduled for either May 30 & 31, depending on the location. Site and time information will be provided with decision letters.

## Application Procedures

- 5 Students seeking admission to IMSA must complete this application form and submit it **along with a non-refundable application fee of \$25.00** to IMSA, postmarked by March 1, 1998. Additionally, students must request that the appropriate supporting evaluation forms be completed by a counselor or principal, a mathematics teacher, a science teacher and an English teacher. **We recommend that students ask teachers to complete the forms who know the student's work well and who have had direct academic experience with them in either the 96-97 or 97-98 school year.** Please distribute the appropriate two-page evaluation forms and letters with directions to:

- |  |  |
|--|--|
| <input type="checkbox"/> Counselor/Principal | <input type="checkbox"/> Mathematics Teacher |
| <input type="checkbox"/> Science Teacher     | <input type="checkbox"/> English Teacher     |

- 6 Student identification information and appropriate releases should be completed before students distribute the forms to their teachers and counselors. **Recommendation forms should be mailed directly to IMSA by the person completing the forms.**

- 7 The post card (*see inside back cover*) should be detached and self addressed by the applicant and returned to IMSA with the completed application form. Upon receipt of the application, IMSA will return this card to verify receipt of the forms. If the post card is not returned within three weeks, applicants should call IMSA at (630) 907-5027 or within Illinois, 1-800-500-IMSA (4672).

- 8 All applicants must take the SAT I. Only scores for exams dated during the 97-98 school year will be considered in the IMSA selection process. Enclosed in this packet is an **ADMISSION SAT I TESTING INFORMATION SHEET**. Please consult this sheet for dates and sites of the test. If you decide to take the SAT I through the national testing program, the **IMSA code number, 3027**, should be designated at the time of the test registration for prompt release of the scores by the Educational Testing Service to IMSA. **Scores from tests taken after March 1, 1998 cannot be guaranteed to arrive in time for IMSA processing.**

- 9 The Academy reserves the right to request an interview with the applicant.
- Jar

## How To Improve Your IMSA Application

Your decision to apply to the Illinois Mathematics and Science Academy may prove to be the single most significant event in your life-long educational and professional career. Completion of this application could set in motion a process that will culminate next fall with your arrival on the IMSA campus where you will meet new friends, explore your talents, interact with students from diverse cultural backgrounds, and perhaps most importantly, expand your options for the future.

Generally, students who complete the application process to IMSA represent a very select group of students from throughout the state of Illinois. In most cases, these students have consistently experienced academic success and have demonstrated their interest, task commitment, and creativity in a variety of settings. We expect that during the 1997-1998 admissions cycle there will be four to five strong applicants for each space available in the class scheduled to arrive in August of 1998. Because the competition for each available space is so great, we encourage you to consider the following suggestions as you complete your application.

- 1. Your application file represents you to the IMSA review committee members.** The care and thought with which you complete your application is revealed by things such as correct spelling and punctuation, legible handwriting, and attention to the intent of the question. Lack of care and thought causes reviewers to question your commitment to the task, and in turn, your probable commitment to the IMSA academic program. If possible, we recommend that you type your responses on the application form.
- 2. Reviewers will be looking for evidence of potential in several areas.** These include:
  - a. Mathematical reasoning demonstrated by **specific achievements or activities.**
  - b. Scientific reasoning demonstrated by **specific achievements or activities.**
  - c. Communication skills demonstrated by **your written responses** to questions.
  - d. Interpersonal skills demonstrated by evidence of understanding viewpoints other than your own, acceptance of both leader and follower roles, and promotion of cooperative behaviors among peers.
  - e. Performance ability demonstrated by activities such as computer programming, musical performance, construction of models, etc.
- 3. Reviewers will look for evidence of your willingness to accept challenges, demonstrate motivation and task commitment, and attack problems creatively.**
- 4. Your application is supported by the evaluation forms completed by your counselor and teachers.** Remember that these people are very busy. Please allow them sufficient time to complete the forms carefully.
- 5. Your application cannot receive favorable review if it is not complete.** Check back with your teachers and counselor to make sure the forms have been sent to IMSA on time. Also, **be sure to take the SAT I no later than March 1, 1998.**
- 6. Let your personality emerge from your file.** Let the reviewers "see" your sensitivity, sense of humor, and insight. Remember, this is the only way they can learn about you.

*(Continued)*

Good luck as you complete the IMSA application. Call us at (630) 907-5027 or within Illinois 1-800-500-IMSA (4672) if you have any questions that your teachers or counselor cannot answer.

We hope that you will take advantage of one of the Visitor Information Program (VIP) sessions at the Academy to learn more about the curriculum and to talk to current students and their parents. We encourage you to attend an information meeting in your region to talk with an admission counselor personally.

Regardless of the outcome of your application, we hope that the process of applying to IMSA will be a positive experience for you. Use this time to think carefully about your own educational goals and to examine and celebrate your talents.

## VIP Days (Visitor Information Programs)

Students and their parents and teachers who are interested in learning more about the Academy's academic and residential life programs are invited to attend an IMSA VIP Day. Please note that VIP Days include a structured program. **Please arrive on time.**

Come meet with current IMSA students, their parents, and IMSA staff.

<b>Program Date</b>	<b>Program Time</b>	<b>Music</b>
SATURDAY, JANUARY 31, 1998.....	1:00 P.M. ....	12:30 P.M.
SUNDAY, FEBRUARY 22, 1998 .....	1:00 P.M. ....	12:30 P.M.

## Application Checklist

**Your completed application file must include the following items:**

- Application form
- \$25.00 non-refundable application fee. Checks payable to IMSA.
- Mathematics teacher evaluation form
- Science teacher evaluation form
- English teacher evaluation form
- Counselor or principal evaluation form
- 1995-96 grade report
- 1996-97 grade report
- 1997-98 grade report
- current academic year SAT I scores

**IMSA APPLICATION DEADLINE:  
POSTMARKED BY MARCH 1, 1998.**

Office of Admission  
Illinois Mathematics and Science Academy  
1500 West Sullivan Road  
Aurora, Illinois 60506-1000

**Dr. Stephanie Pace Marshall, *President***  
**Dr. Connie Hatcher, *Vice President for Teaching and Learning***  
**Dr. Gregg Sinner, *Principal***  
**Dr. LuAnn Smith, *Director of Enrollment Services***



ILLINOIS MATHEMATICS AND SCIENCE ACADEMY

A Pioneering Educational Community

1998 APPLICATION FOR ADMISSION

(Please type or print legibly in black ink)

SECTION I. To be completed by student and mailed to the Academy postmarked by March 1, 1998.

1. Full Name: Last First MI.

2. Home Address: Street# Street Apt#
City State Zip
Area Code Telephone #

3. Enter M for male or F for female:

4. Enter your social security number in the boxes to the right: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

5. Enter your Date of Birth in the boxes to the right: [ ] [ ] [ ] [ ] [ ] [ ]
Month Day Year

6. Enter your city, state and country of birth:

7. Are you a permanent resident of the state of Illinois? [ ] Yes [ ] No

8. Enter your current year in school in the box to the right: (i.e. 9th) [ ]

9. Enter your ethnic code in the box to the right: [ ]

- 1 for American Indian or Alaskan Native—Ancestral origin in North America and maintaining cultural identification through tribal affiliation or community recognition (Please attach copy of CIB or Tribal enrollment card.)
2 for African American (non-Latino)—Ancestral origin in any of the black racial groups of Africa
3 for Asian or Pacific Islander—Ancestral origin in Far East, Southeast Asia, Indian subcontinent, or the Pacific Islands (including China, Japan, Korea, the Philippine Islands, and Samoa)
4 for Latino—Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish ancestral origin regardless of race
5 for White (non-Latino)—Ancestral origin in Europe, North Africa, or the Middle East
6 for Bi-cultural (please specify from above)

(Ethnic information is requested so that IMSA may demonstrate compliance with federal requirements. Failure to respond will not affect this application.)

When complete, please retain a photocopy of this form for your records.

Please detach, complete and return to IMSA

10. Enter the **county in Illinois** in which you reside: \_\_\_\_\_

11. Enter your age as of Sept. 1, 1998: \_\_\_\_\_

12. Is English your first language?  Yes  No  
If no, how long have you spoken English? \_\_\_\_\_ years \_\_\_\_\_ months

13. What language is spoken in your home? \_\_\_\_\_

14. Name(s) of parents (legal guardians) with whom you live:

(Mr., Ms., Mrs., Dr.)  
*circle one* name relationship

(Mr., Ms., Mrs., Dr.)  
*circle one* name relationship

15. If there is another parent with whom we need to communicate, please complete name, address and phone below:

(Mr., Ms., Mrs., Dr.)  
*circle one* name relationship

Street # Street Apt #

City State Zip

Area Code Telephone #

16. Write in the name and address of your current school in the spaces below:

Name of School

Street # Street

City State Zip

17. Principal's Name: \_\_\_\_\_

18. Counselor's Name: \_\_\_\_\_

19. Name of Teachers completing your evaluation forms and their schools:

a. Mathematics Teacher: \_\_\_\_\_ School \_\_\_\_\_

b. Science Teacher: \_\_\_\_\_ School \_\_\_\_\_

c. English Teacher: \_\_\_\_\_ School \_\_\_\_\_

20. Have you registered for the SAT I? \_\_\_\_\_ Yes \_\_\_\_\_ No

If yes, name site: \_\_\_\_\_ date \_\_\_\_\_

**The SAT I must be taken during the 1997-98 academic year, prior to March 1, 1998.**

**SECTION II.** To be completed by student.

Please respond to the following questions (use additional pages if necessary, not to exceed a total of 3).

21. If you are invited to attend the Academy, you will be asked to live, study, and work with many people from different backgrounds from throughout Illinois. Use the space below to introduce or describe yourself to these people.

*Please detach, complete and return to IMSA.*

56

22. Please describe your interest in mathematics and science, in school and out.

23. Please list IMSA sponsored activities/programs in which you have participated.

Activity	Date	Location
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

24. Please list your extracurricular activities, both organized and individual, during the past three years. Also indicate any leadership positions you held in these activities. (Music, Chess Club, Newspaper, Scouting, etc.) Please include out-of-school activities such as Talent Search Programs, 4-H, computer workshops, etc. in your list. (IMSA reserves the right to verify participation in activities listed.)

Activity	Leadership positions	Year(s) of participation
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

25. Please list any awards that you have received, both in and out of school, during the past three years (Academic, Musical, Athletic, etc. Also indicate whether local, state or national level). (IMSA reserves the right to verify awards received.)

Awards	Year	Individual or team	Level (local, state, national)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

26. Optional Statement

IMSA attempts to identify those applicants whose previous school grades or admission test scores may underpredict academic success. Among the factors we consider in making admission decisions are whether the applicant (1) has a permanent physical disability; (2) had a health problem which significantly affected, for a period of time, an otherwise exceptionally good academic record; (3) is from an economically disadvantaged environment; (4) has completed an exceptionally rigorous academic program; (5) has other exceptional circumstances; or (6) does not speak English at home. This information is considered with your academic credentials. It is particularly relevant if your qualifications place you slightly below the competitive applicants.

Use the space below to describe any factors like those listed above that you believe the selection committee should consider as they review your credentials.

Please detach, complete and return to IMSA.

**SECTION III. Personal Essays**

27. In the space below, please describe in paragraph form a stressful situation in your life, how you coped with it, and what you learned from the situation.

**SECTION III. Personal Essays**

28. IMSA is committed to the development of ethical leaders. Please describe a situation from your experience that required you to make an ethical decision about your behavior.

*Please detach, complete and return to IMSA.*

**The above essays are samples of my own work and have not been edited by others.**

\_\_\_\_\_  
Applicant's Signature

**SECTION IV. To be completed by parent/guardian.**

29. In the space below, please explain how the Illinois Mathematics and Science Academy can enhance your child's education. Also, please provide any additional information that the Student Selection Committee should consider when evaluating your child's application to IMSA.

**SECTION V. To be completed by student and parent/guardian.**

We understand that withholding pertinent information requested on this application or giving false information will make me ineligible for admission to the Illinois Mathematics and Science Academy or subject to cancellation of registration if admission has occurred. The information given herein is true and accurate. If the applicant is accepted for admission to the Illinois Mathematics and Science Academy, we agree to adhere to rules and regulations now in existence and those that may be established in the future by the school. We agree to permit information in this application and other records resulting from applying to and attending the school to be made available on a confidential basis to the applicant's home school, other educational institutions, and for IMSA-approved research purposes. All application documents are retained by the Academy. I understand that if admitted, this student may be assigned to specific courses or sections as part of the research and development work of the laboratory.

\_\_\_\_\_/\_\_\_\_\_  
Parent/Guardian Signature Date

\_\_\_\_\_/\_\_\_\_\_  
Applicant Signature Date

**Please retain photocopy of completed application form for your records.**

**EQUAL OPPORTUNITY INFORMATION** State Government policy prohibits discrimination based on race, sex, color, creed, religion, national origin, age and ancestry, sexual orientation, political affiliation or disability. The sole purpose of gathering this information is to ascertain the effectiveness of recruitment efforts in reaching all segments of the population. IMSA's programs, services and activities are accessible to disabled individuals.



ILLINOIS MATHEMATICS AND SCIENCE ACADEMY

*A Pioneering Educational Community*

OFFICE OF ENROLLMENT SERVICES

To: **Mathematics Teacher**  
From: LuAnn Smith, Ph.D.  
Director of Enrollment Services

Your thoughtful comments about the applicant's character and abilities will help us see him or her as an individual beyond the grades, test scores, and activities that he or she presents. **We have found reports that include anecdotes or descriptions of specific behaviors are most helpful.** Your report, with those written by a science teacher, an English teacher and a counselor or principal, and the student's completed application form will be read by at least three members of the Student Review Committee as they rate applicants for admission to IMSA. **The Committee members will not have access to the student's grades and test scores as they make their ratings. Please do not include grades or test scores in your evaluation.**

The Student Review Committee is asked to rate students on their potential for mathematical reasoning, scientific reasoning, communication skills, interpersonal skills and performance abilities. **As a mathematics teacher who knows this student well, your judgments about his or her potential for mathematical reasoning are very important.** Behaviors that indicate potential for mathematical reasoning include the degree to which the student:

- seeks precision in responding to questions;
- strives for accuracy in observations;
- recognizes relevant information, including the identification of patterns;
- deals in an orderly manner with the parts of a complex whole;
- employs critical thinking abilities, including the ability to derive general principles from particular instances and to draw conclusions from stated premises;
- can make predictions or form hypotheses based on a theoretical understanding;
- is comfortable using new terms and vocabulary;
- approaches problems from multiple perspectives.

*The mathematics sequence at IMSA presumes the student has completed a minimum of one year of algebra prior to enrolling.*

Thank you for your assistance with this student's application to the Illinois Mathematics and Science Academy. **Reports and recommendations that are collected for admission purposes do not become a part of the student's permanent academic record.**

**Please retain a photocopy of the completed evaluation form for your records.**

*Please detach and give this page to your mathematics teacher.*

# MATHEMATICS TEACHER EVALUATION OF APPLICANT



Name of Applicant \_\_\_\_\_  
Please print

**INFORMATION RELEASE** — Complete this section before giving to the teacher.

I, the undersigned, hereby request that all data in support of my application to the Illinois Mathematics and Science Academy be at the disposal of IMSA officials.

As parent/guardian of the named student, I grant permission to release all school data in support of my son/daughter's application to the Illinois Mathematics and Science Academy.

\_\_\_\_\_/\_\_\_\_\_  
Applicant Signature Date

\_\_\_\_\_/\_\_\_\_\_  
Parent/Guardian Date

I, the undersigned, hereby waive my right to review any comments or information included in this evaluation form or their supporting documents. (optional)

As parent/guardian of the named student, I waive my right to review any comments or information included in this evaluation form or their supporting documents. (optional)

\_\_\_\_\_/\_\_\_\_\_  
Applicant Signature Date

\_\_\_\_\_/\_\_\_\_\_  
Parent/Guardian Date

Please detach and give this page to your mathematics teacher.

**CLASSROOM BEHAVIORS:** Please include behaviors that indicate potential for the areas listed below.

Please describe a class or academic situation in which this candidate demonstrated exceptional **intellectual curiosity, creativity or leadership.**

Please describe this candidate's **typical classroom performance and preparation.**

Please describe this candidate's **willingness to work in a group and independently.**

Please describe this candidate's **reading interests, reading ability, and study skills development.**

Please describe this candidate's **ability to speak articulately about mathematics methods.**

Comments:

Please use this space to provide any additional information that the Student Review Committee should consider when evaluating this candidate's application to IMSA, including his or her ability to meet personal responsibilities such as taking care of self, meeting deadlines, personal initiative, etc. Please include evidence of mathematical reasoning and any obstacles this student has had to overcome in pursuing his or her educational goals, if appropriate.

PERSONAL QUALITIES	Outstanding	Good	Average	Below Average	No Basis for Judgement
General intelligence	_____	_____	_____	_____	_____
Motivation and task commitment	_____	_____	_____	_____	_____
Independence	_____	_____	_____	_____	_____
Leadership	_____	_____	_____	_____	_____
Maturity	_____	_____	_____	_____	_____
Acceptance of challenge	_____	_____	_____	_____	_____
Social adaptability and responsibility	_____	_____	_____	_____	_____
Emotional stability	_____	_____	_____	_____	_____

Among the students I have encountered in my teaching career, in terms of mathematical reasoning, this student ranks in the (check one)  
 \_\_\_\_\_ upper 1-2% \_\_\_\_\_ top 5% \_\_\_\_\_ top 10% \_\_\_\_\_ top 25% \_\_\_\_\_ top 50% \_\_\_\_\_ bottom 50%

Number of years teaching: \_\_\_\_\_

Length of time you have known this candidate \_\_\_\_\_ years \_\_\_\_\_ months Years you taught this candidate: 19\_\_\_\_-19\_\_\_\_

This candidate has completed in previous years or is completing this year all content typically included in a year-long course in:  
 (Please check all that apply. Please do not include Jr. High survey courses).

- |   |   |
|---|---|
| <input type="checkbox"/> Algebra I                          | <input type="checkbox"/> Pre-Calculus         |
| <input type="checkbox"/> Geometry                           | <input type="checkbox"/> Calculus             |
| <input type="checkbox"/> Advanced Algebra                   | <input type="checkbox"/> Programming language |
| <input type="checkbox"/> Advanced Algebra with Trigonometry | specify _____                                 |
|   | Other _____                                   |
|   | Other _____                                   |

Print Name of Person Completing this Form (Last, First):	Title:	Office Phone: ( )
Institution:	Signature:	Date:
Address:		

IMSA's programs, services, and activities are accessible to disabled individuals.  
**Please retain a photocopy of this form for your records and mail original directly to:**

Office of Admission  
**Illinois Mathematics and Science Academy**  
 1500 West Sullivan Road  
 Aurora, Illinois 60506-1000  
 Phone: (630) 907-5027  
 Within Illinois: 1-800-500-IMSA (4672)

**Return form and transcripts postmarked by March 1, 1998.**



ILLINOIS MATHEMATICS AND SCIENCE ACADEMY

*A Pioneering Educational Community*

**OFFICE OF ENROLLMENT SERVICES**

To: **Science Teacher**  
From: LuAnn Smith, Ph.D.  
Director of Enrollment Services

Your thoughtful comments about the applicant's character and abilities will help us see him or her as an individual beyond the grades, test scores, and activities that he or she presents. **We have found reports that include anecdotes or descriptions of specific behaviors are most helpful.** Your report, with those written by a mathematics teacher, an English teacher and a counselor or principal, and the student's completed application form will be read by at least three members of the Student Review Committee as they rate applicants for admission to IMSA. **The Committee members will not have access to the student's grades and test scores as they make their ratings. Please do not include grades or test scores in your evaluation.**

The Student Review Committee is asked to rate students on their potential for mathematical reasoning, scientific reasoning, communication skills, interpersonal skills and performance abilities. **As a science teacher who knows this student well, your judgments about his or her potential for science reasoning are very important.** Behaviors that indicate potential for scientific reasoning include the degree to which the student:

- seeks precision in responding to questions;
- demonstrates creativity by using original and unique techniques in problem solving;
- recognizes relevant information, including the identification of patterns;
- deals in an orderly manner with the parts of a complex whole;
- employs critical thinking abilities, including the ability to derive general principles from particular instances and to draw conclusions from stated premises;
- can make predictions or form hypotheses based on a theoretical understanding;
- is comfortable using new terms and vocabulary.

Thank you for your assistance with this student's application to the Illinois Mathematics and Science Academy. **Reports and recommendations that are collected for admission purposes do not become a part of the student's permanent academic record.**

**Please retain a photocopy of the completed evaluation form for your records.**

*Please detach and give this page to your science teacher.*

# SCIENCE TEACHER EVALUATION OF APPLICANT



Name of Applicant \_\_\_\_\_  
Please print

**INFORMATION RELEASE** — Complete this section before giving to the teacher.

I, the undersigned, hereby request that all data in support of my application to the Illinois Mathematics and Science Academy be at the disposal of IMSA officials.

As parent/guardian of the named student, I grant permission to release all school data in support of my son/daughter's application to the Illinois Mathematics and Science Academy.

\_\_\_\_\_/\_\_\_\_\_  
Applicant Signature Date

\_\_\_\_\_/\_\_\_\_\_  
Parent/Guardian Date

I, the undersigned, hereby waive my right to review any comments or information included in this evaluation form or their supporting documents. (optional)

As parent/guardian of the named student, I waive my right to review any comments or information included in this evaluation form or their supporting documents. (optional)

\_\_\_\_\_/\_\_\_\_\_  
Applicant Signature Date

\_\_\_\_\_/\_\_\_\_\_  
Parent/Guardian Date

**CLASSROOM BEHAVIORS:** Please include behaviors that indicate potential for the areas listed below.

Please describe a class or academic situation in which this candidate demonstrated exceptional **intellectual curiosity, creativity or leadership.**

Please describe this candidate's **typical classroom performance and preparation.**

Please describe this candidate's **performance in the laboratory, i.e. "on task" behavior, completion of projects and reports.**

Please describe this candidate's **willingness to work in a group and independently.**

Please describe this candidate's **reading interests, reading ability, and study skills development.**

Please describe this candidate's **ability to describe laboratory and research reports in written and oral form.**

Please detach and give this page to your science teacher.

Comments:

Please use this space to provide any additional information that the Student Review Committee should consider when evaluating this candidate's application to IMSA, including his or her ability to meet personal responsibilities such as taking care of self, meeting deadlines, personal initiative, etc. Please include evidence of scientific reasoning and any obstacles this student has had to overcome in pursuing his or her educational goals, if appropriate.

PERSONAL QUALITIES	Outstanding	Good	Average	Below Average	No Basis for Judgement
General intelligence	_____	_____	_____	_____	_____
Motivation and task commitment	_____	_____	_____	_____	_____
Independence	_____	_____	_____	_____	_____
Leadership	_____	_____	_____	_____	_____
Maturity	_____	_____	_____	_____	_____
Acceptance of challenge	_____	_____	_____	_____	_____
Social adaptability and responsibility	_____	_____	_____	_____	_____
Emotional stability	_____	_____	_____	_____	_____

Among the students I have encountered in my teaching career, in terms of scientific reasoning, this student ranks in the (check one)  
 \_\_\_\_\_ upper 1-2% \_\_\_\_\_ top 5% \_\_\_\_\_ top 10% \_\_\_\_\_ top 25% \_\_\_\_\_ top 50% \_\_\_\_\_ bottom 50%

Number of years teaching: \_\_\_\_\_

Length of time you have known this candidate \_\_\_\_\_ years \_\_\_\_\_ months      Years you taught this candidate: 19 \_\_\_\_-19 \_\_\_\_

This candidate has completed in previous years or is completing this year all content typically included in a year-long course in:  
 (Please check all that apply. Please do not include Jr. High survey courses).

- |                                      |                   |
|--------------------------------------|-------------------|
| _____ Introductory Biology           | _____ Chemistry   |
| _____ Advanced Biology               | _____ Physics     |
| _____ Earth Science/Physical Science | _____ Other _____ |

Print Name of Person Completing this Form (Last, First):	Title:	Office Phone: (    )
Institution:	Signature:	Date:
Address:		

IMSA's programs, services, and activities are accessible to disabled individuals.  
**Please retain a photocopy of this form for your records and mail original directly to:**

Office of Admission  
**Illinois Mathematics and Science Academy**  
 1500 West Sullivan Road  
 Aurora, Illinois 60506-1000  
 Phone: (630) 907-5027  
 Within Illinois: 1-800-500-IMSA (4672)

**Return form and transcripts postmarked by March 1, 1998.**



ILLINOIS MATHEMATICS AND SCIENCE ACADEMY

*A Pioneering Educational Community*

OFFICE OF ENROLLMENT SERVICES

To: **English Teacher**  
From: LuAnn Smith, Ph.D.  
Director of Enrollment Services

Your thoughtful comments about the applicant's character and abilities will help us see him or her as an individual beyond the grades, test scores, and activities that he or she presents. **We have found reports that include anecdotes or descriptions of specific behaviors are most helpful.** Your report, with those written by a mathematics teacher, a science teacher and a counselor or principal, and the student's completed application form will be read by at least three members of the Student Review Committee as they rate applicants for admission to IMSA. **The Committee members will not have access to the student's grades and test scores as they make their ratings. Please do not include grades or test scores in your evaluation.**

The Student Review Committee is asked to rate students on their potential for mathematical reasoning, scientific reasoning, communication skills, interpersonal skills and performance abilities. **As an English teacher who knows this student well, your judgments about his or her potential for English language competency are very important.** Behaviors that indicate potential for English language competency include the degree to which the student:

- seeks precision in responding to questions;
- demonstrates creativity by using original and unique techniques in problem solving;
- recognizes relevant information, including the identification of patterns;
- deals in an orderly manner with the parts of a complex whole;
- demonstrates willingness to take academic risks.

Thank you for your assistance with this student's application to the Illinois Mathematics and Science Academy. **Reports and recommendations that are collected for admission purposes do not become a part of the student's permanent academic record.**

**Please retain a photocopy of the completed evaluation form for your records.**

*Please detach and give this page to your English teacher.*

# ENGLISH TEACHER EVALUATION OF APPLICANT



Name of Applicant \_\_\_\_\_  
Please print

## INFORMATION RELEASE — Complete this section before giving to the teacher.

I, the undersigned, hereby request that all data in support of my application to the Illinois Mathematics and Science Academy be at the disposal of IMSA officials.

As parent/guardian of the named student, I grant permission to release all school data in support of my son/daughter's application to the Illinois Mathematics and Science Academy.

\_\_\_\_\_/\_\_\_\_\_  
Applicant Signature Date

\_\_\_\_\_/\_\_\_\_\_  
Parent/Guardian Date

I, the undersigned, hereby waive my right to review any comments or information included in this evaluation form or their supporting documents. (optional)

As parent/guardian of the named student, I waive my right to review any comments or information included in this evaluation form or their supporting documents. (optional)

\_\_\_\_\_/\_\_\_\_\_  
Applicant Signature Date

\_\_\_\_\_/\_\_\_\_\_  
Parent/Guardian Date

### CLASSROOM BEHAVIORS: Please include behaviors that indicate potential for the areas listed below.

Please describe a class or academic situation in which this candidate demonstrated exceptional **intellectual curiosity, creativity or leadership.**

Please describe this candidate's **typical classroom performance and preparation.**

Please describe this candidate's **oral and written communication skills.**

Please describe this candidate's **willingness to work in a group and independently.**

Please describe this candidate's **reading interests, reading ability, and study skills development.**

Please detach and give this page to your English teacher.

**Comments:**

Please use this space to provide any additional information that the Student Review Committee should consider when evaluating this candidate's application to IMSA, including his or her ability to meet personal responsibilities such as taking care of self, meeting deadlines, personal initiative, etc. Please include any obstacles this student has had to overcome in pursuing his or her educational goals, if appropriate.

PERSONAL QUALITIES	Outstanding	Good	Average	Below Average	No Basis for Judgement
General intelligence	_____	_____	_____	_____	_____
Motivation and task commitment	_____	_____	_____	_____	_____
Independence	_____	_____	_____	_____	_____
Leadership	_____	_____	_____	_____	_____
Maturity	_____	_____	_____	_____	_____
Acceptance of challenge	_____	_____	_____	_____	_____
Social adaptability and responsibility	_____	_____	_____	_____	_____
Emotional stability	_____	_____	_____	_____	_____

Among the students I have encountered in my teaching career, in terms of reading and writing skills, this student ranks in the (check one)  
 \_\_\_\_\_ upper 1-2% \_\_\_\_\_ top 5% \_\_\_\_\_ top 10% \_\_\_\_\_ top 25% \_\_\_\_\_ top 50% \_\_\_\_\_ bottom 50%

Number of years teaching: \_\_\_\_\_

Length of time you have known this candidate: \_\_\_\_\_ years \_\_\_\_\_ months      Years you taught this candidate: 19 \_\_\_\_-19 \_\_\_\_

Print Name of Person Completing this Form (Last, First):	Title:	Office Phone: (    )
Institution:	Signature:	Date:
Address:		

IMSA's programs, services, and activities are accessible to disabled individuals.  
**Please retain a photocopy of this form for your records and mail original directly to:**

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**Illinois Mathematics and Science Academy**  
 1500 West Sullivan Road  
 Aurora, Illinois 60506-1000  
 Phone: (630) 907-5027  
 Within Illinois: 1-800-500-IMSA (4672)

**Return form and transcripts postmarked by March 1, 1998.**



ILLINOIS MATHEMATICS AND SCIENCE ACADEMY

*A Pioneering Educational Community*

**OFFICE OF ENROLLMENT SERVICES**

To: **Counselor or Principal**  
From: LuAnn Smith, Ph.D.  
Director of Enrollment Services

Your thoughtful comments about the applicant's character and abilities will help us see him or her as an individual beyond the grades, test scores, and activities that he or she presents. **We have found reports that include anecdotes or descriptions of specific behaviors are most helpful.** Your report, with those written by a mathematics teacher, a science teacher and an English teacher, and the student's completed application form will be read by at least three members of the Student Review Committee as they rate applicants for admission to IMSA. **The Committee members will not have access to the student's grades and test scores as they make their ratings.** Grades and test scores will be added to the ratings for review by the Selection Committee. Please do not include grades or test scores in your evaluation.

We are interested in learning how the students have performed in the classroom over an extended period of time, not just during the current academic year. Please **attach a transcript** to this form that includes all work completed at your school and if available, include copies of your school profile and an explanation of the grading system. If the student attended a **different school** during the **1995-96** and **1996-97** school years, **please attach a copy of a grade report form** from that school with your initials on it certifying that it is a copy of an original, either from the school's records or the student's.

All students applying to IMSA must have **SAT I scores from this academic year, but taken prior to March 1, 1998**, sent directly to the Academy from ETS. Students may take the SAT I through the nationally scheduled test dates and sites or they may register through IMSA for one of our own institutional administrations. If students choose the national testing program, please provide them with a current copy of the College Board's Registration Bulletin with its enclosed registration form and envelope. Students must enter IMSA's code number, 3027, in section 11a of the registration form. Students should also obtain a copy of "Taking the SAT I" and work through the sample tests prior to taking the exam. Students choosing to take the SAT I through the IMSA testing program must send the registration materials provided in the IMSA application booklet to us. Please remind students that they must take the SAT I prior to March 1, 1998, if we are to receive the scores in time for processing with their applications this spring.

**Reports and evaluations that are collected for admission purposes do not become a part of the student's permanent academic record.**

Students who are not invited to attend the Academy or who are waitlisted may request a review of the decision. This request must be submitted in writing to the President of IMSA within two weeks of the receipt of the decision.

Thank you for your assistance with this application.

**Please retain a photocopy of the completed evaluation form for your records.**

*Please detach and give this page to your counselor/principal.*

# COUNSELOR/PRINCIPAL EVALUATION OF APPLICANT



Name of Applicant \_\_\_\_\_  
Please print

### To The Applicant:

Please print your name, school name and address below and complete the release section. Give the signed form to your current counselor or principal, allowing enough time for thoughtful completion, and ask him or her to return it to IMSA postmarked by **March 1, 1998**.

### INFORMATION RELEASE — Complete this section before giving to the counselor/principal.

I, the undersigned, hereby request that all data in support of my application to the Illinois Mathematics and Science Academy be at the disposal of IMSA officials.

As parent/guardian of the named student, I grant permission to release all school data in support of my son/daughter's application to the Illinois Mathematics and Science Academy.

\_\_\_\_\_/\_\_\_\_\_  
Applicant Signature Date

\_\_\_\_\_/\_\_\_\_\_  
Parent/Guardian Date

I, the undersigned, hereby waive my right to review any comments or information included in this evaluation form or their supporting documents. (optional)

As parent/guardian of the named student, I waive my right to review any comments or information included in this evaluation form or their supporting documents. (optional)

\_\_\_\_\_/\_\_\_\_\_  
Applicant Signature Date

\_\_\_\_\_/\_\_\_\_\_  
Parent/Guardian Date

Applicant Name (Last, first, middle)		Current Grade Level	
School Name			
School Address (Street, City, Zip Code)			
Superintendent's Name			
District type and number			
Number of students in school			
Please indicate grades taught at your school			
<input type="checkbox"/> Please check here if candidate has completed registration process for the SAT I which must be taken prior to March 1, 1998.			
This candidate ranks _____ in a class of _____			
List English, Mathematics, and Science course titles in spaces below:			
Year School	English Course	Mathematics Course	Science Course
7th			
8th			
9th			

Please complete reverse side

25

Does your school offer honors or accelerated courses or programs?  Yes  No

If yes, how are students identified for participation in these courses or programs?  
 (Please indicate if self-selection is permitted)

---



---

Is this candidate enrolled in honors courses?  Yes  No

Does your school follow a block scheduling format?  Yes  No

**Comments:**

Please use this space to provide any additional information that the Student Review Committee should consider when evaluating this candidate's application to IMSA. Please include information about obstacles this student has had to overcome in pursuing his or her educational goals, if appropriate.

**Please confirm** that the following information is included with this completed form:

- 1995-96 Transcript
- 1996-97 Transcript
- 1997-98 Transcript (1st semester)
- School Profile (if available)
- Explanation of school's grading system

Print Name of Person Completing this Form (Last, First):	Title:	Office Phone: (    )    -    -
Address:		
Signature:		Date:
Length of time you have known this candidate: _____ years _____ months		

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Office of Admission  
**Illinois Mathematics and Science Academy**  
 1500 West Sullivan Road  
 Aurora, Illinois 60506-1000  
 Phone: (630) 907-5027  
 Within Illinois: 1-800-500-IMSA (4672)

**Return form and transcripts postmarked by March 1, 1998.**

*gle*



ILLINOIS MATHEMATICS AND SCIENCE ACADEMY

A Pioneering Educational Community

ADMISSION SAT I PROGRAM

The SAT I is used by the Illinois Mathematics and Science Academy in the admission process. All students seeking admission to IMSA for Fall 1998 must take the SAT I during the 1997-1998 academic year prior to March 1, 1998. Two options for taking the SAT I are available. YOU MUST CHOOSE ONE OF THESE OPTIONS. Call 630-907-5027 or 1-800-500-IMSA (4672), if you have any questions.

OPTION ONE: National SAT I Administration

Educational Testing Service (ETS) administers the SAT I to prospective college students on multiple dates at many sites each year. To register for the National program, obtain the "College Board Registration Bulletin" from a high school counselor. Complete the registration form enclosed in the bulletin and enter the IMSA code #3027 in section 11A. Mail the completed form, along with a check or money order for \$22.50 directly to ETS in the envelope that is provided in the bulletin. Students choosing this option will need to take the test no later than January 24, 1998 to guarantee that IMSA will receive test scores in time for processing this spring.

Test dates and deadlines for the National program are listed below. Please refer to the College Board Registration Bulletin for the location of available sites on these dates.

Testing Dates	Deadlines
October 4	September 9
November 1	September 26
December 6	October 30
January 4	December 19

OPTION TWO: IMSA Administration

IMSA, with the assistance of the Illinois Community Colleges, will be administering the SAT I on five Saturdays and one Sunday in February/March. Sites and dates are listed on the reverse side of this page. Please note the registration deadline for each site. Late registrants and walk-ins will be accommodated on a space available basis only.

To register for the IMSA testing, complete the back of this form and mail it to the address below. Please enclose a check or money order for \$30.00 payable to IMSA, to cover the cost of the test administration. Test admission tickets will be sent 2 weeks prior to the test date. No refunds for the test fee will be made after the registration deadline.

ILLINOIS MATHEMATICS AND SCIENCE ACADEMY
Office of Admission
1500 W. Sullivan Road
Aurora, IL 60506-1000

Please note: Applicants may take the SAT I through Option 2 one time only during any one application year.

### 1998 Admission SAT I Program

CITY	TEST SITE	TEST DATE	REGISTRATION DEADLINE
Aurora	Illinois Mathematics and Science Academy	Feb. 28, 1998	Feb. 6, 1998
Aurora	Illinois Mathematics and Science Academy	Mar. 1, 1998	Feb. 6, 1998
Belleville	Belleville Area College	Feb. 21, 1998	Jan. 30, 1998
Canton	Spoon River Community College	Feb. 21, 1998	Jan. 30, 1998
Carterville	John A. Logan College	Feb. 14, 1998	Jan. 23, 1998
Centralia	Kaskaskia College	Feb. 21, 1998	Jan. 30, 1998
Champaign	Parkland College	Feb. 21, 1998	Jan. 30, 1998
Chicago	University of Illinois - Chicago	Feb. 14, 1998	Jan. 23, 1998
Chicago Heights	Prairie State College	Feb. 21, 1998	Jan. 30, 1998
Danville	Danville Area Community College	Feb. 14, 1998	Jan. 23, 1998
Decatur	Richland Community College	Feb. 7, 1998	Jan. 16, 1998
Des Plaines	Oakton Community College	Feb. 7, 1998	Jan. 16, 1998
Dixon	Sauk Valley College	Feb. 21, 1998	Jan. 30, 1998
East Peoria	Illinois Central College	Feb. 7, 1998	Jan. 16, 1998
East St. Louis	To Be Announced		
Elgin	Elgin Community College	Feb. 14, 1998	Jan. 23, 1998
Freeport	Highland Community College	Feb. 7, 1998	Jan. 16, 1998
Galesburg	Carl Sandburg College	Feb. 28, 1998	Feb. 6, 1998
Glen Ellyn	College of DuPage	Feb. 14, 1998	Jan. 23, 1998
Godfrey	Lewis & Clark Community College	Feb. 14, 1998	Jan. 23, 1998
Grayslake	College of Lake County	Feb. 28, 1998	Feb. 6, 1998
Harrisburg	Southeastern Illinois College	Feb. 7, 1998	Jan. 16, 1998
Jacksonville	Jacksonville High School	Feb. 21, 1998	Jan. 30, 1998
Joliet	Joliet Junior College	Feb. 14, 1998	Jan. 23, 1998
Kankakee	Kankakee Community College	Feb. 21, 1998	Jan. 30, 1998
Macomb	Western Illinois University	Feb. 21, 1998	Jan. 30, 1998
Malta	Kishwaukee College	Feb. 7, 1998	Jan. 16, 1998
Mattoon	Mattoon Junior High School	Feb. 14, 1998	Jan. 23, 1998
Moline	Black Hawk College	Feb. 7, 1998	Jan. 16, 1998
Mt. Vernon	Mt. Vernon Township High School	Feb. 28, 1998	Feb. 6, 1998
Oglesby	Illinois Valley Community College	Feb. 21, 1998	Jan. 30, 1998
Quincy	John Wood Community College	Feb. 14, 1998	Jan. 23, 1998
River Grove	Triton College	Feb. 28, 1998	Feb. 6, 1998
Robinson	Lincoln Trail College	Feb. 28, 1998	Feb. 6, 1998
Rockford	Rock Valley College	Feb. 28, 1998	Feb. 6, 1998
Springfield	Lincoln Land Community College	Feb. 14, 1998	Jan. 23, 1998
Ullin	Shawnee College	Feb. 21, 1998	Jan. 30, 1998

Questions about any of the above listed test sites or dates should be directed to IMSA Office of Admission, (630) 907-5027 or 1-800-500-IMSA (4672). **Test admission tickets will be mailed 2 weeks prior to test date.**

#### OPTION TWO: IMSA ADMINISTRATION

Name \_\_\_\_\_  
Last First MI

Address \_\_\_\_\_  
Street # Street

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_ Phone # ( ) \_\_\_\_\_

School Now Attending \_\_\_\_\_ Current Year in School \_\_\_\_\_ 8th \_\_\_\_\_ 9th

Test Site \_\_\_\_\_ Test Date \_\_\_\_\_  
Site name Site City

Student's Signature \_\_\_\_\_ Date \_\_\_\_\_

Parent/Guardian's Signature \_\_\_\_\_

(Please Enclose a Check or Money Order for \$30.00)



APPENDIX C  
IMSA Admissions Policy  
Adopted January 1999



## ILLINOIS MATHEMATICS AND SCIENCE ACADEMY

### SECTION J STUDENTS

#### ADMISSIONS

##### I. PURPOSE

One of the purposes of the Illinois Mathematics and Science Academy is to offer a challenging education for students talented in mathematics and science who reside in the State of Illinois and have completed the academic equivalent of 9<sup>th</sup> grade.

##### II. GEOGRAPHIC, GENDER AND ETHNIC REPRESENTATION

In accordance with its statutory mandate, the Illinois Mathematics and Science Academy shall provide the opportunity for students residing in the State of Illinois to apply for admission to the Academy by distributing materials to all grade appropriate students in the state through their schools, by distributing materials directly to students or their parents or legal guardians upon request, and by distributing materials to students through other channels identified by the Administration. The Academy shall ensure adequate geographic, gender, and ethnic representation in admission decisions by approximating the diversity of the applicant pool. Admission decisions will not be controlled by quotas.

##### III. CRITERIA FOR ADMISSION

The following criteria are reviewed in determining whether an applicant will be selected for admission to the Academy.

###### A. SAT I Scores (Range is 200-800)

SAT I scores are used by the Academy to provide information about what an applicant has learned both in and out of school. Because SAT I scores are intended to supplement other information about an applicant in assessing readiness for post-secondary level work, and because restricted opportunities for learning will have a negative effect on some applicants' scores, the Academy will consider "opportunity to learn" in interpreting scores, as well as other information about each applicant's motivation, educational resources, and other special circumstances. SAT I scores will not be interpreted as a precise measure of an applicant's ability, interest or motivation.

SAT I scores are equal to one third of an applicant's total score which determines numerical rankings.

## B. Grade Point Average (GPA) (Range is 0.00-4.00)

School transcripts for the 2½ years preceding application must be submitted by all applicants for admission. However, because feeder programs vary, grades will not be interpreted as a precise measure of an applicant's ability, interest or motivation. Grade point averages will be re-computed by Academy staff into a commonly defined GPA, taking into account English, mathematics, and science grades for the previous five semesters. Extra weight to honors or accelerated course work will not be granted because of the district-to-district differences in honors course opportunities.

GPA is equal to one third of an applicant's total score which determines numerical rankings.

## C. Review Committee Overall Rating (Range is 20-80)

The following criteria are reviewed to determine the applicant's Overall Rating:

1. Evaluations by eligible science, mathematics, and English teachers, school counselors, and administrators.
2. Awards won or recognitions received for accomplishments in science fairs, mathematics projects, competitions, extracurricular activities, community service projects, and personal interests and hobbies.
3. Applicant responses to essay questions on the application for admission.
4. Demonstrated evidence of interest in mathematics and/or science.

For each applicant, the foregoing criteria (1-4) are reviewed by Review Committee teams, and each applicant is rated along five dimensions: potential for mathematics reasoning, potential for scientific reasoning, communication skills, interpersonal relations, and skill application. The applicant's rating in these five dimensions are then used to determine an Overall Rating. The Overall Rating will not be interpreted as a precise measure of an applicant's ability, interest or motivation.

Overall Rating is equal to one third of an applicant's total score which determines numerical rankings.

Students who have been home-schooled are eligible to apply and be considered for admission to the Academy. Criteria for considering these students for admission include: SAT I Scores (A); evidence of their academic preparation and performance (B); evaluations by adult teachers, mentors, counselors or supervisors with whom they have worked, excluding parents, legal guardians and other relatives (C 1); and the other foregoing criteria (C 2-4).

#### IV. STUDENT SELECTION

Applicants are ranked numerically in accordance with their scores in the foregoing areas. To select the first half of the class, the Selection Committee selects the applicants with the highest numerical rank. In order to ensure adequate geographic, gender, and ethnic representation, in selecting the second half of the class the Selection Committee considers the applicants' rankings, the demographics of the selected class thus far, the demographics of the applicant pool, the demographics of the State of Illinois, and the strengths of the individual applicants. Only applicants who are qualified for admission will be considered by the Selection Committee in selecting the second half of the class.

The Selection Committee also will develop a waitlist. Students on the waitlist may or may not be selected for admission at a later time depending on institutional capacity.

#### V. APPEAL PROCESS

Students placed on the waitlist or denied admission may appeal the decision. The decision will be reviewed by the Appeal Committee which may uphold, reverse or modify the Selection Committee's decision.



# APPENDIX D

## Agency Responses

**Note:** This Appendix contains the complete written responses of The Illinois Mathematics and Science Academy.





RECEIVED  
AUDITOR GENERAL  
SPFLD.

ILLINOIS MATHEMATICS AND SCIENCE ACADEMY

A Pioneering  
Educational Community

1999 NOV 18 A 10:22

November 17, 1999

Kelly Mittelstaedt, CPA  
Office of the Auditor General  
Hes Park Plaza, 740 East Ash  
Springfield, Illinois 62703-3134

Dear Kelly:

Enclosed is a copy of our response to your report. We appreciated the opportunity to discuss our concerns at the exit conference and your willingness to address those concerns in the final report. While this audit process has been time consuming, we believe your review and suggestions will help us in our on-going efforts in serving the students of Illinois.

Thank you for keeping me informed of progress as the audit has been underway.

Sincerely yours,

LuAnn Smith, Ph.D.  
Director of Enrollment Services

Enclosure

Cc: Dr. Stephanie Pace Marshall, President

**Illinois Mathematics and Science Academy**  
*A Pioneering Educational Community*

**Response to Audit Report**  
**November 1999**

Through the years the Illinois Mathematics and Science Academy (IMSA) has taken very seriously its responsibilities to the People of Illinois and to students who apply for admission. We have worked hard to ensure that our admissions process maintains its integrity.

In testimony before the Legislative Audit Commission in March 1999, IMSA President Dr. Stephanie Pace Marshall said we welcomed the proposed resolution directing the Auditor General to conduct a management and program audit of IMSA admissions. She said we welcomed the opportunity to demonstrate our commitment to three objectives: (1) recruiting and admitting academically talented students with strong ability, motivation and interest in mathematics and science; (2) providing equity in access; and (3) ensuring adequate geographic, gender and ethnic representation in admission decisions.

We are pleased that the Auditor General's exhaustive nine-month program and management audit (March-November 1999), which placed every aspect of IMSA's admissions program under intense scrutiny, validated the integrity of our admissions process. Most important was the recognition of our effort and successes in meeting our statutory obligation for representation throughout the State of Illinois. It is frequently assumed that IMSA serves only Chicagoland students. This audit clearly demonstrated that qualified students from throughout the state attend IMSA in approximate proportion to the population distribution of the state.

We also are gratified to have our work in serving historically underrepresented populations supported. The goal of representation for all racial and ethnic groups is not unique to IMSA. In fact, the Illinois Board of Higher Education cites access and diversity among its primary objectives for all institutions under its jurisdiction. Beyond Illinois, data from other similar educational programs in the National Consortium for Specialized Secondary Schools of Mathematics, Science and Technology (NCSSSMST) reveal that IMSA performs as well or better in representing all groups. Clearly much work remains in this area and the recommendations of this audit will assist us in seeking funding for expanded admissions outreach programs.

This audit also demonstrated the validity of using multiple criteria for selecting talented students. Test scores and grades could provide an easy formulaic method of selecting a class. This method, however, would not allow us to select students who have not had the opportunity of attending schools with many resources but who demonstrate remarkable motivation and interest in mathematics and science. The fact that only four (4) students of the 45 lowest scoring (Total Composite Score) in the last five years have left IMSA for academic reasons supports our method of selecting students.

We find the audit report's two recommendations both constructive and helpful. One relates to our admissions policy and the other to admissions outreach. Our responses follow:

**Recommendation #1 (Admissions Policy):** The Illinois Mathematics and Science Academy's Board of Trustees should periodically review and update its admissions policy, define all pertinent terms and criteria used in the selection process in the policy, and should consider prioritizing the criteria being used in the selection of the second half of the class.

**IMSA Response:** In the spring of 2000, and thereafter at least once every other year, the IMSA Board of Trustees will formally review its admissions policy and will modify the policy as appropriate. The initial modification will include greater specificity of key terms and criteria. The Board also will consider the priority of criteria for selecting the second half of the class. Questions we use in considering applicants for the second half will be considered as a single qualitative criterion.

**Recommendation #2 (Admissions Outreach):** The Illinois Mathematics and Science Academy should continue to direct its outreach efforts towards underrepresented populations of students and consider expanding their outreach in regions where significant underrepresented populations are located. IMSA should also consider conducting analyses of schools with few applicants and admissions in past years to ensure that current outreach efforts are reaching all potential IMSA applicants.

**IMSA Response:** We will continue to direct our outreach efforts towards historically underrepresented populations of students and will seek additional funding (both public and private) to enable us to expand outreach efforts to other areas of the State. We also will conduct analyses of schools with few applicants and admissions in past years to help us determine if we should make any changes in our outreach efforts.

In addition to taking action related to these recommendations, IMSA already has addressed several other suggestions identified through the audit process. For example, we have included specific course requirements that 8<sup>th</sup> grade applicants must have completed in order to be considered for admission to the sophomore class on the application form. Additionally, the application form now explains how students will be reviewed.

Finally, we want to comment briefly on two items addressed in the audit report:

- *Use of Original Admissions Procedures:* As noted in the report, some changes were put into practice in order to more effectively meet our statutory obligation for statewide representation. At the same time, we have consistently applied key procedures outlined by the Board in 1986. These include: using multiple indicators of talent in the selection

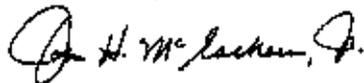
process; involving “appropriate and diverse interests of the State” in student selection (a statewide Review Committee rates each applicant’s file); admitting one-half of the class purely on the basis of competitive ranking and the other half based on qualifications and demographic considerations; not limiting applications to those students who are eligible for support under Article 14.A of the *School Code*; maintaining a goal of recruiting a number of applicants at least four times the number to be selected; and not compromising standards to meet our statutory obligation for representation.

- *8<sup>th</sup> grade Applicants:* We agree that the term “equivalent of 9<sup>th</sup> grade” lacks clarity. Without a standard definition of academic expectations for the 9<sup>th</sup> grade curriculum for Illinois public schools, this definition will need to remain open to professional judgment. However, in an effort to clarify our expectations to potential candidates, we have included the following statement in the 2000 Application for Admission: “Students who have not yet enrolled in the 9<sup>th</sup> grade must submit documentation of having completed an academic program comparable to high school level work in mathematics, science, and English. This must include a minimum of one year of algebra and one year of a laboratory science.”

The IMSA Board of Trustees and Administration have long recognized the challenge of selecting academically talented students for a rigorous public mathematics and science program while maintaining equity in access. In 1986, the Board stated: “Our selection of students will be based on a dynamic process involving many criteria since recognition of giftedness at an early age is not easy.”

The values and principles that have guided student selection decisions at IMSA for 14 years have reflected a commitment to the development of talent of all students and the moral imperative to consider each student within the context of his or her previous learning opportunities and experiences. We believe the dynamic process we use is sound, appropriate and fair to all applicants and to the State of Illinois. We also believe that appropriate refinements discussed above will only strengthen our efforts and further accomplish our objectives. Toward these ends IMSA will work continuously, diligently and resolutely.

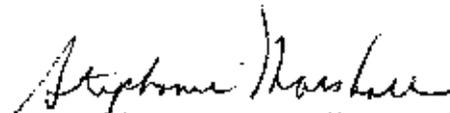
Respectfully,



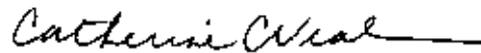
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