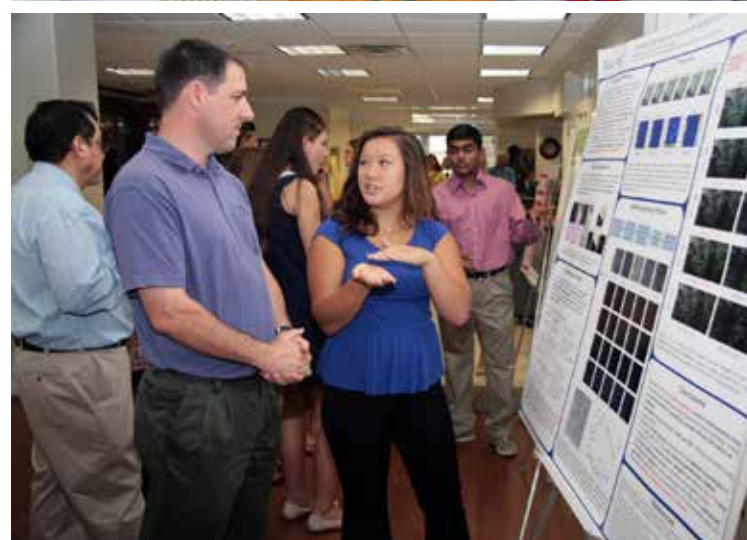


# NCSSM Residential Program Profile

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2013-2014



North Carolina School  
of Science and Mathematics

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*Challenging what's possible since 1980*

# About the North Carolina School of Science and Mathematics

The North Carolina School of Science and Mathematics is a public, residential, coeducational high school for juniors and seniors with high intellectual ability and commitment to scholarship. It was established by the North Carolina General Assembly in 1978 to provide challenging educational opportunities for students with special interests and potential in the sciences and mathematics.

NCSSM opened in September 1980 with its first class of 150 juniors, a sample of the many talented and highly motivated students in North Carolina. With a student body that represents North Carolina's 13 congressional districts, students vary

in their backgrounds, yet are similar in their motivation to achieve academically and in their determination to prepare for professional careers and positions of leadership.

In July 2007, NCSSM became the 17th constituent institution of the University of North Carolina system. The School is accredited by AdvancED — Southern Association of Colleges and Schools Council on Accreditation and School Improvement. NCSSM is a founding partner of the 210-member National Consortium for Specialized Secondary Schools of Mathematics, Science and Technology.

## Student Selection

Students interested in applying to NCSSM must be in their sophomore year of high school and their parent/legal guardian must maintain residency in North Carolina. Students are selected during their 10th-grade year through a competitive process that considers each applicant's interest in science and mathematics, and includes a review of standardized test scores, past academic performance, special talents, accomplishments and extracurricular interests. Students' essays and their current schools' assessments of student characteristics also help present a complete picture of each candidate.

The application process is highly competitive because there are a limited number of enrollment spaces (approximately 340 per class). NCSSM is legislatively mandated to enroll a roughly equal percentage of students from each of the state's 13 congressional districts. Students applying to NCSSM's program compete for enrollment with other students within

their congressional district rather than competing with every applicant from across the state. This assures that applicants with access to the same community resources are competing with one another.

Organized to make recommendations on the enrollment of candidates, the Admissions Selection Committee includes technology leaders and educators from across our state, along with NCSSM faculty and staff members. The Selection Committee examines each student's accomplishments and looks for evidence of potential, particularly in science and mathematics. In order to assure NCSSM the benefits of a diversified student body, the committee also considers extenuating circumstances, geographic and other demographic variables in its review process.

**Currently, 680 11th- and 12th-grade students from across North Carolina live and learn at NCSSM.**

## Demographics: Class of 2013

Race/Ethnicity	Frequency	Percent
Hispanic/Latino	19	5.5%
African American/Black	28	8.1%
American Indian or Alaska Native	1	0.3%
Asian or Pacific Islander	92	26.6%
Caucasian	194	56%
Other	1	0.3%
Two or More Races	11	3.2%
Total	346	100%

*Under new federal guidelines, students report race/ethnicity in a two-step process. First, students designate whether they are of Hispanic/Latino ethnicity, and secondly, they designate their race. Students may self-identify as many races as apply. Students who designated more than one race are counted in the "Two or More Races" category.*

Gender	Frequency	Percent
Female	159	46%
Male	187	54%
Total	346	100%

## Scholarship

Sixty-seven NCSSM students from the 32 graduating classes since the School's inception have won the Morehead-Cain Scholarship at UNC-Chapel Hill. Fifty-eight students have been named Park Scholars by N.C. State University since the program began 18 years ago.





## Instructional Program

The instructional program at NCSSM takes advantage of a residential learning environment, a well-trained and dedicated staff, and a highly motivated and talented student body to provide a unique learning experience for each student. The School's philosophy is to ensure that each student obtains a thorough grounding in the sciences, mathematics, language arts, history and a world language; that each student becomes proficient in the use of computers, laboratory facilities and other means by which knowledge is acquired and processed in the sciences and mathematics; and that each student adopts a sequence of study that includes investigating areas of academic interest in-depth through high-level course offerings and such activities as mentorship, research courses, independent studies, seminars, directed group studies and Mini-Term.

Students in the Class of 2013 were typically enrolled in four or five core academic courses per trimester as juniors and five courses per trimester as seniors. These include the following minimal requirements of trimester credits earned:

6 Science, 5 Mathematics, 4 English, 2 Social Science, 3-6 World Language (varies with competency), 1 Physical Activity & Wellness, plus sufficient electives to equal the required number of credits.

Each student must also successfully complete two years of Mini-Term, two years of campus work service, a community service project and the Student Life 101 and 201 courses.

In addition to meeting core graduation requirements, students participate in a number of elective academic programs. The curriculum includes extensive opportunities in the arts and music. There are opportunities to participate in selected online courses offered through NCSSM Online. NCSSM also has exchange programs with a school in Italy and is developing programs with several schools in China.

NCSSM graduates are prepared for learning successfully in a collegiate environment. Throughout the curriculum, they are expected to develop their independent investigative skills, solve novel problems, function as leaders and participants on project teams and appreciate the learning advantages that a diverse community offers. This extensive access to each other and to teachers allows learning to carry on well after the class day ends.

The readiness of NCSSM students for college is also enhanced by articulation agreements with universities. These agreements award university credit for courses taken at NCSSM without a requirement for an Advanced Placement Exam or other placement or exemption testing. There are articulation agreements in place with the following universities: Appalachian State University, East Carolina University, Elizabeth City State University, Meredith College, North Carolina A&T State University, North Carolina Central University, North Carolina State University, Oglethorpe University, University of North Carolina at Charlotte, University of North Carolina at Greensboro and University of North Carolina at Pembroke. Negotiations are underway to establish agreement with other institutions including more members of the University of North Carolina System.

In the Class of 2012, students sat for 964 AP exams in Biology, Calculus AB, Calculus BC, Chemistry, Chinese Language & Culture, Computer Science A, Macroeconomics, Microeconomics, English Language & Composition, Environmental Science, European History, Government & Politics: United States, Physics B, Physics C: Electricity & Magnetism, Physics C: Mechanics, Psychology, Spanish Language, Statistics, United States History and World History.

## Student Life Program

The Student Life Division provides a nurturing setting for the holistic development of every student. The residential environment increases the depth and breadth of all students' experiences as they take advantage of the rich opportunities and support that are available within the NCSSM community. The Counseling Services Department provides personal, academic, college and career counseling and support for students on study skills and time management. The Physical Activity and Wellness Department offers a wide variety of core and elective courses including Resistance Training, Sports Medicine I & II, Self-Defense, Archery, Dancing and Fencing; an eighteen-sport interscholastic program; an intramural program with more than 85 percent participation and many recreational opportunities.

## Service Learning

### Requirements:

Sixty hours of service learning in North Carolina before the start of the senior academic year

Three hours each week of work service at NCSSM

### Beyond expectations:

The Class of 2013 logged more than **25,000 hours of service**

Students averaged nearly **72 hours of service**

Students worked with **hundreds of service organizations** across North Carolina during the summer of 2012.

Over the past three years, the student-led NCSSM Food Drive has collected and delivered more than **1 million pounds of food to help fight hunger across North Carolina.**

The Residential Education Department offers instruction for a graduation-required Residential Education 102 course that students are required to successfully complete in the first trimester of their junior year. Students must also complete at least three additional Residential Education courses over the remaining five trimesters of enrollment. Residential Education courses are graded using NCSSM's letter-grade scale, though the grade does not compute in the GPA.

Through the Student Services Department, students are required to perform 60 hours of service learning for a non-profit organization in North Carolina before their senior year. In 2013, students averaged nearly 72 hours, with students logging more than 25,000 total hours. Each student is also required to perform three hours of work service each week for a departmental area including cafeteria, grounds or in another capacity such as Residential Life Assistant, Student Ambassador, Peer College Counselor, Multicultural Peer Counselor, Institutional Advancement Attache or Student Government.

## Evaluation

Students at NCSSM are evaluated at the end of each trimester and are given letter grades. Although NCSSM assigns quality points to courses and calculates grade point averages, students

are not ranked. This GPA system has been implemented solely to help describe each student's performance and course selections as part of the process of applying to schools and programs outside of NCSSM.

## Quality Points and GPA

The Quality Point value of courses is reflected in the NCSSM course numbering system:

### Quality Points Awarded by Letter Grade

COURSE #	Description	A+	B+	C+	D
		A	B	C	
		A-	B-	C-	
300 - 349	Introductory level courses that meet a core NCSSM graduation requirement (comparable to honors level courses at many high schools)	5.0	4.0	3.0	0.0
350 - 399	Meet one or more of the following criteria: • accelerated versions of classes at the 300 – 349 level • courses that require prerequisites taken at NCSSM • courses at a level higher than a typical high school honors course • courses that are for seniors only	5.5	4.5	3.5	0.0
400 - 449	Courses at the level of introductory college courses and/or that help prepare students to take an Advanced Placement examination	6.0	5.0	4.0	0.0
450 - 499	Courses that deal with topics beyond those of introductory college courses	6.0	5.0	4.0	0.0

All NCSSM courses are at the honors level or higher. Mini-Term, physical activity courses, Residential Education courses, Work Service and Summer Service Learning are graduation requirements. These courses, however, along with Special Study Options, carry no quality points and are not computed in the

## Class of 2013 Statistics

### SAT Test Performance

346 (100%) students took the SAT exam

	VERBAL	MATH	TOTAL
MEAN:	680	714	1394
MEDIAN:	690	720	1410

SAT statistics were compiled using the best verbal and best math scores reported for each student. At the time of admission, the Class of 2013 had a mean combined score of 1304 and a median combined score of 1320.

### ACT Test Performance

207 (60%) took the ACT exam

ENGLISH	MATH	READING	SCIENCE	COMPOSITE
30.1	30.8	30.5	30.6	30.5

## National Merit & Achievement Performance

National Merit and National Achievement

**National Merit Finalists: 76**

**National Achievement Finalists: 10**

The Merit status is based on the PSAT, which students take in October of their junior year.

### AP Exam Performance

284 (82%) students took 757 examinations.  
88.9% scored a 3, 4 or 5.

Score:	5	4	3	2	1
% of scores:	38.2	33.4	17.3	6.3	4.8

### Final Grades

A - Outstanding	60.6%
B - Superior, meets all course requirements	34.4%
C - Acceptable, minimally meets course requirements	4.9%
D - Unsatisfactory, no NCSSM credit	0.1%

Of the 346 students who graduated, 20 (5.8%) had all A's during their junior and senior years.

## NCSSM Online

NCSSM launched its virtual learning program, NCSSM Online, in August 2008. This two-year program serves students from across North Carolina. The students in this program attend their local high schools and supplement their academic programs with NCSSM curriculum and residential experiences. A unique component of the program is the hosting of several onsite residential weekends during the year, allowing students to work side-by-side with their peers under the leadership of their NCSSM instructors. NCSSM Online courses are complemented with weekly real-time web conferencing sessions. A week-long summer residential student symposium is offered to students of the NCSSM Online Program; they are also eligible to participate in summer research in residence at NCSSM. A transcript and complete profile are provided to students enrolled in this program. Students admitted into the NCSSM Online program must meet the same admissions standards as the residential program. Students may apply to NCSSM Online during the application for admission to the residential program, or may apply directly to the program.

## Student Research

Recognizing the importance of technical and problem-solving skills and the increasing demand for research learning opportunities among our students, NCSSM offers a variety of options for focused research. For students with limited previous research involvement, Research Experience courses provide research skills development and the opportunity to complete a comprehensive research project in science, humanities, mathematics or computer science.

## Mentorship

Mentorship offers students the opportunity to work in an off-campus lab or other real-world setting under the guidance of a research professional at an area university or in a Research Triangle Park lab.

## Advanced Research

More advanced courses in a specific scientific discipline — Research in Biology, Chemistry, Computational Science, Mathematics or Physics — are for students who want to initiate or continue an in-depth research project of their own design. Students can also earn a research credential in Mathematics by successfully completing an advanced sequence in Statistics or Mathematical Modeling. Numerous students also participate in summer research programs on campus or in the Triangle area and/or enter their work in state, national and international competitions. Each spring NCSSM showcases its student research programs in our Research

Symposium, at which students present the results of their research activities through oral and/or poster presentations to the NCSSM community and invited guests.

## Mini-Term

For seven days in late winter, regular classes are suspended to permit each student to either take a specialized mini-course arranged by one or more faculty members or to pursue an approved academic project of the student's own design. Topics range from in-depth lab or computer studies to extended art or science trips. The results of each project are presented to the NCSSM community.

## Research, Competition & Awards

The Class of 2013 was well-represented in international, national and regional high school science competitions, winning first place in the Singapore Mathematics Challenge and the Conrad Foundation Spirit of Innovation Awards, and winning national awards at the International Science and Engineering Fair, Siemens Competition, Intel Science Talent Search, Science Olympiad, Health Occupations Student competition and many more. Since 2000, NCSSM has had more Siemens Competition semifinalists and winners than any other school, having won the national competition three times.

## Student Clubs

NCSSM students are encouraged to participate in extra-curricular activities including student clubs. The School has more than 80 clubs, including those that are academic, physical, social and service related. Some of the clubs at NCSSM include: Health Occupations Students of America (HOSA), YMCA Youth and Government, Ethical Awareness Group, Fencing Club, Swimming Club, French Cultures Club, The Garden Club and NCSSiMprov.

## Athletics

NCSSM offers 19 varsity sports and competes in the North Carolina High School Athletic Association (NCHSAA) 2A classification. Since 2006, NCSSM has won the Wells Fargo Cup (2011-12) and team NCHSAA State Championships in Men's Cross Country, Men's Swimming, Men's Track and Field, Women's Tennis, Men's Soccer and Men's Tennis. Students may also participate in a wide range of intramural athletic opportunities, with more than 85% participation, including volleyball, basketball, dodge ball, soccer and ultimate Frisbee. More information can be found on [www.goUNIs.com](http://www.goUNIs.com).

## NCSSM Administration

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**J. Todd Roberts**  
Chancellor

**Robert Allen**  
Vice Chancellor for Operations

**Richard Alston**  
Chief Information Officer

**Joan D. Barber**  
Vice Chancellor  
for Student Life

**Michael Delafield**  
Chief Legal Counsel

**Gail Faulkner Hudson**  
Dean of Counseling Services

**Melissa Thibault**  
Vice Chancellor  
for Distance Education  
and Extended Programs

**Katie Wagstaff**  
President  
of NCSSM Foundation

**Steve Warshaw**  
Vice Chancellor for  
Academic Programs

**T. Brock Winslow '86**  
Vice Chancellor for  
Institutional Advancement

## Contact Us

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Counseling Services: 919.416.2835

**Online:**  
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[www.twitter.com/ncssm](https://www.twitter.com/ncssm)

# College Acceptances & Enrollments for the Classes of 2009 through 2013

A = Accepted :: E = Enrolled

	A	E		A	E		A	E
Agnes Scott College	4	1	Johns Hopkins University	31	3	Tulane University	40	2
Alaska-Pacific University	1	0	Johnson & Wales University	2	0	Tuskegee University	2	0
American University	25	6	Juniata College	2	0	Union College	3	1
Amherst University	5	1	Kenyon College	0	0	United States Air Force Academy	3	1
Appalachian State University	108	28	Kettering University	3	0	United States Coast Guard Academy	2	1
Arizona State University	8	2	Knox College	1	0	United States Military Academy - West Point	8	4
Auburn University	17	3	La Tierra University	1	0	United States Naval Academy	10	4
Ave Maria University	2	0	Lafayette College	2	0	Unity College	1	0
Averett University	1	0	Lees-McCrae College	4	0	University of Alabama at Huntsville	1	0
Bard College	7	0	Lehigh University	2	0	University of Alabama at Tuscaloosa	18	3
Barnard University	3	2	Lenoir-Rhyne University	24	0	University of Arizona	2	1
Bary College	3	0	Letourneau University	1	1	University of California Berkeley	22	3
Bates College	2	1	Liberty University	4	2	University of California Davis	4	1
Barton College	1	0	Louisiana State University	1	0	University of California Los Angeles	12	1
Baylor University	14	2	Loyola University	3	0	University of California Merced	2	0
Belmont University	1	0	Macalester College	6	1	University of California Riverside	2	0
Beloit College	2	0	Marquette University	5	0	University of California San Diego	8	0
Bentley College	1	0	Mars Hill College	8	2	University of California Santa Barbara	4	0
Berklee College of Music	2	0	Mary Baldwin College	4	0	University of California Santa Cruz	2	0
Binghamton University	1	0	Massachusetts Institute of Technology	57	24	University of Central Florida	1	0
Birmingham-Southern College	3	0	McGill University, Canada	3	0	University of Chicago	36	10
Boston College	8	1	Mercer University	13	0	University of Colorado, Boulder	7	0
Boston University	31	2	Meredith College	13	4	University of Connecticut	3	0
Brandeis University	5	0	Methodist College	4	1	University of Delaware	8	2
Brenau University	1	0	Miami University: Oxford, Ohio	2	0	University of Florida	8	0
Brigham Young University	4	1	Michigan State University	3	0	University of Georgia	10	1
Brown University	7	1	Michigan Tech University	2	0	University of Hawaii at Manoa	1	0
Bryn Mawr College	5	0	Moravian College	4	0	University of Illinois at Chicago	3	0
Bucknell University	2	0	Morehouse College	11	2	University of Illinois at Urbana	22	5
California Institute Of Technology	35	10	Mount Holyoke College	2	0	University of Iowa	1	0
Campbell University	84	5	New College of South Florida	11	1	University of Kansas	1	1
Carleton College	4	0	New York Institute of Technology	2	0	University of Kentucky	3	0
Carnegie-Mellon University	45	4	New York University	50	7	University of Louisville	1	0
Carson-Newman	1	0	North Carolina A & T State University	21	7	University of Maryland Baltimore County	13	0
Case Western Reserve University	47	4	North Carolina Central University	30	6	University of Maryland, College Park	13	1
Cedarville College	2	0	North Carolina State University	732	330	University of Massachusetts - Amherst	1	0
Centre College	5	0	Northeastern University	16	4	University of Massachusetts - Boston	3	0
Chapman University	4	0	Northwestern University	17	2	University of Massachusetts - Lowell	1	0
Charleston Southern University	2	0	Oberlin College	13	5	University of Miami	23	5
Chowan College	1	0	Oglethorpe University	22	3	University of Michigan	20	2
Christopher Newport University	4	0	Ohio Northern University	1	1	University of Missouri at Kansas City	7	2
Clark University	1	0	Oklahoma Christian University	1	1	University of New Haven	1	0
Clarkson University	3	0	Oklahoma City University	1	0	University of North Carolina - Asheville	74	16
Clemson University	69	5	Oregon State University	2	1	University of North Carolina - Chapel Hill	890	576
Colby College	2	0	Oxford College of Emory University	13	2	University of North Carolina - Charlotte	84	13
College of Charleston	18	3	Pace University	2	1	University of North Carolina - Greensboro	42	11
Colorado School of the Mines	9	0	Pacific University	1	0	University of North Carolina - Pembroke	6	1
Colorado State University	1	1	Pennsylvania State University	15	1	University of North Carolina - Wilmington	135	28
Columbia University	36	12	Polytechnic of NYU	2	1	University of Notre Dame	13	2
Cornell College	8	0	Pratt Institute	1	0	University of Oklahoma	4	1
Cornell University	47	14	Princeton University	35	10	University of Pennsylvania	24	10
Covenant College	1	0	Purdue University	18	0	University of Pittsburgh	21	0
Dartmouth College	12	3	Queens College	3	0	University of Puget Sound	1	0
Davidson College	36	10	Queens University of Charlotte	11	2	University of Rhode Island	2	0
DePaul University	1	0	Randolph College - Lynchburg, VA	5	3	University of Richmond	10	3
Dickinson College	3	0	Randolph-Macon College	13	3	University of Rochester	3	1
Drexel University	95	4	Reed College	3	0	University of San Diego	3	0
Duke University	222	62	Regent University	3	0	University of San Francisco	3	0
Duquesne University	4	1	Rensselaer Polytechnic Institute	30	2	University of South Carolina	25	4
Earlham University	4	1	Rhodes College	7	4	University of Southern California	19	5
East Carolina University	182	30	Rice University	15	3	University of Tampa	4	0
Eckerd College	9	0	Ringling College of Art and Design	1	0	University of Tennessee	4	0
Elizabeth City State	3	1	Roanoke College	5	0	University of Texas	6	2
Elon University	29	5	Rochester Institute of Technology	10	3	University of the South	6	1
Embry-Riddle Aeronautical University	4	0	Rose Hulman Institute Of Technology	11	1	University of Vermont	4	0
Emerson College	1	0	Rutgers University	1	1	University of Victoria	2	1
Emory University	50	3	Saint Louis University	2	0	University of Virginia	24	2
Fayetteville State University	3	1	Salem College	11	3	University of Wisconsin-Madison	3	0
Florida Atlantic University	1	1	Samford University	2	0	Ursinus College	3	1
Florida A & M University	6	1	Sarah Lawrence University	5	0	Vanderbilt University	30	1
Florida Institute of Technology	12	0	Savannah School of Design	2	0	Vassar College	5	1
Florida State University	5	0	Seattle Pacific University	1	1	Villanova University	2	0
Fordham University	2	0	Seattle University	1	1	Virginia Commonwealth University	7	0
Franklin W. Olin College of Engineering	4	2	Seton Hall University	2	0	Virginia Polytechnic Institute	59	8
Furman University	21	7	Shaw University	2	0	Virginia Union University	1	0
Gardner-Webb University	8	1	Shimer College	1	0	Wake Forest University	165	39
George Fox University	1	0	Smith College	4	2	Warren Wilson College	3	0
George Mason University	5	1	Southwestern University	1	0	Washington & Jefferson College	4	0
Georgetown University	27	8	Spelman College	10	0	Washington & Lee University	9	1
Georgia Institute of Technology	135	20	St. John's College Annapolis	1	0	Washington University in St. Louis	31	3
Greensboro College	1	1	St. John's University New York	11	0	Wellesley College	9	4
Grinnell College	3	0	St. Joseph University	2	0	Wells College	2	0
Grove City College	2	1	St. Mary's College of Maryland	1	0	Wentworth Institute of Tech	2	0
Guilford College	8	0	Stanford University	34	17	Wesleyan University	3	0
Hampden-Sydney College	17	2	SUNY College of Env. Sci & Forestry	3	0	West Virginia University	2	0
Hampshire College	7	0	Stevens Institute of Technology	2	1	Western Carolina University	47	3
Hampton University	9	1	Swarthmore College	8	2	Westminster College	1	0
Hamilton College	1	0	Sweet Briar College	4	1	Wheaton College	3	0
Harvard University	16	11	Syracuse University	5	1	Willamette University	1	0
Harvey-Mudd College	13	7	Texas A & M University	2	0	William Peace University	2	0
Haverford College	5	2	Catholic University of America	4	1	Williams College	9	4
Hawaii Pacific University	1	0	Citadel	4	3	Wingate University	22	3
High Point University	7	0	College of William & Mary	23	2	Winston Salem State University	5	1
Hiram College	1	0	Cooper Union	4	1	Wofford College	11	1
Hollins University	3	0	George Washington University	24	4	Worcester Polytechnic Institute	1	0
Howard University	17	4	Kings' College	1	1	Xavier University	1	0
Illinois Institute of Technology	3	1	Ohio State University	14	2	Yale University	39	21
Indiana University of Bloomington	7	0	Transylvania College	1	1			
Ithaca College	2	1	Trinity College	1	0			
Jacksonville University	2	1	Tufts University	1	0			

TOTALS

5,473 1,611