R·I·T
2016

National Technical Institute for the Deaf
Annual Report

2016 Annual Report

Note of Explanation

This Annual Report notes activities and accomplishments throughout Fiscal Year 2016 (October 1, 2015 – September 30, 2016), corresponding primarily to Academic Year 2015-2016. References to Fiscal Year 2017 correspond to characteristics and accomplishments as of fall semester Academic Year 2016-2017.

Throughout the report, RIT and NTID alumni are indicated by their graduation years appearing after their names. We apologize for any omissions.

NTID FY 2016 Annual Report Contents

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Contents (continued)

December 19, 2016

The Honorable John B. King, Jr.
Secretary of Education
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, DC 20202

Dear Secretary King:

We are pleased to submit the following report to fulfill the requirement of the Education of the Deaf Act that the National Technical Institute for the Deaf (NTID), a college of Rochester Institute of Technology (RIT), "… shall prepare and submit an annual report to the Secretary…" For myself, RIT President Bill Destler, this is the last report I have the pleasure of jointly submitting with President Buckley, due to my upcoming retirement in June.

My 10 years of leading RIT, an experience made all the more unique by the inclusion of NTID, have been the most rewarding of my career. In 2015, I had the honor of overseeing RIT's strategic plan for the next 10 years, *Greatness through Difference*, and NTID is integral to every part of this plan. Under the Career Education and Student Success theme, RIT committed to further enhance its position as the preeminent academic institution and model for professional and technical education for people who are deaf or hard of hearing around the world. In FY 2016, NTID students continued to have a higher persistence rate and graduation rate than the national persistence and graduation rates for all students, hearing and otherwise, at two-year and four-year colleges. NTID's most recent employment rate for graduates in 2015 is 94 percent, and the average employment rate over the past five years is 93 percent. Under the Student-Centered Research University theme, RIT aims to increase the number of students on funded research teams. In FY 2016, NTID began several new initiatives to support student research and hosted its first annual Student Research Fair to recognize their accomplishments. Under the Leveraging Difference theme, we acknowledge that the addition of NTID in 1968 brought an intellectual, linguistic and programmatic diversity to RIT that is unmatched in higher education – and RIT aims for the additional distinction of becoming the largest producer of deaf or hard-of-hearing STEM graduates among all private colleges in the U.S. Under the theme Affordability, Value, and Return on Investment, we already know that NTID graduates over their lifetimes are employed at a higher rate, earn more and participate at a lower rate in SSI, SSDI and public assistance programs. Finally, RIT is a world leader in experiential education. Our cooperative education program is the fourth oldest and one of the largest in the world, with 271 NTID students participating in co-ops last year. As you will see in this report, NTID in FY 2016 exemplifies much of the greatness sought in RIT's strategic plan.

This report is also available in full to the general public at:

www.ntid.rit.edu/media/annual-report

I recognize that NTID cannot rest on its laurels if it is to continue to equip deaf and hard-of-hearing individuals with a superior education. However, I know under the leadership of President Buckley, there is no danger of that. I appreciate him giving me this space to thank the Department of Education for their guidance and thank the NTID community for allowing me to learn from them for the past 10 years. I will continue to watch their successes, hands waving, in the years to come.

With warm regards,

William W. Destler, Ph.D.
President, RIT

Gerard J. Buckley, Ed.D. '78
President, NTID
Vice President and Dean, RIT

Cover Photos

Leslie Williams and Chloe Ho, NTID 2016 Commencement Delegates

Leslie Williams, left, a Laboratory Science Technology major from Harwood Heights, Illinois, was the 2016 NTID college delegate for undergraduate students during NTID's 2016 Commencement in May. Chloe Ho, right, a graduate from Hong Kong in the Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing, was the 2016 NTID college delegate for graduate students.

Cody Cummings

Cody Cummings from Austin, Texas, is a Laboratory Science Technology student, seen here at work in the lab. A participant in NTID's Student Research Fair in April 2016, Cody presented on his research on the analysis of the sealant bitumen and how he hopes it will help archaeologists better determine when and where ancient artifacts were created. He plans to continue his studies in RIT's Biochemistry program.

The primary mission of the National Technical Institute for the Deaf is to provide deaf and hard-of-hearing students with outstanding state-of-the-art technical and professional education programs, complemented by a strong arts and sciences curriculum, that prepare them to live and work in the mainstream of a rapidly changing global community and enhance their lifelong learning.

Secondarily, NTID prepares professionals to work in fields related to deafness; undertakes a program of applied research designed to enhance the social, economic and educational accommodation of deaf people; and shares its knowledge and expertise through outreach and other information dissemination programs.

NTID by the Numbers

The National Technical Institute for the Deaf has grown exponentially since enrolling its first class in 1968. Numbers don't tell the whole story, but they do give you a glimpse of what NTID looks like today.

Student Enrollment

1,300 TOTAL ENROLLMENT

BREAKDOWN BY GEOGRAPHIC REGION:
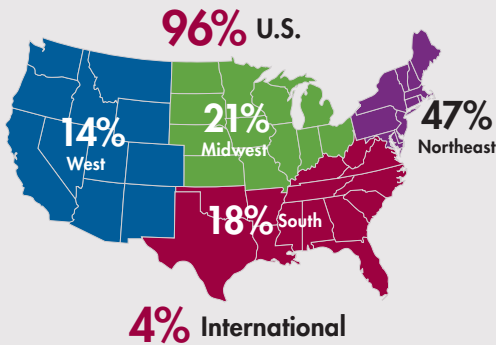
96% U.S.

- **14%** West
- **21%** Midwest
- **47%** Northeast
- **18%** South

4% International

Brazil, Canada, China, Ethiopia, Ghana, India, Indonesia, Jamaica, Japan, Jordan, Malaysia, Myanmar, Nepal, Nigeria, Pakistan, Philippines, Sweden, Tanzania, Trinidad and Tobago, Uganda, Venezuela

BREAKDOWN BY GENDER:

- **51%** MALE
- **49%** FEMALE

MORE THAN **8,000** ALUMNI

Academics

- **6%** Graduate Degree Programs
- **3%** Career Exploration Studies
- **11%** ASL-English Interpretation
- **25%** Career-Focused Associate Degree Programs
- **39%** Bachelor's Degree Programs
- **16%** Associate+Bachelor's Degree Programs
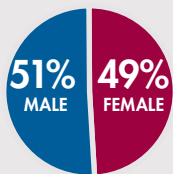
Employment/Earnings After College

271 STUDENTS COMPLETED A CO-OP LAST YEAR

New RIT/NTID grads are ready to succeed

Last year, **94%** of students who sought jobs after graduation found one within a year

New RIT/NTID alumni thrive in all economic sectors

- **16%** Education & Non-Profit
- **9%** Government
- **75%** Business & Industry
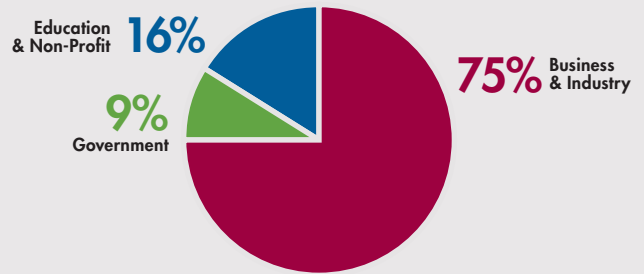
Employers include:

Citibank, FEMA, Ford, GE, Rochester Regional Health

RIT/NTID graduates are competitive in the marketplace

RIT/NTID associate degree graduates earn **95%** more than deaf and hard-of-hearing graduates from other postsecondary institutions*.

RIT/NTID bachelor's degree graduates earn **178%** more than deaf and hard-of-hearing graduates from other postsecondary institutions*.

*median salary at age 50 compared to average
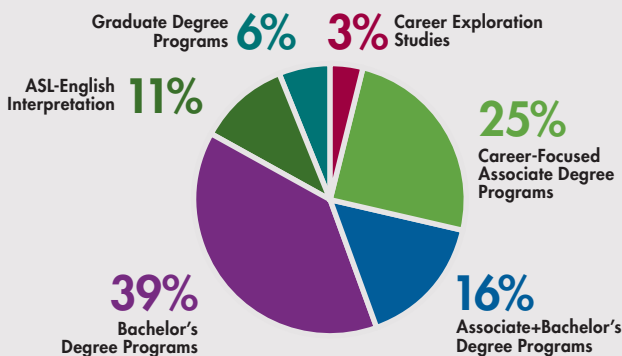
Student Access Services

Hours provided (2015-2016 academic year)

	In Classroom (B.S. Degree Programs)	Outside Classroom
Interpreting	112,110	36,937
Captioning	23,081	1,254
Notetaking	61,924	

Annual Highlights

Noteworthy accomplishments and statistics for the past year include the following:

- NTID's most recent employment rate for graduates in 2015 is 94 percent. The average employment rate over the past five years is 93 percent.
- NTID's first-year persistence rates and graduation rates for both sub-baccalaureate students and baccalaureate students were higher than the national rates for two-year and four-year colleges.
- NTID's combined sub-baccalaureate and baccalaureate first-year persistence rate remained at 77 percent for the third year in a row.
- A record 149,046 hours of interpreting services and 24,335 hours of real-time captioning services were provided to students in FY 2016.
- NTID's Dr. Peter Hauser is partnering with the University of Michigan on a $3 million grant to improve health care information dissemination to people who are deaf by assessing key differences in attitudes, knowledge and skills related to health information between deaf and hearing individuals.
- Dr. Todd Pagano, associate dean for teaching and scholarship excellence, was named the 2016 Outstanding Undergraduate Science Teacher by the Society for College Science Teachers.
- NTID hired its first permanent associate dean of research, Dr. Robert Pollard, and held its first Student Research Fair, featuring 30 student researchers.
- NTID established Sunshine 2.0, a professional theater troupe that is a 21st-century reboot of Sunshine Too, a traveling performing arts program established in 1980 that visited 48 states and several countries presenting programs featuring themes of deaf awareness, social issues and the environment. Sunshine 2.0, led by RIT/NTID alumnus Fred Michael Beam '85, will travel to schools, organizations, conferences, civic groups, festivals and other venues, offering performances and activities for children and adults that highlight the fields of science, technology, engineering and math (STEM), as well as educational topics pertaining to the deaf experience.
- NTID was awarded a three-year grant, led by faculty alumnus Brian Trager '00, '05, from the National Science Foundation (NSF) of $820,504 to support the development and implementation of an associate degree program designed to increase the number of deaf and hard-of-hearing students in the mobile apps workforce. Nine students enrolled in the program in fall 2016.
- In June 2016, eight students enrolled in NTID's new Master of Science in Health Care Interpretation, a collaborative venture between NTID and RIT's College of Health Sciences and Technology. The program will meet the growing demand for specialized sign language healthcare interpreters as more deaf and hard-of-hearing professionals enter medical/healthcare fields and increase the number of specialized interpreters working in patient healthcare settings.
- NTID expanded its New Signers Program for incoming NTID students with minimal or no ASL skills from one week to two weeks. Two separate sections were offered – one for NTID students accepted into NTID programs and the other for NTID students accepted into RIT programs.
- Catherine Clark, an audiologist and faculty member, earned first place in the Practitioner category for the 2016 Oticon Focus on People Awards, a national competition that celebrates people who are helping to eliminate negative stereotypes of what it means to be deaf or hard of hearing. Earlier this year, she was honored for her "Outstanding Dedication to Service" by Visions Global Empowerment during its annual award ceremony, recognizing her volunteer work with deaf and hard-of-hearing children and adults in Ethiopia.
- In October 2016, NTID was awarded a $443,200 grant from the NSF to provide additional training for faculty in STEM disciplines who teach classes in which deaf, hard-of-hearing and hearing students are present. The grant will help develop an "accessibility toolkit" for faculty who are searching for viable ways to adapt their teaching methodologies to accommodate the learning needs of deaf and hard-of-hearing students.

Executive Summary

New Registrations	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Fall Admissions (Deaf and Hard-of-Hearing Students Only)					
Applications	989	833	796	860	771
Acceptances	504	507	464	488	432
Registrations	381	381	324	340	305
Other New Registrations					
AAS/BS ASL-English Interpretation	45	43	40	40	46
MS in Secondary Education	19	16	16	15	17
Total New Registrations	**445**	**440**	**380**	**395**	**368**
Enrollment (Deaf and Hard-of-Hearing Students Only)					
Career Exploration Studies (CES)	120	111	68	59	44
Sub-Baccalaureate Programs					
Career-Focused Programs	400	368	354	333	316
Associate+Bachelor's/Pre-Baccalaureate	198	190	202	232	211
Subtotal CES and Sub-Baccalaureate	**718**	**669**	**624**	**624**	**571**
Baccalaureate Programs at RIT	551	526	529	543	507
Graduate Programs at RIT	37	42	44	53	44
Subtotal Baccalaureate and Graduate at RIT	**588**	**568**	**573**	**596**	**551**
Subtotal Deaf and Hard-of-Hearing Students Only	**1,306**	**1,237**	**1,197**	**1,220**	**1,122**
Other Enrollments					
ASL-English Interpretation	167	147	146	151	140
MS in Health Care Interpretation	N/A	N/A	N/A	N/A	8
MS in Secondary Education*	56	48	44	42	30
Subtotal Other Enrollments	**223**	**195**	**190**	**193**	**178**
Total Enrollment	**1,529**	**1,432**	**1,387**	**1,413**	**1,300**

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*   Included from FY 2007 to FY 2016 are non-matriculated students (between four and 15 per year) taking courses offered by the Master of Science program in Secondary Education, but who are part of a grant-supported joint program between NTID and Nazareth College of Rochester to train speech pathologists to work with deaf and hard-of-hearing people.

Executive Summary (continued)

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Withdrawn (All Students)	14%	16%	13%	16%	16%
Graduates					
Total Degrees Granted	355	424	344	285	340
Degree Level					
Certificate	6	13	0	0	2
Diploma	0	0	0	0	0
Associate (AOS)	52	48	46	38	33
Associate (AS/AAS)	107	104	82	62	78
Associate (Interpreting)	0	1	1	0	1
Bachelor's (Interpreting)	32	52	29	29	40
Bachelor's	118	168	144	116	143
Master's	10	21	8	19	23
Master's (MSSE)	30	17	34	21	20
Post-Graduation Employment					
Post-Graduation Employment	124	174	136	126	N/A*
Post-Graduation Employment Rate	93%	94%	94%	94%	N/A*
By Sector of the Economy					
Business and Industry	65%	60%	61%	75%	N/A*
Education/Non-Profit	24%	31%	28%	16%	N/A*
Government	11%	9%	11%	9%	N/A*
Cooperative Work Experiences	299	295	238	271	271
Access/Support Services					
Notetaking Hours	66,797	67,671	58,246	60,195	61,924
Tutoring Hours	18,039	16,559	15,661	14,212	14,438
Interpreting Hours	129,900	145,003	132,055	140,230	149,046
Real-Time Captioning Hours	19,516	18,263	21,601	22,211	24,335

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* Post-graduation employment numbers reflect status as of one year following graduation; employment numbers for September 1, 2015 through August 31, 2016 graduates will be reported next year.

Executive Summary (continued)

Outreach (Number of External Participants)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
C-Print® Training	0	6	4	5	9
Digital Arts, Film and Animation	32	63	46	50	28
Droids and Drones	N/A	N/A	N/A	N/A	18
Explore Your Future	192	192	100	213	199
Health Care Careers Exploration Camp	N/A	N/A	N/A	10	14
Interpreter Training*	132	104	59	73	165
Math Competition	115	83	79	93	119
Notetaker Training	277	262	417	330	282
NTID Center on Employment	613	413	417	568	754
Project Fast Forward	25	87	78	113	56
SpiRIT Writing Contest	36	38	91	64	31
Steps to Success	21	23	12	13	8
TechGirlz/TechBoyz Camp	57	48	34	45	47

Financial Aid (Domestic Students)

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Grant-in-Aid	$1,303,635	$1,303,299	$1,251,745	$1,459,983	$1,035,396
Vocational Rehabilitation	9,314,927	9,319,129	10,531,963	10,821,731	10,504,372
Pell Grants	2,972,676	2,796,483	2,751,344	2,662,380	2,611,999
State Grants	502,031	517,134	522,612	458,527	453,851
Federal Loans	6,058,928	5,476,048	5,163,359	4,775,031	3,915,733
Scholarships and Other	2,381,377	2,553,633	3,026,247	3,117,140	4,221,658
Total Financial Aid	**$22,533,574**	**$21,965,726**	**$23,247,270**	**$23,294,792**	**$22,743,009**

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Average Aid per Domestic Student (Excluding Loans)**	**$10,947**	**$11,157**	**$13,029**	**$13,790**	**$13,783**

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* Students supported by grants from the New York State Board of Regents, State Education Department, Vocational and Educational Services for Individuals with Disabilities, awarded to RIT/NTID and the Monroe County #1 Board of Cooperative Education Services of Rochester, N.Y.
** Total financial aid, less loans, divided by domestic student enrollment.

Domestic Student Rates*	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Tuition	$12,393	$13,512	$14,040	$14,570	$15,140
Room	6,309	6,530	6,758	6,954	7,162
Board	4,491	4,648	4,810	4,964	5,338
Fees	474	492	512	528	544
Total	**$23,667**	**$25,182**	**$26,120**	**$27,016**	**$28,184**
Fundraising Activity					
Cash to Endowment and Restricted Funds	$935,832	$1,321,580	$1,348,092	$450,505	**
Equipment and Software	$29,380	$57,117	$69,697	$43,738	**
Federal Funds Matched***	$177,000	$85,000	$309,000	$387,666	**

NTID's Health Care Careers Exploration Camp is the first program designed for deaf and hard-of-hearing high school students aspiring to careers in the health care field.

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* Per the Education of the Deaf Act, international students pay differing tuition rates, depending on whether they are from a developing or developed country. Their charges for room, board and fees are the same as for domestic students.

** Information not yet available.

*** Any monies matched must be funded through operating funds efficiencies.

The Education of the Deaf Act

The Education of the Deaf Act requires NTID to submit this report annually to the federal government.

Kenneth Terry Dale, an Applied Computer Technology major from Valdosta, Georgia, is joined by family to celebrate his graduation.

Reporting Requirements of the Education of the Deaf Act and the Agreement with RIT

This section includes, verbatim, the section of the Education of the Deaf Act (EDA) that applies to reporting requirements for the National Technical Institute for the Deaf. The material below in brackets provides cross-references, indicating sections of this report that reflect NTID compliance with these EDA provisions. In addition, reporting on inventions is included below based on a requirement of the Agreement with RIT.

NOTE: Where "…" appear, sections of the EDA that do not apply to NTID have been removed.

Reports for the EDA

… the Board of Trustees or other governing body of the institution of higher education with which the Secretary has an agreement [RIT] under section 4332 of this title shall prepare and submit an annual report to the Secretary, and to the Committee on Education and Labor of the House of Representatives and the Committee on Labor and Human Resources of the Senate, not later than 100 days after the end of each fiscal year, which shall include the following: [This *Annual Report* meets this requirement.]

(1) The number of students during the preceding academic year who enrolled and whether these were first-time enrollments, who graduated, who found employment, or who left without completing a program of study, reported under each of the programs … of NTID. [Refer to the Executive Summary section.]

(2) For the preceding academic year, and to the extent possible, the following data on individuals who are deaf and from minority backgrounds and who are students (at all educational levels) or employees:

   (A) The number of students enrolled full- and part-time. [Refer to the Academic Programs and Diversity and Pluralism sections.]

   (B) The number of these students who completed or graduated from each of the educational programs. [Refer to the Persistence, Graduation & Employment and Diversity and Pluralism sections.]

   (C) The disposition of these students upon graduation/completion on the date that is one year after the date of graduation or completion of programs at NTID … in comparison to students from non-minority backgrounds. [Refer to the Persistence, Graduation & Employment and Diversity and Pluralism sections.]

   (D) The number of students needing and receiving support services (such as tutoring and counseling) at all educational levels. [Refer to the Student Support Services section.]

   (E) The number of recruitment activities by type and location for all educational levels. [Refer to the Outreach section of the Executive Summary.]

   (F) Employment openings/vacancies and grade level/type of job and number of these individuals that applied and that were hired… [Refer to the Diversity and Pluralism section.]

(3) (A) A summary of the annual audited financial statements and auditor's report … as required under section 4353 of this title. [The audit of RIT is provided to the Secretary, as is a separate schedule for NTID.]

   (B) A summary of the annual audited financial statements and auditor's report of NTID programs and activities of this title, and such supplementary schedules presenting financial information for NTID for the end of the federal fiscal year as determined by the Secretary. [The audit of RIT is provided to the Secretary, as is a separate schedule for NTID.]

Education of the Deaf Act (continued)

(4) For the preceding fiscal year, a statement showing the receipts of … NTID and from what federal sources, and a statement showing the expenditures … by function, activity, and administrative and academic unit. [Refer to the Financial Operations section.]

(5) A statement showing the use of funds (both corpus and income) provided by the Federal Endowment Program under section 4357 of this title. [Refer to the External Funding section.]

(6) A statement showing how such Endowment Program funds are invested, what the gains or losses (both realized and unrealized) on such investments were for the most recent fiscal year, and what changes were made in investments during that year. [Refer to the External Funding section.]

(7) Such additional information as the Secretary may consider necessary. [NTID responds on a regular basis to requests for additional information from staff of the U.S. Department of Education.]

Agreement with RIT: Certification Regarding Inventions

The *Agreement for Establishment and Operation of the National Technical Institute for the Deaf Between the Secretary of Health, Education, and Welfare and Rochester Institute of Technology (RIT) (1966)* requires annual disclosure of any inventions developed during the year or a certification that no inventions were made during the applicable period. NTID hereby certifies that no inventions were made during the year covered by this Annual Report.

Nicole Dugan, of Rochester, New York, and Ethan Young, of Wolcottville, Indiana, won first place at the fifth annual Next Big Idea competition, sponsored by ZVRS. Their product Ugyo, an access technology prototype for deaf-blind people with Usher Syndrome, improves communication with peers during meetings or other interactive settings. The award consists of $2,000 to further develop the prototype. Dugan graduated in 2016 with her MBA, and Young graduated in 2016 with his BFA in Industrial Design.

Performance Indicators

Performance indicators, required by the Government Performance and Results Act, measure NTID's performance related to enrollment, persistence, graduation and employment.
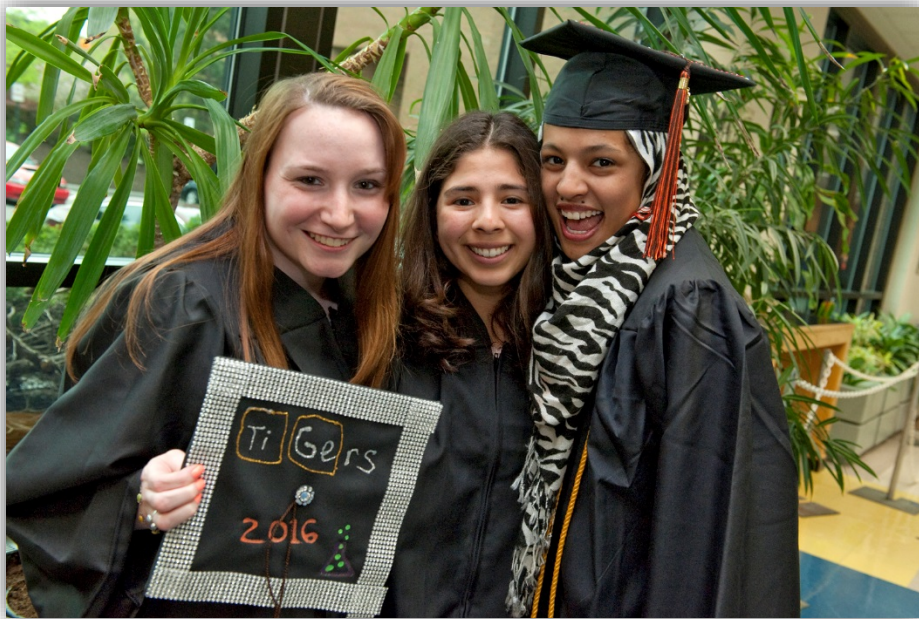
Cassie Dunbar, left, of Verona, New York; Tabitha Benavides, center, of Merced, California; and Arooj Ajaz, right, of St. Louis, Missouri, come together to celebrate their graduation in May from the Laboratory Science Technology program. Benavides and Ajaz both are enrolled in RIT's Applied Arts and Sciences bachelor's degree program.

Performance Indicators

Performance indicators are critical elements of the Congressionally mandated Government Performance and Results Act (GPRA), which requires the Department of Education to measure the performance of all entities within its oversight receiving federal funds. There are four objectives, each with several measures to track performance.

Objective 1 of 4

Provide deaf, hard-of-hearing and hearing students in undergraduate and professional studies with outstanding state-of-the-art technical and professional education programs, complemented by a strong arts and sciences curriculum and supplemented with appropriate student support services.

Though not related directly to required performance indicators, the table below reports an overview of the total enrollment for the National Technical Institute for the Deaf (NTID), which includes:
- Deaf and hard-of-hearing sub-baccalaureate students;
- Deaf and hard-of-hearing baccalaureate students;
- Baccalaureate students in the ASL-English Interpretation program;
- Deaf and hard-of-hearing graduate students enrolled in colleges of RIT other than NTID;
- Deaf, hard-of-hearing and hearing students in NTID's Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE); and
- Students in the Master of Science in Health Care Interpretation (MSHCI) program.

Fiscal Year	Total Enrollment
2008	1,343
2009	1,450
2010	1,474
2011	1,521
2012	1,547
2013	1,529
2014	1,432
2015	1,387
2016	1,413
2017	1,300

Measure 1.1 of 3: The number of NTID-supported deaf and hard-of-hearing undergraduates (desired direction: increase)			
Fiscal Year	Target	Number	Status
2008	1,045	1,103	Target Surpassed
2009	1,045	1,212	Target Surpassed
2010	1,045	1,237	Target Surpassed
2011	1,045	1,263	Target Surpassed
2012	1,200	1,281	Target Surpassed
2013	1,200	1,269	Target Surpassed
2014	1,200	1,195	Target Not Met
2015	1,200	1,153	Target Not Met
2016	1,200	1,167	Made Progress From Prior Year
2017	1,200	1,078	Target Not Met

Source: National Technical Institute for the Deaf, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: Enrollment data does not include part-time students or non-degree-seeking students, with the exception of part-time students who are taking their final courses for completion of their degrees.

Target Context: In September 2011, the target for the number of undergraduates who are deaf and hard of hearing enrolled in NTID was increased from 1,045 students to 1,200 students, as NTID enrolled more than 1,200 undergraduate students in FY 2009, FY 2010 and FY 2011.

Explanation: Below is a table showing the number of undergraduate students who are deaf or hard of hearing who were enrolled in sub-baccalaureate programs at RIT and in baccalaureate programs at NTID.

Fiscal Year	Sub-Baccalaureate	Baccalaureate	Total
2008	660	443	1,103
2009	761	451	1,212
2010	759	478	1,237
2011	768	495	1,263
2012	766	515	1,281
2013	718	551	1,269
2014	669	526	1,195
2015	624	529	1,153
2016	624	543	1,167
2017	571	507	1,078

As seen in the above table, NTID experienced a decrease in the undergraduate enrollment of students who are deaf and hard of hearing from 1,167 students during the 2015-2016 (FY 2016) academic year to 1,078 students in the 2016-2017 (FY 2017) academic year.

Performance Indicators (continued)

Measure 1.2 of 3: The number of students enrolled in NTID's ASL-English Interpretation program (desired direction: increase)

Fiscal Year	Target	Number	Status
2008	100	130	Target Surpassed
2009	100	135	Target Surpassed
2010	100	138	Target Surpassed
2011	120	147	Target Surpassed
2012	140	160	Target Surpassed
2013	140	167	Target Surpassed
2014	140	147	Target Surpassed
2015	160	146	Target Not Met
2016	160	151	Made Progress From Prior Year
2017	140	140	Target Met

Source: National Technical Institute for the Deaf, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: Enrollment data for students in the ASL-English Interpretation program does not include part-time students or non-degree-seeking students, with the exception of part-time students who are taking their final courses toward completion of their degrees.

Target Context: NTID has reported that the ASL-English Interpretation program receives more applicants than they are able to accept. NTID allowed this program to expand in FY 2009 to help meet the increasing demand for qualified interpreters. As a result of the expansion, the target increased to 120 students for FY 2011, and again to 140 students for FY 2012, and finally to 160 students for FY 2015. In FY 2014, NTID began limiting the number of applicants accepted into the Interpretation program towards an overall enrollment goal of 140 students.

Measure 1.3 of 3: The number of students enrolled in NTID's Master of Science program in Secondary Education of Students Who are Deaf or Hard of Hearing (MSSE), Master of Science program in Health Care Interpretation (MSHCI) and deaf or hard-of-hearing students pursuing graduate degrees in other RIT colleges (desired direction: increase)

Fiscal Year	Target	Number	Status
2008	105	110	Target Surpassed
2009	105	103	Target Not Met
2010	105	99	Target Not Met
2011	105	111	Target Surpassed
2012	95	106	Target Surpassed
2013	95	93	Target Not Met
2014	95	90	Target Not Met
2015	95	88	Target Not Met
2016	95	95	Target Met
2017	95	82	Target Not Met

Source: National Technical Institute for the Deaf, Registrar Office records

Performance Indicators (continued)

Frequency of Data Collection: Annual

Data Quality: Enrollment data does not include part-time students or non-degree-seeking students, with the exception of part-time students who are taking their final courses toward completion of their degrees.

Target Context: In the FY 2008 Performance Plan, the target for the number of students enrolled in NTID's MSSE program, as well as students pursuing graduate degrees in the other colleges of RIT, was reduced from 120 students to 105 students. The target was further reduced from 105 students to 95 students for FY 2012 and subsequent years. In FY 2017, NTID had a total of 30 students in the MSSE program and 44 deaf and hard-of-hearing students in other RIT graduate programs. FY 2017 marks the first year where students enrolled in the MSHCI program were included, with an enrollment of eight students. Total enrollment for this measure currently is 82.

Objective 2 of 4

Maximize the number of students successfully completing a program of study.

Unlike other data reported in performance indicator objectives, the data in Objective 2 is reported to the Integrated Postsecondary Education Data System (IPEDS) using its April timeline. Therefore, FY 2016 data will be reported in April 2017.

Measure 2.1 of 4: The percentage of first-time, full-time, degree-seeking sub-baccalaureate students who were in their first year of postsecondary enrollment in the previous year and who are enrolled in the current year (desired direction: increase)			
Fiscal Year	**Target**	**Percentage**	**Status**
2006		64.5	Measure Not In Place
2007		72.4	Measure Not In Place
2008	Set a Baseline	75.5	Target Not In Place
2009	Maintain a Baseline	71.9	Target Not In Place
2010	70	68.8	Target Not Met
2011	70	69.8	Made Progress From Prior Year
2012	70	66.8	Target Not Met
2013	70	68.0	Made Progress From Prior Year
2014	70	73.5	Target Surpassed
2015	70	75.1	Target Surpassed

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In April 2016, NTID reported to the Department the FY 2015 persistence rate of its sub-baccalaureate students, who returned from the 2014-2015 academic year to their second year in the 2015-2016 academic year. NTID reported that the persistence rate of its first-time, full-time, degree-seeking sub-baccalaureate students who are deaf and who are not enrolled in NTID's ASL-English Interpretation program is 75.1 percent. Currently, there are no sub-baccalaureate students enrolled in the ASL-English Interpretation program.

Performance Indicators (continued)

NTID will report to the Department the FY 2016 persistence rate in April 2017, with a sub-set of disaggregated data on the persistence rates of sub-baccalaureate students who are deaf and ASL-English Interpretation students, if applicable. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

Target Context: The target for the persistence rate of NTID's sub-baccalaureate students is 70 percent. In comparison, IPEDS data indicate that two-year public colleges have an average persistence rate of 58 percent, and two-year private colleges have an average persistence rate of 67 percent. Based on this comparison with IPEDS data, the Department and NTID determined that the target of 70 percent for FY 2010 and subsequent years is an ambitious, yet achievable, goal for NTID.

Explanation: This measure was added to the FY 2008 Performance Plan and is consistent with the methodology used by IPEDS and other Department programs in measuring the persistence of postsecondary students. The persistence rate is the percentage of first-time, full-time, degree-seeking sub-baccalaureate students who were in their first year of enrollment in the previous year and who are enrolled in the current year.

Measure 2.2 of 4: The percentage of first-time, full-time, degree-seeking baccalaureate students who were in their first year of postsecondary enrollment in the previous year and are enrolled in the current year (desired direction: increase)			
Fiscal Year	**Target**	**Percentage**	**Status**
2006		86.3	Measure Not In Place
2007		75.7	Measure Not In Place
2008	Set a Baseline	85.9	Target Not In Place
2009	Maintain a Baseline	88.0	Target Not In Place
2010	85	93.5	Target Surpassed
2011	85	88.2	Target Surpassed
2012	85	85.9	Target Surpassed
2013	85	90.8	Target Surpassed
2014	85	90.0	Target Surpassed
2015	85	93.0	Target Surpassed

Source: Rochester Institute of Technology, Registrar Office records

Data Quality: In April 2016, NTID reported to the Department the FY 2015 persistence rate of its baccalaureate students, including ASL-English Interpretation students, who returned from the 2014-2015 academic year to their second year in the 2015-2016 academic year, along with a sub-set of disaggregated data on the persistence rates of baccalaureate students who are deaf and ASL-English Interpretation students. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

Performance Indicators (continued)

The following persistence rates were submitted to the Department by NTID:

	All students	**Deaf students**	**ASL-English Interpretation students**
FY 2008	85.9%	85.7%	87.5%
FY 2009	88.0%	87.7%	89.5%
FY 2010	93.5%	92.5%	95.8%
FY 2011	88.2%	89.8%	84.2%
FY 2012	85.9%	82.6%	94.4%
FY 2013	90.8%	89.3%	95.7%
FY 2014	90.0%	90.6%	87.5%
FY 2015	93.0%	90.8%	100.0%

NTID will report to the Department the FY 2016 persistence rate of its baccalaureate students in April 2016, with a sub-set of disaggregated data on the persistence rates of baccalaureate students who are deaf and ASL-English Interpretation students.

Target Context: The target for the persistence rate of NTID's baccalaureate students is 85 percent. In comparison, IPEDS data indicate that four-year public and private colleges have an average persistence rate of 73 percent. Based on this comparison with IPEDS data, the Department and NTID determined that the target of 85 percent for FY 2010 and subsequent years is an ambitious, yet achievable, goal for NTID.

Explanation: This measure was added to the FY 2008 Performance Plan and is consistent with the methodology used by IPEDS and other Department programs in measuring the persistence of postsecondary students. The persistence rate is the percentage of first-time, full-time, degree-seeking baccalaureate students who were in their first year of enrollment in the previous year and who are enrolled in the current year.

Measure 2.3 of 4: The percentage of first-time, full-time, degree-seeking sub-baccalaureate students who graduate within 150% of the program-based length of time (desired direction: increase)			
Fiscal Year	**Target**	**Percentage**	**Status**
2006		25.4	Measure Not In Place
2007		25.3	Measure Not In Place
2008	Set a Baseline	26.9	Target Not In Place
2009	Maintain a Baseline	37.4	Target Not In Place
2010	26	33.7	Target Surpassed
2011	26	46.0	Target Surpassed
2012	27	40.5	Target Surpassed
2013	35	42.1	Target Surpassed
2014	36	37.3	Target Surpassed
2015	37	39.2	Target Surpassed

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Performance Indicators (continued)

Data Quality: In April 2016, NTID reported to the Department the FY 2015 percentage of its sub-baccalaureate students (those who were initially enrolled in the 2009-2010 academic year), including ASL-English Interpretation students, who graduated within 150 percent of the program-based length of time, along with a sub-set of disaggregated data on the graduation rates of sub-baccalaureate students who are deaf and ASL-English Interpretation students. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

The following graduation rates were submitted to the Department by NTID:

	All students	**Deaf students**	**ASL-English Interpretation students**
FY 2008	26.9%	29.3%	0.0%
FY 2009	37.4%	37.8%	33.3%
FY 2010	33.5%	29.6%	73.3%
FY 2011	46.0%	41.3%	81.0%
FY 2012	40.5%	37.3%	84.6%
FY 2013	41.8%	41.1%	100.0%
FY 2014	37.3%	37.3%	N/A
FY 2015	39.2%	39.2%	N/A

(Note: There were only three students included in the ASL-English Interpretation cohort reported for FY 2008. None of these students persisted to graduation, resulting in a rate of 0 percent.)

NTID will report to the Department the FY 2016 graduation rate of its sub-baccalaureate students in April 2017, with a sub-set of disaggregated data on the graduation rates of sub-baccalaureate students who are deaf and ASL-English Interpretation students.

Target Context: The target for the graduation rate of NTID's sub-baccalaureate students is 37 percent. An IPEDS analysis of public and private non-profit two-year institutions indicated an average graduation rate of 31 percent for full-time, first-time degree-seeking students within 150 percent of program-based length of time. Based on the comparison with IPEDS data, the target will increase from 35 percent in 2013 to 40 percent in 2018, at an increase of 1 percent per year.

Explanation: This measure was added to the FY 2008 Performance Plan and is consistent with the methodology used by IPEDS and other Department programs to measure the graduation rate of postsecondary students. Program-based length of time refers to whether the stated program length for sub-baccalaureates is two or three years. The measure will allow the Department to obtain data that is comparable with what is being submitted to IPEDS by other institutions on graduation rates.

Performance Indicators (continued)

Measure 2.4 of 4: The percentage of first-time, full-time, degree-seeking baccalaureate students who graduate within 150% of the program-based length of time (desired direction: increase)			
Fiscal Year	**Target**	**Percentage**	**Status**
2006		62.9	Measure Not In Place
2007		53.3	Measure Not In Place
2008	Set a Baseline	60.5	Target Not In Place
2009	Maintain a Baseline	64.9	Target Not In Place
2010	60	55.6	Target Not Met
2011	60	65.9	Target Surpassed
2012	61	62.2	Target Surpassed
2013	62	71.9	Target Surpassed
2014	63	69.5	Target Surpassed
2015	64	76.2	Target Surpassed

Source: Rochester Institute of Technology, Registrar Office records

Data Quality: In April 2016, NTID reported to the Department the FY 2015 percentage of its baccalaureate students (those who were initially enrolled in the 2009-2010 academic year), including ASL-English Interpretation students, who graduated within 150 percent of the program-based length of time or within six years, along with a sub-set of disaggregated data on the graduation rates of baccalaureate students who are deaf and ASL-English Interpretation students. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

The following graduation rates were submitted to the Department by NTID:

	All students	**Deaf students**	**ASL-English Interpretation students**
FY 2013	71.9%	73.2%	62.5%
FY 2014	69.5%	67.1%	78.9%
FY 2015	76.2%	69.2%	91.7%

(Note: There were no first-time, full-time, degree-seeking baccalaureate students enrolled in NTID's ASL-English Interpretation programs in fall 2004, fall 2005 or fall 2006.)

NTID will report to the Department the FY 2016 graduation rate of its baccalaureate students in April 2017, with a sub-set of disaggregated data on the graduation rates of baccalaureate students who are deaf and ASL-English Interpretation students.

Target Context: The target for the graduation rate of NTID's baccalaureate students in 2015 is 64 percent. An IPEDS analysis of institutions of higher education show that four-year public colleges have an average graduation rate of 45 percent and that four-year private colleges have an average graduation rate of 53 percent. Based on the comparison with IPEDS data, the target will increase from 60 percent in 2011 to 65 percent in 2016, at an increase of 1 percent per year.

Explanation: This measure was added in the FY 2008 Performance Plan and is consistent with the methodology used by IPEDS and other Department programs to measure the graduation rate of baccalaureate postsecondary students who graduate within six years of entry. The measure will allow the Department to obtain data that is comparable with what is being submitted to IPEDS by other institutions on graduation rates.

Performance Indicators (continued)

Objective 3 of 4

Improve post-school outcomes.

The source of the data in these measures is a questionnaire NTID gives to its students who are nearing graduation and immediately after graduation. In addition, all graduates receive an initial email contact from NTID during the first semester after graduation, as well as follow-up letters and phone calls, with the goal of acquiring data for every student who has graduated within the previous year. Questions include the graduate's address, whether the graduate has found or is looking for employment and whether the graduate is attending college or another postsecondary institution. If the graduate is employed, NTID requests information regarding the employment experience, including type of work, starting date and salary.

NTID reports the employment rate for deaf and hard-of-hearing sub-baccalaureate and baccalaureate graduates one year after graduation, based on availability of valid data. In 2015, a total of 235 deaf and hard-of-hearing students graduated from NTID. Valid data existed one year later on 217 graduates. Of these 217 graduates, 126 students were employed (58 percent), 68 students were in higher education or training (31 percent), and 23 students were not employed or in higher education or training (11 percent). Of the 23 students not employed or in higher education or training, eight were actively looking for work.

Category of Graduate	Count
Employed	126
Unemployed (Seeking Employment)	8
Not Seeking Employment	15
Education (Within RIT)	51
Education (Outside RIT)	17
Unknown	18
Total	235

Measure 3.1 of 3: The post-school rate of NTID graduates who are employed during their first year after graduation (desired direction: increase)

Graduation Year	Target	Rate	Status
2006		52	Measure Not In Place
2007	Set a Baseline	60	Target Not In Place
2008	Set a Baseline	51	Target Not In Place
2009	Maintain a Baseline	47	Target Not In Place
2010	57	42	Target Not Met
2011	57	45	Made Progress From Prior Year
2012	50	46	Made Progress From Prior Year
2013	50	58	Target Surpassed
2014	50	55	Target Surpassed
2015	50	58	Target Surpassed

Source: National Technical Institute for the Deaf, post-graduation employment records

Performance Indicators (continued)

Frequency of Data Collection: Annual

Target Context: The average employment rate of 2005, 2006 and 2007 graduates who were employed full-time within one year after graduation was 57 percent. In FY 2010, the Department proposed that the target for this measure in FY 2010 and FY 2011 be equal to this average. The target has been revised downward by the Department to 50 percent for FY 2012 and subsequent years to be more consistent with the data submitted by NTID for FY 2009, 2010 and 2011. In FY 2012, it was also determined that the target percentages across all three categories (Measures 3.1, 3.2 and 3.3) would equal 100 percent of the alumni being tracked by NTID.

Explanation: Originally employment rates were calculated by NTID as the percentage of graduates who are employed among those who choose to pursue employment, following the Bureau of Labor Statistics methodology. In previous years, NTID reported, in comparison with the target of 95 percent, the following percentages of students employed who have chosen to pursue employment:

Graduation Year	Percentage
2006	95
2007	95
2008	90
2009	90
2010	90
2011	91
2012	93
2013	94
2014	94
2015	94

In FY 2006, the Department changed the methodology for calculating employment data, from the percentage of graduates who were employed among those seeking employment, to the percentage of graduates who are employed among all those who graduated from NTID.

Measure 3.2 of 3: The post-school rate of NTID graduates who are in advanced education or training during their first year after graduation (desired direction: increase)

Graduation Year	Target	Rate	Status
2006	Set a Baseline	42	Target Not In Place
2007	Set a Baseline	30	Target Not In Place
2008	Set a Baseline	39	Target Not In Place
2009	Maintain a Baseline	40	Target Not In Place
2010	35	44	Target Surpassed
2011	35	44	Target Surpassed
2012	45	46	Target Surpassed
2013	45	32	Target Not Met
2014	45	35	Made Progress From Prior Year
2015	45	31	Target Not Met

Source: National Technical Institute for the Deaf, post-graduation employment records

Performance Indicators (continued)

Frequency of Data Collection: Annual

Target Context: The average participation rate of 2005, 2006 and 2007 graduates who were in advanced education or training full-time within one year after graduation is 35 percent. In FY 2010, the Department proposed that the target for this measure in FY 2010 and FY 2011 be equal to this average. The target has been revised upward by the Department to 45 percent for FY 2012 and subsequent years to be more consistent with the data submitted by NTID for FY 2009, 2010 and 2011. In FY 2012, it was also determined that the target percentages across all three categories (Measures 3.1, 3.2 and 3.3) would equal 100 percent of the alumni being tracked by NTID.

Explanation: This indicator was added as part of the post-school outcomes to provide a more complete and accurate picture of outcomes for NTID graduates. The measure focuses on graduates who are in advanced education or training during their first year after graduation. Separate measures cover graduates who are in the workforce during their first year after graduation and graduates who are not engaged in either advanced education or training or in the workforce during their first year after graduation.

Measure 3.3 of 3: The post-school rate of NTID graduates who are not engaged in either advanced education or training or in the workforce during their first year after graduation (desired direction: decrease)			
Fiscal Year	**Target**	**Rate**	**Status**
2006	Set a Baseline	6	Target Not In Place
2007	Set a Baseline	10	Target Not In Place
2008	Set a Baseline	10	Target Not In Place
2009	Maintain a Baseline	13	Target Not In Place
2010	8	14	Target Not Met
2011	8	11	Made Progress From Prior Year
2012	5	8	Made Progress From Prior Year
2013	5	10	Target Not Met
2014	5	10	Target Not Met
2015	5	11	Target Not Met

Source: National Technical Institute for the Deaf, post-graduation employment records

Frequency of Data Collection: Annual

Target Context: The average rate of the 2005, 2006 and 2007 graduates, who were neither employed nor in advanced education or training full-time within one year after graduation is 8 percent. In FY 2010, the Department proposed that the target for this measure in FY 2010 and subsequent years be equal to this average. The target was revised downward by the Department to 5 percent for FY 2012 and subsequent years to reflect changes made in the two previous indicators on the percentage of students employed and/or in advanced education or training during their first year after graduation and each alumnus being counted only once. This allows the percentage across all three categories (Measures 3.1, 3.2 and 3.3) to equal 100 percent of the alumni being tracked by NTID.

Performance Indicators (continued)

Explanation: This indicator has been added as part of the post-school outcomes to provide a more complete and accurate picture of outcomes for NTID graduates. The measure focuses on graduates who are not engaged in advanced education or training or in the workforce during their first year after graduation. Other measures cover graduates who are in the workforce during their first year after graduation and graduates who are in either advanced education or training during their first year after graduation.

Objective 4 of 4:

Improve the efficiency of operations at NTID as defined by the cost per successful student outcome, where the successful outcome is graduation.

Measure 4.1 of 2: Federal cost per NTID graduate (desired direction: decrease)			
Fiscal Year	**Target**	**Cost**	**Status**
2006		181,400	Measure Not In Place
2007	Set a Baseline	210,100	Target Not In Place
2008	Maintain a Baseline	188,600	Target Not In Place
2009	Maintain a Baseline	196,300	Target Not In Place
2010	196,898	187,400	Target Surpassed
2011	201,230	205,900	Target Not Met
2012	205,657	172,000	Target Surpassed
2013	209,564	146,600	Target Surpassed
2014	213,755	185,200	Target Surpassed
2015	218,244	226,200	Target Not Met
2016	222,827	191,200	Target Surpassed

Source: National Technical Institute for the Deaf, Finance and Budget Office

Frequency of Data Collection: Annual

Data Quality: The FY 2016 data on the federal cost per graduate, as reported by NTID, is an average of the cost per graduate from FY 2011 to FY 2016. The federal cost per graduate includes graduates who receive associate, bachelor's and master's degrees from NTID.

Target Context: In determining the appropriate target each year for the federal cost per graduate, future inflation must be taken into account, as well as the variation in the number of students who graduate each year from NTID. The Department has identified and established targets for FY 2010 and subsequent years.

Explanation: This measure is calculated by adding the federal appropriations for the current year and the five preceding years, which is then averaged. The average (from six years of federal appropriations) is divided by the number of graduates in the current year, including sub-baccalaureate, baccalaureate and graduate students. Federal student financial aid, vocational rehabilitation payments, other federal support for students, federal grants and contracts, the Federal Endowment Grant Program tuition and other private funds received by NTID are not included in this calculation.

Performance Indicators (continued)

Measure 4.2 of 2: Total educational cost per NTID graduate (desired direction: decrease)			
Fiscal Year	**Target**	**Cost**	**Status**
2006		214,300	Measure Not In Place
2007	Set a Baseline	250,300	Target Not In Place
2008	Maintain a Baseline	226,700	Target Not In Place
2009	Maintain a Baseline	236,400	Target Not In Place
2010	236,675	223,900	Target Surpassed
2011	241,882	246,400	Target Not Met
2012	247,203	206,100	Target Surpassed
2013	251,800	176,900	Target Surpassed
2014	256,836	224,000	Target Surpassed
2015	262,230	277,100	Target Not Met
2016	267,737	237,300	Target Surpassed

Source: National Technical Institute for the Deaf, Finance and Budget Office

Frequency of Data Collection: Annual

Data Quality: The FY 2016 data on the total educational cost per graduate, as reported by NTID, is an average of the cost per graduate from FY 2011 to FY 2016. The total educational cost per graduate includes graduates who receive associate, bachelor's and master's degrees from NTID.

Target Context: In determining the appropriate target each year for the total educational cost per graduate, future inflation must be taken into account, as well as the variation in the number of students who graduate each year from NTID. The Department has identified and established targets for FY 2010 and subsequent years.

Explanation: This measure is calculated by adding the federal appropriations and non-federal funds (tuition, room, board and fees collected from students) for the current year and the five preceding years, which is then averaged. The average (from six years of federal appropriations and non-federal funds) is divided by the number of graduates in the current year, including sub-baccalaureate, baccalaureate and graduate students. Costs associated with public services, auxiliary enterprises and construction are excluded from this calculation.

Strategic Planning

Strategic Decisions 2020, NTID's strategic planning initiative, was forged with student, staff and faculty involvement.

Incoming NTID students with minimal or no ASL skills may elect to participate in the New Signers Program, a *Strategic Decisions 2020* initiative that gives new students an ASL-immersion experience before fall orientation begins. The New Signers Program was expanded to two weeks this year.

Strategic Decisions 2020

FY 2016 marked the sixth year of NTID's implementation of *Strategic Decisions 2020*, the strategic plan for the next four years.

The *Strategic Decisions 2020* (*SD 2020*) mid-term review committee reported recommendations and suggested new initiatives in June 2015. These follow the six topics and associated goals in *SD 2020*. Efforts made in 2016 include the following updates.

STUDENTS

1. **Establish Enrollment Targets**
    2015 Recommendation: Adjust the enrollment targets for 2020, as noted below.
    New initiatives suggested in 2015:
    *   The enrollment targets should be adjusted to the following:

	SD 2020	New
Career-Focused Degree Students	35%	37%
Associate+Bachelor's Degree Students	20%	18%
RIT Baccalaureate & Master's Degree Students	45%	45%

    *   Keep costs to students low through modest tuition increases, additional scholarships and other forms of financial assistance, and facilitating students' on-time graduation.
    *   NTID Admissions should continue collaboration with NTID Communications, Marketing and Multimedia Services to promote RIT/NTID programs to prospective students.
    *   Increase advising and retention efforts geared toward students in the 2.0 to 3.0 GPA range and students in their second and third years.
    Updates for 2016:
    *   Decision was made to keep the original *SD 2020* targets. Several new articulation agreements to RIT bachelor's degree programs were signed in 2016 making the 20 percent goal for A+B students more achievable.
    *   RIT established an On-Time Graduation Task Force with recommendations made in 2016.
    *   NTID's development efforts toward RIT Capital Campaign may increase scholarship funding.
    *   An orientation program was created for students moving into RIT bachelor's degree programs from AAS and AS programs.

2. **Improve Services to Under-Prepared Students**
    2015 Recommendation: Maintain goal and increase efforts.
    *   Continue development and revision of NTID's new Create Your Future (CYF) program.
    *   Continue to explore use of remote testing for English and math course placement.
    Updates for 2016:
    *   CYF program piloted with students participating in synchronous online monthly sessions, culminating in a two-week on-site summer program focused on developing academic skills.
    *   NTID is exploring options and logistics for remote testing for English and math course placement.

3. **Renew Commitment to Diverse Student Body**
    2015 Recommendation: Modify goal and increase efforts in this area.
    New initiatives suggested in 2015:
    *   Increase efforts to recruit international students.
    *   Expand the traditional AALANA definition and wording to include Asian students and students with secondary/tertiary disabilities.
    *   Add metrics to measure progress to goal.
    *   Revise the Step Up! program for increased efficiency and for more positive results.

Updates for 2016:

- NTID added an International Student Coordinator.
- A leadership program was established for international students.
- NTID participated in RIT's new first-generation student initiative.
- NTID held college-wide diversity training sessions.
- Step Up! program increased outreach efforts on and off campus, expanded to include any first-year students in Career Exploration Studies program who identify as AALANA/persons of color, and provided program incentives for students to take advantage of resources offered.
- NTID day-long diversity retreat held for faculty, staff and students.
- Professional development workshops for faculty/staff presented including *Understanding Diversity at RIT: Less is More.*
- Chief Diversity Officer position will be posted for the college of NTID.

PROGRAM AND CURRICULUM DEVELOPMENT

1. **Review and Update NTID Career-Focused Program Portfolio**
   2015 Recommendation: Maintain goal and increase efforts.
   New initiatives suggested in 2015:
   - The *SD 2020* mid-term review committee reaffirms the commitment of "*giving special consideration to new programs in green technology, sustainability and health care.*"
   - Increase efforts in investigating potential AOS degree programs including interdisciplinary and multidisciplinary studies.
   - Establish a "market scan" group to identify job opportunities (AOS) in high growth areas.
   - Work with coordinator for online learning to investigate establishing an online program.
   - Use the relationships that DeafTEC has with partner community colleges and the National Science Foundation's Advanced Technological Education community to investigate opportunities for deaf and hard-of-hearing students in apprentice programs.
   - Offer "stackable credentials" in the form of certificates that lead to a degree or through another innovative approach. This could serve NTID alumni seeking additional skills, and students who may not want to complete full degrees.
   Updates for 2016:
   - NTID AOS program working group made recommendations for AOS programs thought to have the greatest growth and job placement potential. Efforts to explore adding new programs began.
   - Exploration of a partnership utilizing the local BOCES programs and space was discussed.
   - New program concept papers for an AAS in Applied Business was approved for full proposal development.
   - Drafts of an AOS/AAS program in Biomedical Equipment Technology were developed.

2. **Expand 2+2/2+3 Transfer Degree Programs**
   2015 Recommendations: Maintain the goal and efforts in this area.
   Updates for 2016:
   - New articulation agreement was signed between the AAS in Laboratory Science Technology and two bachelor's degree programs in the College of Science: Biology and Biochemistry.
   - New articulation agreement was signed between the AAS in Accounting Technology and the bachelor's degree in Applied Arts and Science in the School of Individualized Study.

3. **Ensure Coordination among Technical Education, General Education and Co-Curriculum Programs (International, Community Service, Soft Skills, Deaf Studies/ASL Requirement)**
   2015 Recommendations:
   - International Component: Maintain goal and efforts.
   - Community Service: Maintain goal and increase efforts.
   - Soft Skills Development: Maintain goal and increase efforts, including new initiatives below.
   - Deaf Studies/ASL Requirement**:** Revise goal as described in new initiative below.

New initiatives suggested in 2015:
- Expand on models where community service has been incorporated into courses.
- Provide funds for transportation for students to engage in community service activities.
- Align soft skills development goal and associated initiatives with those in the *RIT Strategic Plan 2015-2025* related to the development of "T-shaped" graduates who have both disciplinary depth and breadth across multiple skills and competencies.
- Follow up on data and assess effectiveness of current efforts to incorporate critical thinking, problem solving and job-related communication or to offer courses.
- Offer workshops or other creative educational experiences for students on presentation skills and other soft-skills development.
- Consider offering course(s) or workshops in financial literacy and budgeting skills.
- Consider increasing to 21 credits for AOS program, requiring a soft skills/communication course and reinstating the requirement that all AOS students take at least one ASL/Deaf cultural studies course.

Updates for 2016:
- Decision was made to continue with 15 credits of general education in AOS programs.
- RIT established a "T-shape Tiger Team" to explore development of soft skills, with recommendations expected winter 2016-17.
- NTID's "T-shape" committee made recommendations including a pilot program initiated in fall 2016 by the Student Life Team to track student participation in clubs and programs, which contribute to their development of soft skills.
- The Business Studies Department transitioned its Personal Finance course to an online format for potential expanded offerings.

4. **Expand Graduate Degrees to Prepare Professionals to Work with Individuals who are Deaf and Hard of Hearing**
   2015 Recommendation: This goal will be accomplished when the MS in Health Care Interpretation is approved by NYSED.
   New initiatives suggested in 2015:
   - Provide fiscal and personnel support to faculty who want to explore adding additional program(s).
   - Establish committee to investigate the possibility of creating an Ed.D. or Ph.D. program in a deafness-related discipline.

   Updates for 2016:
   - The Master's in Health Care Interpretation program enrolled its first students.
   - Discussions began regarding other potential graduate degree programs, including one from the Department of Liberal Studies in the fields of leadership and social policy.

5. **Enhance Student Learning and the Use of Educational Technology**
   New initiatives suggested in 2015:
   - Increase the number of personnel to enhance online learning opportunities at NTID, particularly online summer courses. Expand online continuing education courses, certificates and/or degrees for RIT/NTID alumni.
   - Establish measurable outcomes.

   Updates for 2016:
   - RIT began participating as a partner in edX, a non-profit consortium built on an open-source learning platform for the purposes of innovative teaching and learning, which was founded by Harvard and MIT. NTID has representation on the edX Steering Committee.
   - The NTID Learning Consortium now has a Director of NTID Online Initiatives and an Online Programs Operations Coordinator. These leaders worked with NTID faculty/staff to convert courses to online formats, video-capture lectures for posting online, support flipped and blended formats, and provide additional direction and resources.
   - Online sections of four courses were offered for the first time during fall semester 2016, joining four other courses that continued to have online sections. An evaluation plan was established to compare online and traditional formats and assess student learning and experiences. An online

readiness survey was created and distributed to all incoming NTID SVP students and returning students enrolled in the four new online courses.

COMMUNICATION

1. <u>**Educational Use of Languages in Support of Graduation Requirements**</u>
   2015 Recommendation: Continuation of current efforts.
   Primary communication update for 2016:
   - The NTID Committee on Equal Opportunity, Communication and Access (CEOCA) was formed by the NTID President's Office in spring 2016 to address language and communication expectation concerns raised by the student-led Communication Access Now (CAN) movement. CEOCA, which concluded its work in December 2016, was a working committee comprised of three faculty, three staff and three student members and two faculty/staff co-chairs. The committee was asked to specifically review core institutional philosophies and values as written in *SD 2020* to better delineate the NTID position on language, communication, cultural literacy and access in the NTID classroom. The committee was also tasked with reviewing language and communication-related recommendations made by other working committees, both present and past, to offer the institution with a clear framework to continue discussions and refine practices in support of shared responsibilities for effective classroom communication practices.
   - Training sessions offered, including *Communicating Across Cultures-Effectiveness in a Cross Cultural Classroom*.
   - NTID held an *Attitudes Toward Deafness Revisited* convocation on November 19, 2016.

2. <u>**Signing in Public Spaces**</u>
   2015 Recommendation: Continuation of current efforts, with increased emphasis on goal.
   Update for 2016:
   - Videos and posters were created to encourage signing in public spaces to promote incidental learning.

3. <u>**Establish Flexibility in the Use of NTID's Direct Instruction Model**</u>
   2015 Recommendation: Continuation of current efforts.
   New initiative suggested in 2015:
   - The Flexibility in Direct Instruction Model (FDI) report stands, and should be reviewed regularly with the appropriate NTID personnel twice a year.
   Update for 2016:
   - The FDI process was reviewed and implemented each semester. A panel discussion about FDI use was presented at the January 2016 NTID Scholarship Symposium.
   - FDI is a core focus of discussions within the CAN movement and CEOCA committee.
   - There were nine FDI requests during fall 2016, and eight requests were met. The ninth was withdrawn.

4. <u>**Communication Expectations for Faculty and Staff**</u>
   2015 Recommendations: The following initiatives should be undertaken:
   New initiatives suggested in 2015:
   - Complete the investigation of additional and/or alternative assessment tools for measuring sign language skills, and begin implementation of new tools.
   - Bring the Communication Expectation Recommendations report for faculty and staff to conclusion by May 2016.
   Updates for 2016:
   - A three-year plan for developing new ASL assessment tools was initiated by the new NTID Center on Cognition and Language. Searches were underway for several research-related positions to support this effort.

ACCESS

1. <u>**Promote Technology for Access and Learning**</u>
   2015 Recommendations: Continuation of all current efforts.
   New initiatives suggested in 2015:
   - Recommit to the development of a career ladder for captionists.
   - Develop opportunities for captionists to develop some competency in sign language.
   - Strengthen efforts regarding access technologies. Pursue research projects, experiments and pilot studies re: voice recognition (e.g., Siri, Dragon, AppleWatch).
   - Explore and/or expand the use of deaf interpreters on campus.
   - Investigate the feasibility of establishing in-house Video Relay Interpreting services.
   - Investigate use of voice recognition to transcribe instructor's verbal materials.
   Updates for 2016:
   - Career ladder for captionists completed.
   - Contract signed to expand use of Video Remote Interpreting (VRI) on campus.
   - Deaf student enrolled for the first time in interpreting courses while completing a degree in the School of Individualized Study.
   - Progress made in research to incorporate artificial intelligence in Automatic Speech Recognition systems, with plans to do actual trial tests soon.

FACULTY/STAFF

1. <u>**Enhance Faculty/Staff Professional Development (PD)**</u>
   Recommendation: Continue current efforts.
   New initiatives suggested in 2015:
   - Revisit team teaching opportunities in NTID classrooms.
   - Include graduate students in PD opportunities designed for NTID faculty and staff.
   - Offer new PD workshops on various topics.
   Updates for 2016:
   - Team teaching encouraged by Associate Vice President for Academic Affairs.
   - Professional Development Coordinator for Excellence in Teaching appointed. New efforts included Power Workshops and mentoring.

2. <u>**Achieve Balance in Tenure/Non-Tenure Positions**</u>
   Recommendation: Continue efforts, with new initiatives noted below:
   New initiatives suggested in 2015:
   - Re-examine NTID's mentoring programs to determine the career advancement needs of minority, deaf and female faculty and staff and design new programs.
   - Utilize research findings and recommendations by Connect@RIT ADVANCE project.
   Update for 2016:
   - RIT established a Committee on the Future of Faculty to consider the impact of increasing numbers of sections and credit hours being taught by non-tenure track faculty.

INNOVATION, SCHOLARSHIP AND RESEARCH

1. <u>**Establish a Center-Based Model for the NTID Research Agenda**</u>
   2015 Recommendation: Maintain efforts, with new initiative below:
   New initiatives suggested in 2015:
   - Address succession planning for Research Center directors.
   Updates for 2016:
   - New Associate Dean of Research appointed.
   - New Center on Cognition and Language established.

2. <u>**Support Discipline-Based Research**</u>
   2015 Recommendation: Maintain goal, with increased efforts.
   Update for 2016:
   - Associate Dean for Teaching and Scholarship Excellence held workshops and mentored veteran faculty.
   - Two Scholarship Symposiums were held to share innovative, creative and scholarly efforts, including those which involved student participation.

3. <u>**Foster Undergraduate and Graduate Scholarship and Innovation**</u>
   2015 Recommendation: Maintain goal, with increased efforts. Undertake new initiatives below.
   New initiatives suggested in 2015:
   - Offer a one-to-three credit course in introduction to scientific research.
   - Offer an independent study option in programs where a student has to write a paper and present at a conference.
   - Encourage faculty to become involved in cross-disciplinary research with students.
   Update for 2016:
   - Faculty efforts supported by Associate Dean for Teaching and Scholarship Excellence.
   - Funds allocated for student research.
   - First NTID Undergraduate Research Fair held.
   - Variable credit Undergraduate Research course added to nearly all NTID departments, to begin in spring 2016-17 with faculty sponsors for each student's research project.

The Deaf International Student Association is led by Abdul Hamidu Yussif, far left, a Sociology & Anthropology and International & Global Studies double major from Ghana. SD2020 efforts this year saw the addition of an NTID International Student Coordinator and the establishment of a leadership program for international students.

Admissions and Enrollment

NTID had 368 total new students for FY 2017 (fall 2016).

Students get to know each other during the Summer Vestibule Program, an orientation program for entering NTID students designed to transition them to college life.

Admissions and Enrollment Highlights

Because deafness is a low-incidence disability, with deaf and hard-of-hearing students widely dispersed throughout the nation, recruiting qualified students to NTID always is a challenge.

Admissions counselors made 447 recruitment visits during the FY 2016 admissions cycle. Visits this year included 381 mainstream schools, 40 schools for the deaf and 13 college visits. This included 73 in New York State, 69 in the Northeast, 136 in the Midwest, 89 in the Southeast and 80 on the west coast.

The number of new students entering NTID in fall 2016 was 368. The total included 284 deaf and hard-of-hearing freshmen and transfers, 31 first-year deaf and hard-of-hearing graduate students (10 in the Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing [MSSE] and 21 in other RIT colleges) and 53 first-year hearing students (46 in the ASL-English Interpretation program and seven in the MSSE program).

Overall, NTID's applicants decreased by 8 percent from last year's 1,081 to 998 applicants for fall 2016 enrollment. Total enrollment was 1,300 compared to 1,413 for last year. The breakdown of the 1,300 students is as follows:

	Deaf and Hard-of-Hearing	Hearing	Total
Undergraduate Programs			
Career Exploration Studies	44	0	44
Career-Focused Associate Programs	316	0	316
Associate+Bachelor's Programs and Pre-Baccalaureate	211	0	211
Baccalaureate (ASL-English Interpretation)	0	140	140
Baccalaureate/Master's Programs in Other RIT Colleges	507	0	507
Subtotal NTID Undergraduate Programs	**1,078**	**140**	**1,218**
Graduate Programs at RIT	44	0	44
MSSE Program	14	16	30
MS Health Care Interpretation	0	8	8
Total Enrolled Students	**1,136**	**164**	**1,300**

NTID's student population remains strong in both ethnic and geographic diversity. Minority students represent 36 percent of this year's fall 2016 entering class, compared to 38 percent of the total student body. Minority students have represented approximately 35 to 40 percent of the entering student population over the past five years. Additionally, minority students have represented approximately 33 to 38 percent of the entire student population over the past five years (for more information see the Diversity and Pluralism section). Entering domestic students come from all over the country, with 12 percent from the West, 22 percent from the South, 24 percent from the Midwest and 42 percent from the Northeast.

In addition, NTID enrolled 16 new international students. The total number of international students is 45, or 3.5 percent of the entire student population. International students have represented approximately 3 or 4 percent of the entire student population in the past five years.

In summary, NTID registered 368 new students and is serving a total of 1,300 students.

Comparative Admissions Data

Applications, excluding those to the ASL-English Interpretation or MSSE programs, decreased from last year.* The acceptance rate was 56 percent of applications. Registrations were 305, achieving a yield rate of 70.6 percent.

	Number of New Students				
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Applicants	989	833	796	860	771
% Increase or Decrease from Previous Year	+9.6%	-15.8%	-4.4%	+8.0%	-10.3%
Accepted Applicants	504	507	464	488	432
% Increase or Decrease from Previous Year	+13.0%	+0.1%	-8.5%	+5.2%	-11.4%
Acceptance Rate (Percent of Total Applicants)	50.9%	60.9%	58.3%	56.7%	56.0%
Registrations	381	381	324	340	305
Yield Rate (Registrations as a Percent of Accepted Applicants)	76.8%	75.1%	69.8%	69.7%	70.6%

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* Overall, NTID's total applications decreased by 8 percent from last year's 1,081 to 998 applicants for fall 2016 enrollment, as reported on p. 38. In the figures on this page, "applicants" and the other categories include deaf and hard-of-hearing international students, but do not include admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs.

Summer Vestibule Program

The Summer Vestibule Program (SVP) is an experience that allows new students to engage in career exploration and decision-making, adjust to college life and assess their academic competencies. Students get hands-on experience and information about various academic programs and majors.

SVP includes a Student/Parent Orientation Weekend designed to give participants an overview of the program and familiarize them with NTID and its place on the RIT campus. Informational seminars, awareness workshops and in-depth orientation programs are offered to facilitate student-parent separation and student transition to the college environment.

There were 203 SVP registrants for summer 2016, and 200 continued on to register for fall semester 2016 (FY 2017).

	Number of Students*				
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
SVP Students Accepted	349	346	295	317	307
SVP Students Registered at Start of Program	269	268	212	226	203
SVP Students Completing Program	268	266	212	225	203
SVP Students Registered in Academic Programs for Fall Term	267	266	212	223	200

Wesley Blue, Online Program Operations coordinator, introduces new NTID students to the NTID Learning Center, which provides a variety of resources (tutoring space, computers, video lab, studying tools and individual/group study space) to support student success.

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* Figures reported include deaf and hard-of-hearing international students, but do not include admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs.

NTID Student Enrollment by Term* (Deaf and Hard-of-Hearing Students Only)

The enrollment reported reflects only deaf and hard-of-hearing students in undergraduate programs on the RIT campus or in graduate programs at other RIT colleges. Not included are students enrolled in the ASL-English Interpretation program (140), deaf, hard-of-hearing or hearing students enrolled in the Master of Science program in Secondary Education (30), or students enrolled in the Master of Science in Health Care Interpretation (8). In addition, large numbers of hearing, deaf and hard-of-hearing students access a variety of part-time and non-credit-bearing coursework at NTID year-round.

PERIOD COVERED		FALL TERM		WINTER TERM			SPRING TERM			SUMMER TERM		SUMMER VESTIBULE PROGRAM	
		A	B	A	B	C	A	B	C	A	B	A	B
FY 97:	Oct. 96- Sep. 97	1,085	2.75%	1,021	5.48%	-5.90%	965	3.43%	-5.48%	187	-3.61%	253	-2.69%
FY 98:	Oct. 97- Sep. 98	1,085	0.00%	1,010	-1.08%	-6.91%	960	-0.52%	-4.95%	189	1.07%	241	-4.74%
FY 99:	Oct. 98- Sep. 99	1,155	6.45%	1,030	1.98%	-10.82%	976	1.67%	-5.24%	217	14.81%	255	5.81%
FY 00:	Oct. 99- Sep. 00	1,107	-4.16%	1,040	0.97%	-6.05%	1009	3.38%	-2.98%	221	1.84%	256	0.39%
FY 01:	Oct. 00- Sep. 01	1,113	0.54%	1,045	0.48%	-6.11%	1,017	0.79%	-2.68%	236	6.79%	242	-5.47%
FY 02:	Oct. 01- Sep. 02	1,151	3.41%	1,056	1.05%	-8.25%	1,007	-0.98%	-4.64%	224	-5.08%	234	-3.31%
FY 03:	Oct. 02- Sep. 03	1,122	-2.52%	1,027	-2.75%	-8.47%	994	-1.29%	-3.21%	228	1.79%	195	-16.67%
FY 04:	Oct. 03- Sep. 04	1,109	-1.16%	1,047	1.95%	-5.59%	1,005	1.11%	-4.01%	249	9.21%	168	-13.85%
FY 05:	Oct. 04- Sep. 05	1,097	-1.08%	1,029	-1.72%	-6.20%	962	-4.28%	-6.51%	222	-10.84%	190	13.10%
FY 06:	Oct. 05- Sep. 06	1,066	-2.83%	988	-3.98%	-7.32%	926	-3.74%	-6.28%	263	18.47%	219	15.26%
FY 07:	Oct. 06- Sep. 07	1,064	-0.19%	998	1.01%	-6.20%	963	4.00%	-3.51%	339	28.90%	254	15.98%
FY 08:	Oct. 07- Sep. 08	1,154	8.46%	1,099	10.12%	-4.77%	1,040	8.00%	-5.37%	396	16.81%	295	16.14%
FY 09:	Oct. 08- Sep. 09	1,260	9.19%	1,216	10.65%	-3.49%	1,155	11.06%	-5.02%	428	8.08%	265	-10.17%
FY 10:	Oct. 09- Sep. 10	1,275	1.20%	1,166	-4.11%	-8.55%	1,170	1.90%	0.34%	411	-3.97%	269	1.51%
FY 11:	Oct. 10- Sep. 11	1,303	2.20%	1,213	4.03%	-6.91%	1,211	3.50%	-0.16%	442	7.54%	269	0.00%
FY 12:	Oct. 11- Sep. 12	1,323	1.53%	1,211	-0.16%	-8.47%	1,103	-8.92%	-8.92%	314	-28.96%	269	0.00%
FY 13:	Oct. 12- Sep. 13	1,306	-1.28%	1,168	-3.55%	-10.57%	1,082	-1.90%	-7.36%	323	2.87%	268	-0.37%
FY 14:	Oct. 13- Sep. 14	1,237	-5.28%	*	*	*	1,118	3.33%	-9.62%	259	-19.81%	212	-20.90%
FY 15:	Oct. 14- Sep.15	1,197	-3.23%	*	*	*	1,054	-5.72%	-11.95%	308	18.92%	226	6.60%
FY 16:	Oct. 15- Sep.16	1,220	1.92%	*	*	*	1,072	1.71%	-12.13%	270	-12.34%	203	-10.18%
FY 17:	Oct. 16- Sep.17	1,122	-8.03%	*	*	*							

NOTES: Column A = Number of student enrollments for the period covered
Column B = Percent change of enrollment from the same term in previous year
Column C = Percent change of enrollment from the previous term

* Prior to FY 2014, RIT followed a quarter calendar. Beginning in FY 2014, RIT follows a semester calendar.

Admissions and Enrollment

Percent of Registered Students with Full-Time Status

On average, 94 percent of NTID-supported students are registered full time. At RIT, full-time status is defined as taking at least 12 credit hours in an academic quarter (prior to FY 2014) or semester (FY 2014 and beyond).

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017		
						Number	
					Percent	Full-Time	Total
Career Exploration	98%	98%	100%	100%	100%	44	44
Career-Focused and Associate+Bachelor's Degrees	97%	95%	97%	98%	99%	493	500
Pre-Baccalaureate	100%	100%	100%	100%	100%	27	27
Baccalaureate and Graduate	93%	90%	94%	93%	91%	504	551
ASL-English Interpretation	97%	97%	95%	95%	91%	127	140
Master of Science in Health Care Interpretation	N/A	N/A	N/A	N/A	50%	4	8
Master of Science in Secondary Education (MSSE)*	82%	98%	77%	81%	93%	28	30
Overall	**95%**	**94%**	**95%**	**95%**	**94%**	**1,227**	**1,300**

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* Included for FY 2007 – FY 2016 are non-matriculated students (between four and 15 per year) taking courses offered by the Master of Science program in Secondary Education, but who are part of a grant-supported joint program between NTID and Nazareth College in Rochester, New York, to train speech pathologists to work with deaf and hard-of-hearing people.

International Student Recruitment

This year, applications from international students numbered 66 and, of those, 18 were accepted and 11 registered. Canadian students always have represented the largest contingent of international students, but many of them continue to experience a lack of funding resources, which discourages a number of prospective students from applying or prevented many of those accepted from being able to attend NTID. Students from developing countries also encounter financial difficulties, and NTID has limited scholarship dollars to assist them. However, per the Education of the Deaf Act, international students pay differing tuition rates, depending on whether they are from a developing or developed country. Until the situation in Canada changes, and until NTID obtains additional private scholarship funds, enrollment of international students will continue to be a challenge.

	Number of Students*				
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Applicant Continent of Origin					
Africa	24	5	16	16	21
Asia	16	15	25	40	21
Europe	4	1	1	2	1
North America	45	29	16	20	23
South America	2	0	2	2	0
Unknown	0	5	2	0	0
Total Applicants	**91**	**55**	**62**	**80**	**66**
Accepted Applicants	**20**	**18**	**14**	**21**	**18**
Acceptance Rate (Percent of Total Applicants)	22%	33%	23%	26%	27%
New Registrations	**15**	**14**	**10**	**13**	**11**
Yield Rate (New Registrations as a Percent of Accepted Applicants)	75%	78%	71%	62%	58%
Returning International Students	**33**	**25**	**30**	**31**	**28**
Total Enrollment (Returning International Students plus New Registrations)	**48**	**39**	**40**	**44**	**39**

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* Figures reported do not include admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs.

Admissions and Enrollment

Demographic Characteristics of All Entering Students

The demographic profile of entering students
remains consistent with the previous year's data.*

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Characteristics of Entering Students					
Gender					
Male	55%	60%	58%	59%	54%
Female	45%	40%	42%	41%	46%
Mean Age at Entry	20	21	20	21	21
Parents' Hearing Status					
Both Hearing	83%	77%	77%	77%	76%
At Least One Parent Deaf	17%	23%	23%	23%	24%
Origin of Entering Students					
United States by Region: 100% of U.S. students distributed across four regions					
West	13%	15%	11%	16%	12%
Midwest	28%	23%	20%	23%	24%
South	20%	21%	22%	24%	22%
Northeast	39%	41%	47%	37%	42%
Distribution of United States and International Students					
United States	98%	96%	96%	97%	96%
International	2%	4%	4%	3%	4%
School Background of Entering Students					
First Time in College	81%	80%	72%	79%	76%
Transfer from Other Colleges	12%	13%	17%	13%	12%
Previously Enrolled at RIT	5%	4%	5%	4%	5%
Graduate Students	2%	3%	6%	4%	7%

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* Figures reported include deaf and hard-of-hearing international students, but do not include admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs.

Demographic Characteristics of Enrolled International Students Compared to Enrolled U.S. Students

	FY 2017*		
	International	**U.S.**	**Overall**
Demographics			
Gender			
Male	64%	56%	56%
Female	26%	44%	44%
Entry Age, All Students	22	20	20
Entry Scores			
Hearing Level (Pure Tone Average)	94.4 dB	95.0 dB	95.0 dB
ACT Composite Score	18.3	21.2	21.1
Program Area			
Career Exploration	3%	4%	4%
Career-Focused Associate Degrees	33%	27%	28%
Associate+Bachelor's Degrees	7%	19%	18%
Other Colleges of RIT Baccalaureate/Master's	53%	50%	50%
FY 2017 Status of Students Enrolled FY 2016			
Still Registered	64%	61%	61%
Withdrawn	13%	16%	16%
Graduated	23%	23%	23%

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* Undergraduate students only. Figures reported do not include students in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs.

Admissions and Enrollment

ACT Information on Entering Class (Deaf and Hard-of-Hearing Students Only)

Beginning in 1969, the Stanford Achievement Test was used to evaluate educational achievement for admission to NTID. In 1996, the decision was made to replace the Stanford Achievement Test with the American College Test (ACT). In today's college admissions process, the College Board SAT and ACT tests are used equally for decisions based on a concordance chart. Presented below are the mean scores for the ACT based on that concordance.

American College Test (ACT)*	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
ACT English	15.8	14.9	14.7	16.8	17.1
ACT Reading	18.5	17.7	17.5	19.7	20.1
ACT Mathematics	18.6	18.3	18.1	19.5	19.6
ACT Science Reasoning	19.7	19.3	18.5	20.5	20.6
ACT Composite	18.6	19.5	18.1	19.6	19.7

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* Scores reported include deaf and hard-of-hearing undergraduate students, except for students in the ASL-English Interpretation program. Specific data on ASL-English Interpretation, the Master of Science program in Health Care Interpretation and MSSE students is reported in the section on Academic Programs.

Academic Skills of Entering Students

The academic preparedness of most entering NTID-supported students is substantially below that of their hearing peers. NTID students directly admitted to one of RIT's other colleges have a mean ACT composite score of 26.2, and represent 25.4 percent of NTID's entering class of 2016. The mean ACT composite score for students entering associate+bachelor's programs is 19.1, and represents 30.3 percent of NTID's entering class. The mean ACT composite score for students entering career-focused associate programs is 16.4, and represents 30.9 percent of NTID's entering class. Lastly, the mean ACT composite score for students entering career-exploration programs is 14.4, and represents 13.4 percent of NTID's entering class. The average ACT composite score of 19.7 for all entering students is in the range achieved by students entering four-year schools with open admissions standards and many community colleges. By any measure, the majority of these students would not be admissible to the other colleges of RIT, yet many deaf and hard-of-hearing students graduating from baccalaureate/master's programs throughout RIT came through NTID first, which means they graduated in spite of the fact that their entering ACT scores were in the 15-19 range.

Degree Level	Percentage of Deaf and Hard-of-Hearing Students by Degree Level	ACT Composite Mean
Bachelor's in Other RIT Colleges	25.4%	26.2
NTID		
Associate+Bachelor's Programs	30.3%	19.1
Career-Focused Associate Programs	30.9%	16.4
Career Exploration	13.4%	14.4
Total*	**100%**	
Average Score of All Entering Students*		**19.7**

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* Includes only undergraduate students. Does not include students enrolled in the ASL-English Interpretation program.

Admissions and Enrollment

Hearing Assessment and Cochlear Implant Information

Hearing is measured in units of intensity called decibels (dB) at a variety of frequencies [Hz (cycles per second)]. The hearing level reported here is calculated by taking the arithmetic mean of an individual's responses in dB to pure tones presented at 500 Hz, 1000 Hz and 2000 Hz. Normal hearing is in the range of -10 dB to 20 dB. Moderate hearing loss is defined as having a pure tone average of 40-55 dB, with moderately severe at 56-70 dB, severe at 71-90 dB and profound at 90 dB or more. NTID continues to serve a prelingually profoundly deaf population whose measured decibel hearing loss over the past five years averages 94.3 dB.

The number of students with cochlear implants is 410 in fall 2016.

The Communication Studies and Services Department has five audiologists trained to provide cochlear implant mapping, consultation and follow-up services. Mapping services are provided to users of cochlear implants from all three current manufacturers. Students can make appointments for mapping and auditory training services in The Audiology Center. In addition, audiologists are available on-call to meet with students to troubleshoot and repair cochlear implants with no appointment required. The facility is equipped with state-of-the-art computer-based technology, training software and a variety of accessories and assistive devices that are available for demonstration.

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Total Number of Deaf Students*	1,331	1,255	1,213	1,236	1,136
Students with Cochlear Implants	366	363	394	432	410
Percent with Cochlear Implants	27.5%	28.9%	32.5%	35.0%	36.1%
Average Hearing Level	94.9 dB	90.2 dB	95.9 dB	95.5 dB	95.0 dB

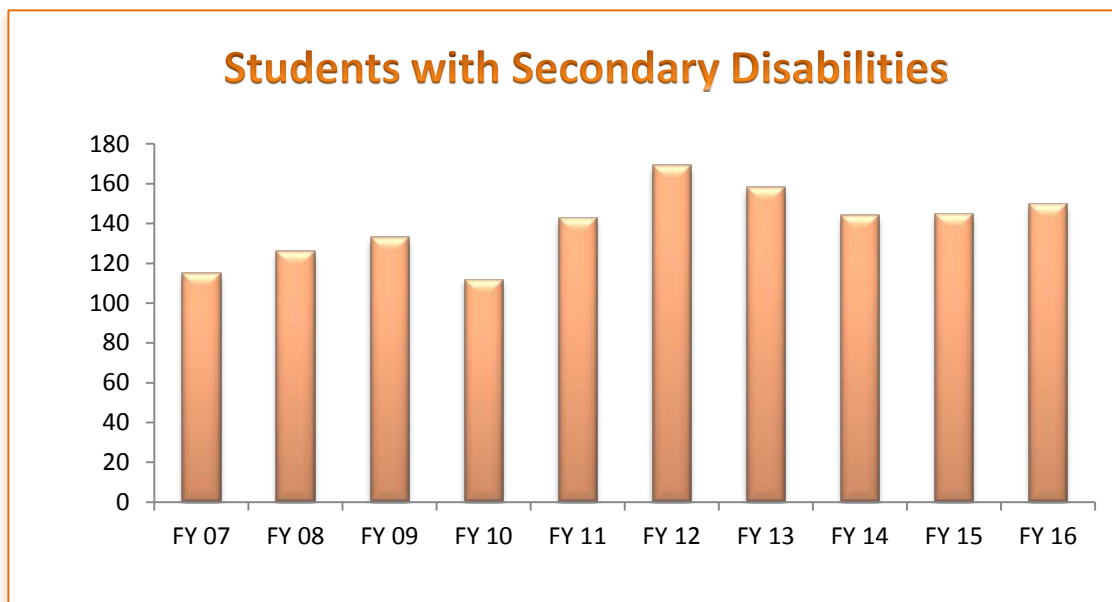**Students with Cochlear Implants**
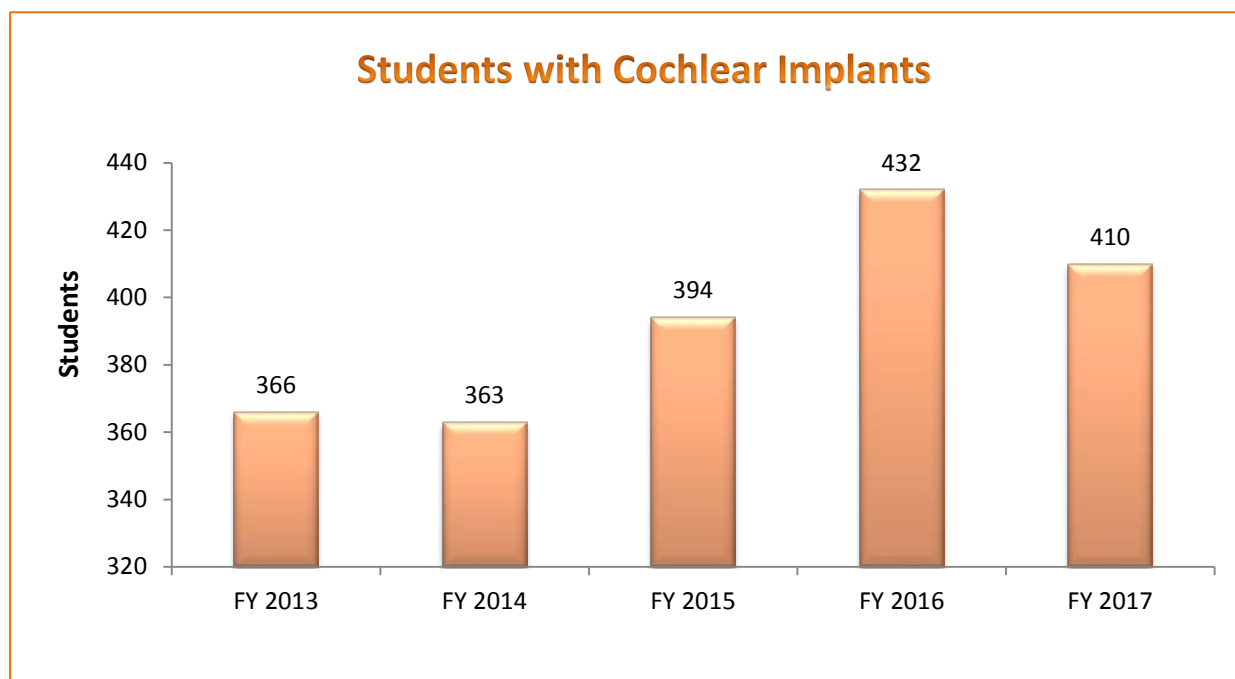
* This figure includes all deaf and hard-of-hearing students, undergraduate and graduate.

Students with Secondary Disabilities

NTID is working with significantly increased numbers of students with disabilities in addition to deafness. The table shows the number and percent of NTID-supported undergraduate students eligible to receive services from the RIT Disability Services Office, which serves students "with physical or mental impairments that limit one or more major life activities." FY 2017 totals will be reported next year, as activity regarding the accommodations of students with secondary disabilities is captured over the full academic year. NTID works directly with the RIT Disability Services Office to accommodate these students through services such as notetaking and extended time to complete assignments. Their services ensure equal access to education based upon legal foundations established by federal law—the Rehabilitation Act of 1973, including Section 504, and the Americans with Disabilities Act of 1990. NTID has a committee of faculty and staff that focuses on the accommodation of deaf and hard-of-hearing students specifically with visual disabilities, a population that is increasing.

Number and Percent of Students Receiving Secondary Disability Services			
Fiscal Year	Total Deaf Students*	Students with Secondary Disabilities	Percent
2007	1,019	115	11%
2008	1,103	126	11%
2009	1,212	133**	11%**
2010	1,237	112	9%
2011	1,263	143	11%
2012	1,281	169	13%
2013	1,269	158	12%
2014	1,195	144	12%
2015	1,153	145	13%
2016	1,078	150	14%

Students with Secondary Disabilities

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*   This figure includes all undergraduate deaf and hard-of-hearing students.
**   Secondary disability numbers for FY 2009 are estimates; these data are not available.

Admissions and Enrollment

Origin of Students and Graduates

NTID students enrolled as of fall 2016 come from 48 states. A total of 22 countries are represented among current international students.
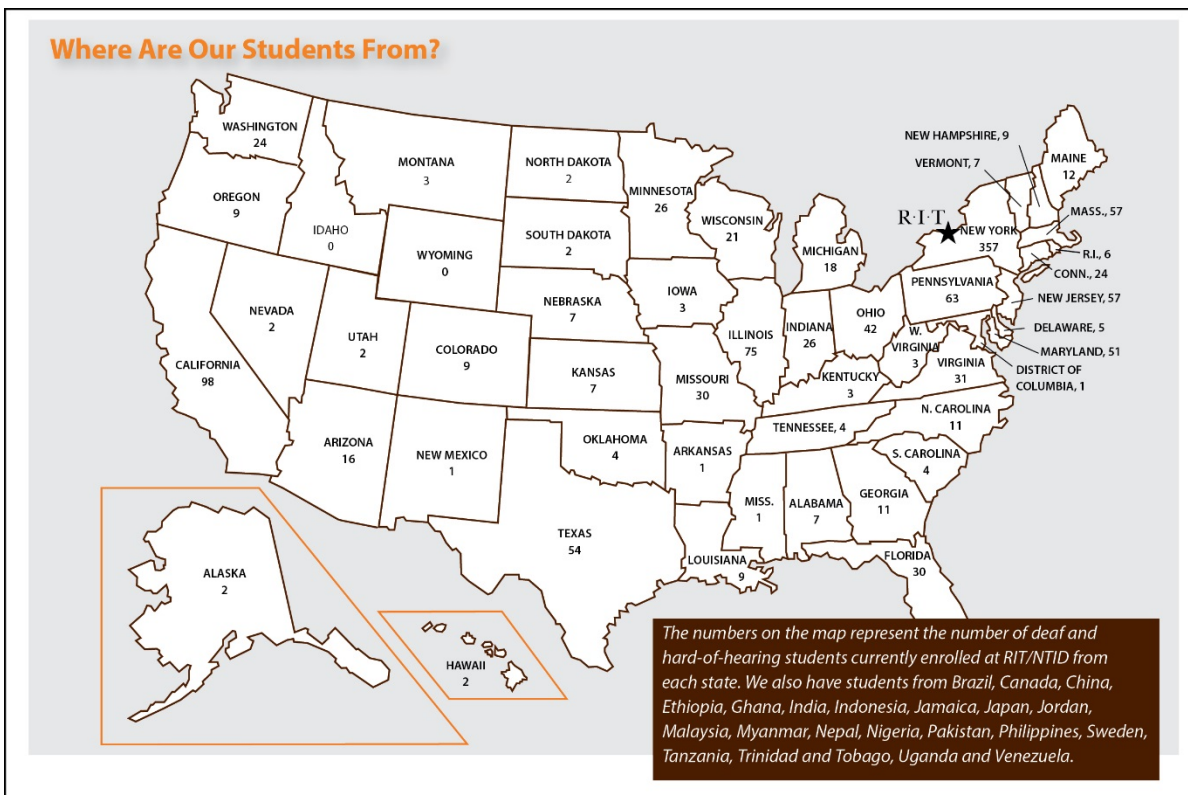
Since NTID began accepting students, NTID has had students from more than 50 countries and all 50 states.

Home State or U.S. Territory (Domestic Students)	Number in Student Body FY 2017	Graduates to Date as of Fall 2016	Cumulative Students to Date*
Alabama	7	35	71
Alaska	2	11	25
Arizona	16	41	118
Arkansas	1	32	69
California	98	417	900
Colorado	9	65	127
Connecticut	24	214	425
Delaware	5	35	79
District of Columbia	1	19	45
Florida	30	201	476
Georgia	11	84	192
Guam	0	0	2
Hawaii	2	28	44
Idaho	0	4	16
Illinois	75	490	999
Indiana	26	118	278
Iowa	3	62	114
Kansas	7	50	113
Kentucky	3	48	130
Louisiana	9	56	117
Maine	12	52	121
Maryland	51	194	469
Massachusetts	57	369	730
Michigan	18	301	595
Minnesota	26	111	225
Mississippi	1	7	26
Missouri	30	182	383
Montana	3	7	19
Nebraska	7	43	93
Nevada	2	9	24
New Hampshire	9	61	106
New Jersey	57	412	747
New Mexico	1	28	74
New York	357	2,273	4,441
North Carolina	11	72	157
North Dakota	2	20	37

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* Includes current and withdrawn students and graduates.

Origin of Students and Graduates (continued)

Home State or U.S. Territory (Domestic Students)	Number in Student Body FY 2017	Graduates to Date as of Fall 2016	Cumulative Students to Date*
Ohio	42	417	757
Oklahoma	4	22	50
Oregon	9	59	121
Pennsylvania	63	601	1,175
Puerto Rico	0	9	19
Rhode Island	6	41	86
South Carolina	4	25	56
South Dakota	2	13	24
Tennessee	4	52	100
Texas	54	202	510
Utah	2	14	29
Vermont	7	42	93
Virgin Islands	0	1	4
Virginia	31	157	334
Washington	24	85	189
West Virginia	3	31	69
Wisconsin	21	123	259
Wyoming	0	5	7
Other**	6	25	200
Subtotal	**1,255**	**8,075**	**16,669**

Where Are Our Students From?

WASHINGTON 24, MONTANA 3, NORTH DAKOTA 2, MINNESOTA 26, NEW HAMPSHIRE 9, VERMONT 7, MAINE 12, OREGON 9, IDAHO 0, WYOMING 0, SOUTH DAKOTA 2, WISCONSIN 21, MICHIGAN 18, R·I·T, NEW YORK 357, MASS., 57, R.I., 6, NEVADA 2, UTAH 2, COLORADO 9, NEBRASKA 7, IOWA 3, ILLINOIS 75, INDIANA 26, OHIO 42, W. VIRGINIA 3, PENNSYLVANIA 63, CONN., 24, NEW JERSEY, 57, DELAWARE, 5, MARYLAND, 51, CALIFORNIA 98, KANSAS 7, MISSOURI 30, KENTUCKY 3, VIRGINIA 31, DISTRICT OF COLUMBIA, 1, ARIZONA 16, NEW MEXICO 1, OKLAHOMA 4, ARKANSAS 1, TENNESSEE, 4, N. CAROLINA 11, S. CAROLINA 4, MISS. 1, ALABAMA 7, GEORGIA 11, TEXAS 54, LOUISIANA 9, FLORIDA 30, ALASKA 2, HAWAII 2

The numbers on the map represent the number of deaf and hard-of-hearing students currently enrolled at RIT/NTID from each state. We also have students from Brazil, Canada, China, Ethiopia, Ghana, India, Indonesia, Jamaica, Japan, Jordan, Malaysia, Myanmar, Nepal, Nigeria, Pakistan, Philippines, Sweden, Tanzania, Trinidad and Tobago, Uganda and Venezuela.

* Includes current and withdrawn students and graduates.
** U.S. citizens living in other countries.

Origin of Students and Graduates (continued)

Country (International Students)	Number in Student Body FY 2017	Graduates to Date as of Fall 2016	Cumulative Students to Date*
Australia	0	1	1
Bahamas	0	1	1
Bangladesh	0	1	1
Belgium	0	1	1
Bermuda	0	2	3
Bolivia	0	1	1
Brazil	1	0	1
Bulgaria	0	1	1
Cameroon	0	1	2
Canada	9	176	322
Chad	0	0	1
China	1	4	8
Colombia	0	1	1
Czech Republic	0	1	1
Dominican Republic	0	0	1
Ecuador	0	0	1
Ethiopia	1	0	1
Estonia	0	1	2
Fiji	0	0	1
Ghana	2	5	8
Greece	0	1	2
Guatemala	0	0	1
Honduras	0	1	1
Hong Kong	0	1	1
Hungary	0	1	1
India	7	22	31
Indonesia	1	0	1
Ireland	0	1	2
Jamaica	1	2	6
Japan	1	4	7
Jordan	2	0	2
Kenya	0	0	1
Korea	0	2	3
Lebanon	0	0	1
Malaysia	1	2	3
Mexico	0	1	3
Myanmar	1	0	1
Nepal	2	1	2
Nigeria	6	1	8
Norway	0	0	2
Pakistan	1	3	4
Philippines	2	3	6

* Includes current and withdrawn students and graduates.

Country (International Students)	Number in Student Body FY 2017	Graduates to Date as of Fall 2016	Cumulative Students to Date*
Portugal	0	1	1
Saudi Arabia	0	2	3
Singapore	0	4	4
Somalia	0	0	1
South Africa	0	1	1
Sweden	1	0	1
Switzerland	0	1	1
Taiwan	0	5	6
Tanzania	1	2	6
Thailand	0	6	7
Trinidad and Tobago	1	1	2
Turkey	0	1	1
Uganda	1	1	2
United Arab Emirates	0	0	1
United Kingdom	0	2	3
Venezuela	1	1	1
Vietnam	0	0	1
Zambia	0	0	2
Zimbabwe	0	2	2
Other	1	12	22
Subtotal	**45**	**285**	**516**
Total	**1,300**	**8,360**	**17,185**

As of fall 2016, NTID has 45 international students enrolled based on visa status.

	Number	Percent
U.S. Students	1,255	96.2%
International Students	45	3.5%
Total	**1,300**	**100.0%**

* Includes current and withdrawn students and graduates.

Academic Programs

In fall 2016, NTID had 571 students enrolled in its associate-level programs, 140 students enrolled in its ASL-English Interpretation program, 30 students enrolled in its M.S. in Secondary Education program, eight students enrolled in its M.S. in Health Care Interpretation program and 551 students enrolled in baccalaureate and graduate programs at RIT.

Heather Afriyie, a Design and Imaging Technology major from Lorton, Virginia, shows off her artwork at the Visual Communication Studies Honors Show. Afriyie was a 2015 winner of NTID's Digital Arts, Film and Animation Competition for deaf and hard-of-hearing students in grades 9–12.

Academic Program Highlights

This fiscal year, Academic Affairs continued the implementation of *Strategic Decisions 2020 (SD 2020)*. The academic departments continue to: 1) explore new majors for career-focused associate degrees and associate+bachelor's degrees; 2) explore the possibility of new baccalaureate or master's degrees; 3) enhance the development of "soft skills" in the curriculum; 4) enhance the use of technology to improve learning; 5) coordinate technical education and co-curricular activities; and 6) foster the use of English and ASL in the instructional process.

Four college-wide *SD 2020* initiatives were set in place: 1) Flexibility in the Use of the Direct Instruction Model, 2) a new Innovation, Scholarship and Research Model; 3) discussion of Enrollment Targets for 2020; and 4) Coordinating NTID Institutional Research.

This fiscal year marked the third year of the semester system at RIT. Students matriculated prior to FY 2013 continued to follow quarter-system graduation requirements.

Strategic Decisions 2020 Enrollment Targets

The enrollment targets set in *Strategic Decisions 2020* were: 35 percent career-focused programs, 20 percent associate+bachelor's degree programs and 45 percent baccalaureate/master's programs. At the beginning of AY 2016-2017 the enrollment percentages for deaf and hard-of-hearing undergraduates were 34 percent career-focused, 20 percent associate+bachelor's degree programs and 46 percent baccalaureate/master's programs. *Strategic Decisions 2020* has established the objective of developing a network of high schools and community colleges to create pathways to postsecondary education. The goal is to strengthen the preparation of deaf and hard-of-hearing students entering college and reduce the amount of developmental education that NTID must offer, resulting in higher enrollment at the baccalaureate level.

First Year Experience/Career Exploration Studies and Summer Vestibule Program

First Year Experience (FYE) programming is designed to maximize first-year student success and persistence. Beginning with NTID's Summer Vestibule Program (SVP), FYE provides an array of courses and co-curricular programs as well as personal/academic counseling designed to help students successfully complete their first year of college. This past summer, 203 students attended SVP and participated in a variety of activities, including career exploration, adjusting to college life programs and course placement assessments. Also housed within FYE, the Career Exploration Studies program (CES) allows students the opportunity to explore technical programs while satisfying necessary core and/or prerequisite coursework. During AY 2015-2016, CES served 59 students in the fall and 32 students in the spring; 100 percent of CES students who applied to a major were accepted into a major within two semesters.

Career-Focused Associate Degrees

NTID offers career-focused degrees in the areas of Business, Computing, Engineering Technologies, Laboratory Science Technology and Visual Communication. The programs within these clusters are designed to lead directly to employment in high-demand technical jobs. NTID's *SD 2020* calls for reviewing and updating the career-focused program portfolio by conducting an evaluation of existing programs with the goal of continuing, modifying, deleting and creating new programs—the latter to be in areas such as 3D graphics, mobile technology, green technology, sustainability and health care. *SD 2020* also repeats the target originally stated in the previous strategic plan of having 35 percent of NTID students in programs at this degree level.

At the beginning of Academic Year 2016-2017, there were 360 deaf and hard-of-hearing students enrolled in career-focused programs, including students enrolled in AOS and non-associate+bachelor's AAS degrees as well as students in Career Exploration Studies.

The Business Studies Department continues to enjoy steady enrollments in the AOS, AAS and AS Business programs. Twenty students completed cooperative work experiences in AY 2015-2016.

Academic Program Highlights (continued)

The Department of Engineering Studies' (DES) career-focused programs such as Computer-Aided Drafting Technology – Architecture based (CADT A/E/C) and Computer-Integrated Machining Technology (CIMT) continue to evolve. As programs move forward, CADT is looking into Sustainable Architecture as a tentative concentration or track. One professor is completing a Master's of Architecture degree and will be a key resource in updating the CADT program regarding sustainable architecture. Another area of interest is to consider incorporating more energy simulation modeling that focuses on energy consumption and life cycle costs of various energy sources such as air conditioning, water and lights. Recently CIMT obtained Master CAM and new machinery equipment, and precision grinding equipment to enhance course instruction. CIMT faculty members are looking into more advanced manufacturing processes as part of the next phase of curriculum development regarding advanced metrology including quality control, geometric dimension and tolerancing, and inspections. CIMT faculty members also are exploring the development of an AAS degree for the CIMT program. DES also is assisting and evaluating a preliminary concept paper for biomedical equipment repair technology (BERT) as the first program of consideration that may address the lack of an electronics-related program at NTID.

The Information and Computing Studies has a new addition to its curriculum portfolio: the AAS in Mobile Application Development. It was approved by New York State Education Department (NYSED) and prepares students for work in the software development industry, focusing on application design and development for mobile platforms. The program started in the fall of 2016.

During the 2015-2016 academic year, the Department of Liberal Studies identified a key area for curriculum modification. The Bridge to College English I and II (NENG 231 and 232) courses were revised by faculty to scaffold to the University Writing Program's Critical Reading and Writing course (UWRT 100). This change, piloted in fall 2016, will better prepare students for the Writing Placement Examination (WPE) with the goal of increasing WPE student placements into Critical Reading and Writing. NTID students studied in Japan as a part of DLS' Study Abroad program.

To support NTID's new Mobile Application Development and to prepare students in computing programs for more advanced coursework at the baccalaureate level, the NTID Department of Science and Mathematics now offers the new Introduction to Discrete Math (NMTH-255) course. Math and science faculty members have been awarded RIT seed funding to convert several courses, Applications of Algebra and Processes of Science: Astronomy, into online versions and to offer them during the next academic year. Laboratory Science Technology students continue to gain meaningful cooperative work experiences at companies including Dow, Merck and Kodak as well as schools including Stony Brook University, Tufts, Rush University and RIT. To support existing and future science needs, plans to renovate the second-floor classrooms and to add wet-lab research space are underway.

In AY 2015-16, the Department of Visual Communications Studies (VCS) offered design and production courses in the Design & Imaging Technology program. The VCS department continues to implement a student success and retention strategy that includes a formal faculty tutoring assignment aimed at first-year students and a variety of faculty, staff and student social interaction events. Department faculty and students are becoming more involved in the scholarship and research aspects of university teaching, and have presented work in exhibits, art competitions and conference presentations. Twelve students completed their AAS degrees and 11 students completed their AOS degrees. In AY 2015-16, the 3D Graphics Technology (3DGT) program completed the university curriculum approval process and is awaiting curricular approval by the NYSED. The 3DGT program will have a transfer articulation agreement with the 3D Digital Design BFA program and be the first-ever articulation agreement between NTID and RIT's College of Imaging Arts and Sciences (CIAS).

Associate+Bachelor's Degrees

A key feature of NTID's educational portfolio is the number of transfer associate degrees that provide seamless transition to RIT baccalaureate programs. There now are nine of these programs, called "associate+bachelor's" degree programs (to avoid confusion with the word "transfer"). They have been

very successful, both in terms of growth, graduation at the associate level, transfer to a bachelor's program in one of RIT's other colleges and subsequent graduation at the baccalaureate level. In AY 2015-2016, NTID added an articulation agreement from Accounting Technology AAS to Applied Arts and Science BS in RIT's School of Individualized Study, added an articulation agreement from Laboratory Science Technology AAS to Chemistry BS and Biochemistry BS in RIT's College of Science, updated the articulation agreement from Applied Computer Technology AS to Web and Mobile Computing BS in RIT's Golisano College of Computing and Information Sciences and updated the articulation agreement from Applied Liberal Arts AS to include new BS programs in RIT's College of Liberal Arts.

At the beginning of the 2016-2017 academic year, 211 students were enrolled in these and pre-baccalaureate programs. This number is slated to increase as the number of such programs is expanded and marketed as precursors to RIT baccalaureate programs. *Strategic Decisions 2020* calls for increasing the total proportion of students in these programs from the previous target of 15 percent to 20 percent of the deaf and hard-of-hearing student body (excluding students in the ASL-English Interpretation and MS in Health Care Interpretation programs or the Master of Science in Secondary Education program).

NTID's AS in Applied Liberal Arts (APPLA-AS) remains one of the largest associate+bachelor's degree programs. Entering its eighth year, the APPLA-AS graduates are being accepted, in record numbers, into RIT's College of Liberal Arts majors. The initial student cohorts have graduated with baccalaureate degrees and have successfully entered the workforce or continued on to graduate studies.

In the Business Studies Department, the associate+bachelor's degree programs continue to successfully graduate students who are accepted into RIT's Saunders College of Business and the International School of Hospitality and Service Management in RIT's College of Applied Science and Technology. The Administrative Support Technology program continues to experience success with students transferring to and graduating from RIT's School of Individualized Study. We added an articulation agreement for the Accounting Technology Program and the School of Individualized Study. This now gives Accounting Technology graduates a path to a BS degree. Current department numbers show 51 percent of students in AS and BS degree programs and 49 percent in AOS/AAS degree programs.

The Department of Engineering Studies has two associate+bachelor's degree programs, Applied Mechanical Technology and Civil Technology. The new student enrollments were five and three, respectively. The Civil Technology program, in its third year, should have graduates this year. There were no major changes in any of the articulation agreements and satisfactory student learning outcome assessments. The first review will occur in 2018.

In the Information and Computing Studies Department, the students enrolled in the associate+bachelor's and bachelor's degree programs continue to thrive. Current numbers show 31 percent of students enrolled in associate+bachelor's programs and 69 percent in associate degree (AAS & AOS) programs.

Students who complete the AAS degree in Laboratory Science Technology (LST) have increasingly more options available to them as they matriculate into baccalaureate programs within RIT. An articulation agreement between the NTID Department of Science and Mathematics and RIT's College of Science School of Chemistry and Materials Science has been implemented to ease the transition of LST students into BS degrees in chemistry and in biochemistry. In addition to the transfer of credit earned toward the completion of the AAS English, liberal arts, and general education requirements, LST students will also benefit from the acceptance of 26-27 credits of coursework taken as part of the lab science core for the associate degree.

As for students who are admitted into the science pre-baccalaureate program, a concept paper has been approved to convert this program into a two-year degree-granting Associate of Science program with tracks that lead to BS degrees in several majors, including chemistry, biochemistry, biology and biomedical sciences. Work toward the preparation of a full degree proposal is underway.

While the VCS Department has developed a transfer articulation agreement with RIT's College of Imaging Arts and Sciences (CIAS) for the proposed 3D Graphics Technology AAS program, there are no other

Academic Program Highlights (continued)

formal associate+bachelor's agreements with the other BFA or BS programs in CIAS. There is a long history of students successfully making the transition from the NTID VCS Design & Imaging Technology AAS degree program into a CIAS BFA or BS program. In AY 2015-16, 12 VCS program students were accepted in a CIAS bachelor's degree program.

American Sign Language and Interpreting Education (ASLIE)

ASLIE enrolled 45 new students in the fall of 2016, bringing the total number of students in the BS degree program in ASL-English Interpretation to a total of 140.

Forty students graduated from the BS degree in ASL-English Interpretation in AY 2015-2016. Sixty-four percent of the graduates completed a Senior Satisfaction Survey in which 93 percent of respondents said they would recommend the program to interested students and were satisfied with what they learned in the degree program. One hundred percent of the respondents said the faculty in the program were qualified and knowledgeable in the courses they taught.

The ASL-English Interpretation program invited 22 stakeholders to participate on a newly established Advisory Board. The purpose of the ASLIE Advisory Board is to provide insights into how the program can stay current and relevant in a rapidly changing field and seek input on matters relevant to our field and students' readiness to enter that field upon graduation.

ASLIE partnered with the Rochester Sorenson VRS Interpreting Center, an industry leader in providing video relay services, for the Sorenson Synergy program. The Synergy program allows interpreting students to learn about video relay services; understand the unique demands of video relay interpreting; and to learn, observe and interact with VRS interpreters. Ninety-seven percent of the seniors in ASLIE participated in this unique program. The interpreting program under ASLIE offered ASL II, ASL Conversational Practice, ASL IV and ASL VI during the fall semester and ASL III, ASL V and ASL VII during the spring semester for interpreting students. In AY 2015-2016, the interpreting program had an enrollment of 91 students in the fall semester and 93 students in the spring semester.

In spring 2016, a major accomplishment for the interpreter preparation program was the approval of a proposal for an MS degree program in Health Care Interpretation by the New York State Education Department (NYSED). The aim of this program is to address the national shortage of sign language interpreters who are prepared to work in health care settings. The goals of the program are to prepare graduates to effectively interpret for deaf consumers (patients and family members) in health care environments, effectively interpret for deaf health professionals in academic and clinical settings and demonstrate administrative skills enabling them to analyze, conduct and consult on the effective and efficient provision of interpreting services in health care institutions. The first class began in June 2016 with eight students.

The Certificate in Healthcare Interpreting (CHI) program is in its sixth year of delivery as a blended online program with a one-week on-site start up. This nine-month program accepts and graduates 15 students annually, all of whom are nationally certified ASL/English interpreters. The feedback from these graduates is overwhelmingly favorable and has led to NTID being viewed as a national leader in the field of healthcare interpreting.

ASLIE's ASL program offers RIT's College of Liberal Arts (CLA) ASL courses *Beginning ASL I, II, Intermediate ASL I, II* and *Advanced ASL I, II* for RIT students who want to take ASL as an elective or to fulfill their liberal arts immersion and minor. The requirement for an ASL immersion is to take any three courses from ASL and Deaf Culture Studies. In AY 2015-2016, the CLA program had an enrollment of 275 in the fall semester and an enrollment of 265 students in the spring semester. During the summer, ASLIE offered *Beginning ASL I* online. Fifteen students took the summer *Beginning ASL I* course online.

The ASL program also offered evening courses: *Introduction to ASL and Deaf Culture I* in the fall and spring semesters. The courses are designed for RIT students, faculty, staff and community members interested in a basic introduction to ASL and Deaf Culture. In AY 2015-2016, the *Introduction to ASL and*

Academic Program Highlights (continued)

Deaf Culture program had an enrollment of eight students in the fall semester and nine students in the spring semester.

The ASL program has provided ASL courses for NTID students as part of the ASL/Deaf Studies requirement. In AY 2015-2016, in the fall semester 25 students were enrolled in *ASL I.* In the spring semester, 16 students were enrolled in *ASL I*, 14 students were enrolled in *ASL II*, and eight students were enrolled in *Structure of ASL.*

One ASLIE faculty member also provided instruction in the Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE) for future teachers of deaf and hard-of-hearing students. The *Structure of ASL and English* course was offered in the fall semester. In AY 2015-2016, ASLIE served 12 MSSE students.

ASLIE and the interpreter preparation program at Hogeschool Utrecht University (Holland) successfully continued their student/faculty exchange. In fall 2015, three students from Utrecht University spent 10 weeks with ASLIE, attending ASL/Deaf culture/interpreting-related courses and activities. In summer 2016, eight ASLIE students attended a five-week program at Utrecht University, studying NGT (sign language of the Netherlands)/Dutch spoken language, Deaf culture and interpreting-related coursework. In addition, a faculty exchange occurred in which an ASLIE ASL instructor taught ASL at the Hogeschool for four weeks in January and in the spring an NGT instructor from the Netherlands shared their language/culture with the ASLIE department. Based on student feedback from participants, the student exchange program continues to be successful.

In addressing one of the initiatives in *SD 2020*, ASLIE offered a New Signers Program to incoming NTID students with minimal or no ASL skills for the fifth year in a row. The New Signers Program is an innovative and original program designed to encourage the transition of students with no ASL skills to an ASL-immersion experience. Last summer, 21 incoming first-year students participated in this newly expanded two-week-long program. Two separate sections were offered – one for NTID students accepted into NTID programs, and the other for NTID students accepted into RIT programs. For each section, two instructors taught full days in two separate classes, focusing mainly on in-class instruction, along with various experiential and extra-curricular activities around campus. Participants stayed in dorms, which provided more impetus for the group to bond and practice their skills with three orientation assistants and a coordinator assistant to guide them in ASL-based activities and interaction. The New Signers Program is positioned to gain momentum and continue as a valued and intrinsic part of NTID culture.

Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE)

The Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE) graduated 20 students during the 2015-2016 academic year, its 22nd year. All of these MSSE graduates are eligible to receive initial certification from New York State (NYS) in an academic content area (grades 7–12) and/or in education of students who are deaf or hard of hearing (grades K–12) if they meet all of the certification requirements, including the NYS teacher certification exams. Those who do not have certification either need to take additional NYS teacher certification exams and complete the edTPA (Teacher Performance Assessment) or choose to pursue certification from the states in which they are teaching. All of the graduates are eligible to receive provisional certification from the Council on Education of the Deaf (CED).

For the 2016-2017 academic year, the MSSE program had an enrollment of 30 students, of whom 14 (47 percent) are deaf or hard of hearing and 30 percent are members of minority groups. It is anticipated that at least 15 students will graduate from the program during the 2016-2017 academic year. The MSSE program continues to actively recruit students with strong content area backgrounds, especially in science and math through the 4+2 program with RIT's Colleges of Science, Engineering and Liberal Arts as well as RIT's School of Individualized Study. The specifics related to this program can be found at www.ntid.rit.edu/msse-4plus2. MSSE is accredited by the Council for the Accreditation of Teacher Preparation (CAEP), 2013-2020, and approved by the CED, 2014-2019.

Academic Program Highlights (continued)

Study Abroad Experiences

NTID continues to expand our study abroad program through a two-pronged approach: 1.) NTID faculty-led study abroad experiences (e.g., Chile, Costa Rica and Japan) and 2.) sending students to an affiliated university with established curriculum (offered by the affiliated university and/or NTID faculty), with housing and access services provided (i.e., The Siena School of Liberal Studies). These programs are offered for six general education credits under NDLS 280: International Studies Seminar. They are open to all NTID-coded students at RIT, including the MSSE and ASLIE programs. To date, six study abroad experiences have been completed: two trips to Chile, two trips to Costa Rica, one trip to Japan and one trip to the Siena School in Siena, Italy. Another trip to the Siena School in Italy is taking place in the summer of 2017. Additionally, trips to Japan and Canada are being planned for 2018. NTID anticipates that almost 30 NTID-supported students will participate in study abroad opportunities in AY 2016-17. This includes approximately 17 students in NTID's study abroad programs, five students in RIT programs with interpreting support and up to eight students in NTID's Department of American Sign Language and English Interpretation who will attend the Institute for Sign Language and Deaf Studies at Hogeschool Utrecht in the Netherlands.

Communication Studies and Services (CSS)

The Communication Studies and Services Department (CSS) is comprised of faculty and staff with expertise and training in the areas of communication, speech-language and audiology. Faculty and staff in the department provide credit-bearing instruction to students in areas related to communication in organizational structures, effective teams, interpersonal situations and other community settings. Other areas where direct instruction is provided are freshman seminar and ASLIE, where a Cued Speech complementary course is provided to those enrolled in the interpreting education program. In these areas, faculty and staff provided 31 credit hours of instruction for 102 students in AY 2015-2016. Audiology and speech-language clinical services were provided to the RIT community throughout the 2015-2016 academic year. Faculty and staff provided 3,601 hours of individual speech-language instruction to 145 students, and 2,423 hours of audiology services to 705 students and others members of the RIT community.

The audiology and speech-language department also provides walk-in services in the Speech & Language Center and the Audiology Center. During the 2015-2016 academic year, the speech-language discipline served an additional 154 students during 660 hours of on-call services, while the audiology discipline provided 429.5 hours of on-call services in the Audiology Center, serving more than 1,279 members of the RIT community.

CSS supports students with advisors to the Conversation Practice Group, the Vision Support Committee, the Spoken Communication Club and Tiger Cues. CSS is a co-sponsor of a grant from the Department of Education to train master's degree students in Speech-Language Pathology from Nazareth College in Rochester, New York, to work with deaf and hard-of-hearing students, and annually accepts a full-time extern pursuing their doctoral degree in the field of Audiology. The externs come from various accredited universities throughout the United States.

NTID Learning Center

The NTID Learning Center (NLC) provides a variety of resources (tutoring space, computers for student and faculty use, Video Lab, studying tools and individual/group study space) in supporting the college success of NTID students.

This year, individual students signed up to use NLC computers 28,526 times for a total of approximately 176,830 hours. The NLC was busy supporting course-related activities for a total of 22 hours. This "tracking" of computer use behavior is made possible with in-house software installed on all NLC PCs that tracks how the computer is being used and records the length of time users are logged on.

Academic Program Highlights (continued)

Since AY 2006-2007, the NLC has loaned laptops (Windows and Mac) to students for 24-hour lending. This year, laptops were borrowed 4,451 times. Also, the NLC made calculators available to students for 24-hour lending. Students borrowed calculators 314 times.

To support learning outside of the typical classroom, the NLC offers individual and small group tutoring and studying in mathematics and English. This year, 67 tutors (faculty and students) provided 5,168 hours in a variety of curricular areas.

In addition to laptops and calculators, the NLC has a number of resources available for faculty, staff and students to borrow at the resource desk, such as smartphone chargers, headphones, memory card reader, webcams, PowerPoint clicker and Wacom pen tablet. The NLC provides a reference area with books provided by faculty for students to use for their courses. In AY 2015-2016, books were loaned out a total of 184 times.

In addition to resources available at the resource desk, the NLC also provides a video lab, established in 2007 as a video production and editing resource for the NTID community. The studio was reserved for a total of 371 hours in AY 2015-2016. This area is used by interpreting students, deaf and hard-of-hearing students and faculty who want to use state-of-the-art video and editing equipment for classwork and projects.

The Sprint Relay Experimental Distance Learning/Access Demonstration Lab, housed within the NLC and the newly implemented flipped classroom studio, supported by the NLC, hosted 278 courses, workshops and other sessions for a total of 641 hours. The Sprint Relay Lab supported various activities, including conducting experimental classroom technology projects as well as video/lecture-capturing for flipped classroom course development for archiving and subsequent "anytime/anywhere" access by students.

The NLC continues to support the administration of Summer Vestibule Program (SVP) writing tests and the administration of the Liberal Arts Placement Test (LAPT) each semester. The NLC staff provided a number of tours for incoming freshmen and others such as foundation boards and national and international universities.

During AY 2015-2016, the NLC hosted Intervention I of the Create Your Future (CYF) program for deaf and hard-of-hearing high school seniors who had attended EYF the previous summer. This involved monthly synchronous online meetings addressing topics relevant to success in life and school. Sessions occurred for two small groups of students each month between October 2015 and May 2016. Students who succeeded were invited to a two-week summer program on campus in July 2016. Intervention II focused on English and math literacy instruction, personal skill development and transitioning to college activities. Future plans involve training others to deliver the curriculum designed for this program.

This year was particularly productive with regards to implementing NTID's online initiatives. In particular, four NTID courses were successfully transitioned to either a flipped, blended or online format utilizing support from both NTID and RIT resources. These four courses will be offered in one of these formats for the first time in fall 2016.

Online tutoring for students in NTID English classes was offered three nights a week in the fall semester and five nights a week during the spring semester. Graduate students in the Master of Science in Secondary Education served as tutors. This service is coordinated with NTID's Liberal Studies department.

Support for Baccalaureate Students

Strategic Decisions 2020 continues the goal of pursuing enrollment targets and admissions and programming strategies that will result in increasing numbers of NTID graduates achieving baccalaureate degrees and higher.

Academic Program Highlights (continued)

At the beginning of AY 2016-2017, 507 students (45 percent of the total deaf and hard-of-hearing student enrollment) were enrolled in baccalaureate programs in one of the other colleges of RIT. NTID faculty and staff provide tutoring, direct instruction, academic advising and counseling for these students. In addition, interpreting, notetaking and captioning services are offered through NTID's Department of Access Services.

Outcomes Assessment

NTID conducted student learning outcomes assessment (OA) in all academic programs as well as several general education and academic support areas during AY 2015-2016. In addition, academic degree programs completed the RIT Progress Reports based on AY 2014-2015 results.

The sixth annual RIT Progress Report, completed in January 2016, utilized a web-based reporting format and asked program chairs and directors to respond to a series of questions and to report on one program-level student learning outcome listed in their AY 2014-2015 Outcomes Assessment Plans. This was the second outcomes assessment Progress Report on semester-based programs taught at RIT. Program information was aggregated by college and at the university level, and was shared with the Provost's Office, Board of Trustees, Deans and RIT Student Learning Outcomes Assessment (SLOA) Committee.

NTID's response rate was 100 percent, with 16/16 programs completing the report. NTID contributed favorably toward the RIT rate of 96 percent of programs completing assessments. Additionally:
- 100 percent of NTID programs met or exceeded established benchmarks for at least one student learning achievement, compared to the RIT level of 93 percent; and
- each program's Progress Report was rated for continuous improvement by the RIT Educational Effectiveness Assessment Office. Ninety-four percent of NTID programs indicated use of assessment results to guide program planning improvements, compared to RIT's 81 percent.

NTID program chairs and directors used RIT's online outcomes assessment management system, TaskStream, for the annual assessment reporting that forms the basis of the above-mentioned RIT Progress Reports. Programs continued to use their approved semester-based Outcomes Assessment Plans. NTID OA plans identify program goals, critical student learning and programmatic outcomes, data sources/measures, performance benchmarks and timelines. Key findings and use of results are entered, along with recommendations. Highlights from AY 2015-2016 OA Reports illustrate NTID's outcomes assessment data collection, analysis processes and results. In addition to the individual program findings summarized below it should be noted that 87 percent of NTID students received satisfactory overall evaluation ratings from their supervisors related to their cooperative work experience performance.

ASL and Interpreting Education Department (ASLIE)
- ASL-English Interpretation BS: Benchmarks exceeded on all eight outcomes assessed this year. 97 percent of students received ratings of satisfactory or better on their overall ASL competency on their Community Presentation Evaluation. One hundred percent of students in the Issues in Interpreting courses produced successful Poster Presentations and 87 percent of students produced successful research papers demonstrating critical thinking and problem-solving skills. Eighty-eight percent of students demonstrated successful interpreting competency from ASL to English and 90 percent from English to ASL. Ninety-seven percent of students were rated by practicum supervisors as demonstrating satisfactory entry-level work habits and 91 percent for overall interpreting ability. Ninety-three percent of seniors expressed satisfaction with the programs and all students who sought employment after graduation were working.

Business Studies Department
- Accounting Technology AAS: Criteria met for two of the three direct course-based assessments. Acceptable scores were achieved on the Student Learning Assessment Test and Interpersonal and Team Work Review in the Capstone course. Benchmark was not met for the project in the Fundamentals of Marketing course. The one student seeking employment after graduation was employed.

- Administrative Support Technology AAS: Exceeded the benchmark for seven outcomes and did not meet the benchmark for one course-based outcome. All students met the speed/accuracy keyboarding outcome, an improvement from last year's assessment. Again all students earned an acceptable rating score on the e-Portfolio Rubric, indicating competence in choosing and applying computer software to create business documents. Similar to Accounting Technology, several students were rated below the criterion level for the marketing project. One hundred percent of students received a satisfactory overall rating by their supervisors for their co-op placements, for their ability to learn quickly and apply technical knowledge on the job and for their ability to transfer theory to employment situations. One hundred percent of students seeking employment after graduation were employed.
- Business AS: Criteria exceeded for three of the five outcomes, met for one and not met for another. Ninety-four percent of students met the benchmark on the Student Learning Assessment Test given in Managerial Accounting. Seventy-nine percent of students demonstrated appropriate interpersonal business skills and teamwork, which is just below the benchmark of 80 percent. Students exceeded the benchmark for identifying and applying creative methods for idea generation and created a business plan outline for a new product/service. All of the students who graduated and applied for admission to a BS program were accepted.
- Business Technology AOS: Students exceeded benchmarks on six outcomes and were slightly below criterion on two others. For keyboarding speed and accuracy, only one student did not meet the keyboarding outcome. One hundred percent of students earned acceptable ratings on the rubrics for the e-Portfolio and interpersonal skills and 82 percent met the expectations for the Marketing Project. These are strong results for AOS students. One hundred percent of students received a satisfactory overall rating by their supervisors for their co-op placements and 67 percent were rated satisfactory on transfer of theory to employment situations. One hundred percent of students seeking employment were employed.
- Hospitality & Service Management AS: One student graduated from the program, applied for the BS and was accepted.

Career Exploration Studies Department
- First Year Experiences: Benchmark exceeded for student satisfaction with the transition components of the Summer Vestibule Program (SVP) but less than 90 percent of students enrolled in the Freshman Seminar course Fall semester earned a grade of "C" or higher. Criterion was not met for students returning for full-time study the following year.
- Career Exploration Studies: Benchmarks exceeded for students passing the Level A reading/writing and mathematics courses within two semesters when those who withdrew from the university or were suspended are excluded from the data. One hundred percent of CES students who applied to a major were accepted into a major within two semesters.

Communication Studies and Services Department
- Communication Outcomes: Based on co-op supervisors' ratings, criterion not met for students demonstrating competency in face-to-face communication or for email communication during cooperative work experiences. Ratings fell below criterion level for the first time in the three years co-op supervisor reports have been used to assess face-to-face communication. While the mean communication score is better than the acceptable "4" on a 5-point scale, less than 80 percent of students received that rating.
- Speech-Language, Aural Rehabilitation and Audiology Services: Criterion levels exceeded for three of the four assessed outcomes and met for the other. More than 90 percent of students indicated satisfaction with speech-language and audiology services and reported a self-perceived benefit as a result of the services. Ninety-one percent and 100 percent of students were rated by their instructors as demonstrating progress toward communication goals in aural rehabilitation and speech-language, respectively. On formal pre-post testing based on stated goals, the benchmark of 80 percent of students showing improvement was exceeded. Assessments were completed for students whose individual communication focus areas included articulation, pronunciation, voice and/or aural rehabilitation.

Academic Program Highlights (continued)

Engineering Studies Department
- Applied Mechanical Technology AAS: Program enrollment has increased and this is the second assessment cycle with findings to report. Benchmarks exceeded for three outcomes. More than 90 percent of students earned the appropriate grades in key courses preparing them to apply for enrollment in the BS program. Only one student graduated during this assessment cycle and was accepted for enrollment in the BS. The student satisfaction survey was not completed by enough students to report findings. It will be administered earlier in subsequent years.
- Computer-Aided Drafting Technology AOS/AAS: Criterion levels exceeded for one outcome, met for 16 assessed outcomes and not met for six others. All benchmarks were met for producing 2-D drawings and Building Information Modeling (BIM) projects, as well as in field measurement and input into CAD, researching and incorporating technical information into drawings and documentation, identifying characteristics of construction materials and developing a portfolio. Benchmarks were approached, but not met, for outcomes related to technical vocabulary, terminology and building codes. Eighty-seven percent of students received satisfactory overall rating from their supervisors related to their co-op placement performance. Three out of four graduates seeking employment were working.
- Computer-Integrated Machining Technology AOS: Benchmarks exceeded for four outcomes, met for five and not met for one, which is an overall improvement from the last assessment cycle. Outcomes were met or exceeded for goals related to developing technical skills and knowledge needed to transform ideas and drawings into precision machined parts and to safely operate conventional and CNC machines, tools and other automatic equipment. Students also demonstrated competency for developing metrology skills and producing machined parts and optical elements to exact specifications. The only issue was with assessing identification of characteristics of various industrial materials. To address this, faculty will redesign the final exam to emphasize project-based testing as opposed to a written test.
- Civil Technology AAS: Several assessments were completed for this relatively new associate+bachelor's degree program. While the enrollment is still too low to make any substantive determinations about student learning, the first few students have scored appropriately on technical drawings, technical problem solving and developing a CAD model.

Information and Computing Studies Department
- Applied Computer Technology AS: Criteria exceeded for demonstrating fundamental programming and web skills, and met for student satisfaction outcomes. Criteria was not met for course grades in the BS level Client Programming course, but this assessment will be changed for AY 2015-2016 to better reflect student success in the AS program. The graduation benchmark was not met for students graduating from the BS program after completing the AS, but the first cohorts are still in the seven-year window used to track graduation rates.
- Applied Computer Technology AOS/AAS: The assessment plan was revised based on the experience of teaching two years in the semester system. The findings showed that benchmarks were exceeded for eight of the 14 assessed outcomes and not met for six. For example, 97 percent of students demonstrated expected levels of competency related to installing, configuring, securing and troubleshooting networks, for IT troubleshooting and customer support, working effectively as team member and for clearly presenting technical information to an audience of peers. One hundred percent of students successfully passed their technical Presentation Evaluation. Benchmarks were not met related to peer-to-peer client/server networks or LAN/WAN troubleshooting and security. Action plans include evaluation of the number of tasks, level of assessments, instructional time and students' time on task during assessments. Eighty-eight percent of students received satisfactory overall ratings from their supervisors related to their co-op performances.

Liberal Studies Department
- Applied Liberal Arts AS: Criteria exceeded for written English competency, which was an improvement over previous years. The expected level was approached (77 percent instead of 80 percent) for the professional courses students take in their intended College of Liberal Arts

(CLA) baccalaureate program. For the assessments used to measure success in the program's general education perspectives courses, the benchmark was not met. However, the benchmark was exceeded for acceptance into CLA or equivalent bachelor's degree program, which is the primary goal of the AS program in Applied Liberal Arts. Given the successful transfer rate, the benchmarks for perspectives and professional electives will be lowered for the next assessment cycle.

Master of Science in Secondary Education Department
- The Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing: Twenty-four measures included in the semester plan were assessed; criteria exceeded for nine measures and met for 15. The benchmark for passing the NYSTCE certification tests was exceeded for students who took tests in NYS. Some students choose to pursue certifications in the states where they are teaching after graduation. Students met or exceeded the criterion levels for teaching performance, writing lesson plans, assessing student learning and demonstrating classroom management skills. For the same outcomes when adapting to meet the diverse needs of their students, all students met the expected competency level. Overall, satisfactory communication skills during student teaching continues to be a strength of this program.

Science and Mathematics Department
- Laboratory Science Technology AOS/AAS: Benchmarks again exceeded for 19 assessed general skill and technical competence areas, co-op performance, placement and student satisfaction. The concerted effort to emphasize safety has led to eight years of 100 percent of students meeting safety expectations. Students' resumes were reviewed early in the Laboratory Methods course to promote development of unique professional resumes for co-op and future positions. Students demonstrated competency in the use of various analytical instrumentation and demonstrated appropriate biological and biotechnology-related techniques. Additionally, 100 percent of students received favorable overall ratings by their co-op supervisors in corporate and academic placements. One hundred percent of graduates who sought employment were working. Students showed high levels of satisfaction with the program, including with the Laboratory Mathematics course, which underwent a fair amount of redesign over the past year.

Visual Communications Studies Department
- Design and Imaging Studies AOS/AAS: Criteria exceeded for seven of the nine outcomes assessed, met for one and not met for the other. Students exceeded expectations for communicating effectively, demonstrating appropriate writing and use of technical vocabulary, exhibiting competence in graphic design or production of graphic media, assembly and maintenance of a portfolio and use of appropriate software and hardware for a graphic media project. Benchmark was not met for design and production of graphic media for campus and community organizations. The alumni response rate was low and satisfaction criterion not met. The chair will work closely with the assessment office to try to increase response rate from the alumni in the future. One hundred percent of students received satisfactory overall ratings from their supervisors related to their co-op performance and were also rated as competitive for permanent employment.

Enrollment by Degree Programs

In fall 2016, 58 percent of NTID's 1,300 students were enrolled in a broad array of programs within NTID. Forty-two percent were enrolled in other colleges of RIT, including 44 students in graduate programs. Of the 1,300 students, 1,122 are deaf and hard-of-hearing students in traditional undergraduate and graduate programs (excluding MSSE and Interpreting students). Forty-two percent of deaf and hard-of-hearing students (551) enrolled in traditional undergraduate and graduate programs are partially or fully enrolled in the other colleges of RIT. Students are categorized by their primary academic college.

	Number of Students
NTID Career Exploration Studies	
Career Exploration (UND)	25
Career Prep Foundation (UND)	19
Subtotal	**44**
NTID Career-Focused	
Non-Degree Student (NONDEG)	13
Accounting Technology (AAS)	16
Applied Computer Technology (AAS)	34
Applied Computer Technology (AOS)	30
Design & Imaging Technology (AAS)	43
Design & Imaging Technology (AOS)	55
Business Technology (AOS)	37
Computer-Aided Drafting Technology (AAS)	12
Computer-Aided Drafting Technology (AOS)	17
Computer-Integrated Machining Technology (AOS)	36
Engineering Technologies (UND)	7
Laboratory Science Technology (AOS)	12
Mobile Application Development (AAS)	4
Subtotal	**316**
Associate+Bachelor's Degrees	
Administrative Support Technology (AAS)	24
Applied Computer Technology (AS)	29
Applied Liberal Arts (AS)	39
Applied Mechanical Technology (AAS)	11
Business (AS)	25
Civil Technology (AAS)	5
Hospitality and Service Management (AS)	5
Laboratory Science Technology (AAS)	46
Subtotal	**184**

Enrollment by Degree Programs (continued)

	Number of Students
NTID ASL-English Interpretation	
ASL-English Interpretation (NONDEG)	4
ASL-English Interpretation (BS)	136
Health Care Interpretation (MS)	8
Subtotal	**148**
NTID Master of Science in Secondary Education (MSSE)	
Secondary Education of Students who are Deaf/Hard of Hearing (MS)	30
Subtotal	**30**
NTID Pre-Baccalaureate Students	
Pre-Baccalaureate Engineering (UND)	6
Pre-Baccalaureate Liberal Arts (UND)	2
Pre-Baccalaureate Science (UND)	12
Pre-Baccalaureate Visual Communication (UND)	7
Subtotal	**27**
NTID Subtotal	**749**
Baccalaureate Students in Other RIT Colleges	
College of Applied Science and Technology	
Civil Engineering Technology (BS)	6
Computer Engineering Technology (BS)	4
Electrical Engineering Technology (BS)	1
Electrical/Mechanical Engineering Technology (BS)	4
Engineering Technology (UND)	2
Environmental Sustainability Health & Safety Management (BS)	1
International Hospitality and Service Management (BS)	8
Manufacturing Engineering Technology (BS)	1
Mechanical Engineering Technology (BS)	21
Packaging Science (BS)	10
Subtotal	**58**

Enrollment by Degree Programs (continued)

	Number of Students
Saunders College of Business	
Business Administration-Accounting (BS)	12
Business Undeclared (UND)	2
Finance (BS)	6
International Business (BS)	4
Management (BS)	10
Management Information Systems (BS)	13
Marketing (BS)	6
New Media Marketing (BS)	3
Subtotal	**56**
College of Science	
Applied Mathematics (BS)	2
Applied Statistics (BS)	3
Biochemistry (BS)	9
Bioinformatics (BS)	1
Biology (BS)	12
Chemistry (BS)	2
Environmental Science (BS)	4
Molecular Bioscience and Biotechnology (BS)	6
Physics (BS)	1
Science (UND)	1
Subtotal	**41**
College of Imaging Arts and Sciences	
3D Digital Graphics (BFA)	8
Film and Animation (BFA)	4
Fine Arts-Studio (BFA)	2
Glass (BFA)	1
Graphic Design (BFA)	24
Illustration (BFA)	2
Industrial Design (BFA)	6
Interior Design (BFA)	4
Media Arts and Technology (BS)	2
Medical Illustration (BFA)	5
Metals and Jewelry Design (BFA)	1
New Media Design (BFA)	9
Photographic Arts and Sciences (UND)	1
Photographic and Imaging Arts (BFA)	7
Photographic and Imaging Technology (BS)	3
Subtotal	**79**

Academic Programs

Enrollment by Degree Programs (continued)

	Number of Students
College of Liberal Arts	
Advertising and Public Relations (BS)	2
Communication (BS)	3
Criminal Justice (BS)	21
Digital Humanities and Social Sciences (BS)	3
International and Global Studies (BS)	4
International and Global Studies (2M)	1
Journalism (BS)	2
Liberal Arts Exploration (UND)	6
Museum Studies (BS)	2
Political Science (BS)	6
Psychology (BS)	26
Public Policy (BS)	2
Sociology and Anthropology (BS)	2
Subtotal	**80**
Kate Gleason College of Engineering	
Biomedical Engineering (BS)	5
Chemical Engineering (BS)	4
Computer Engineering (BS)	5
Electrical Engineering (BS)	8
Engineering Exploration (UND)	2
Industrial Engineering (BS)	1
Mechanical Engineering (BS)	12
Subtotal	**37**
Golisano College of Computing and Information Sciences	
Applied Networking and System Administration (BS)	1
Computer Science (BS)	11
Computing Exploration (UND)	1
Computing and Information Technologies (BS)	5
Computing Security (BS)	3
Game Design and Development (BS)	2
Human-Centered Computing (BS)	7
Information Technology (BS)	18
Networking and System Administration (BS)	4
New Media Interactive Development (BS)	6
Software Engineering (BS)	8
Web and Mobile Computing (BS)	7
Subtotal	**73**

	Number of Students
University Studies	
University Studies (UND)	8
Subtotal	**8**
School of Individualized Study	
Applied Arts and Sciences (BS)	42
Subtotal	**42**
Student Affairs	
College Restoration Program	4
Subtotal	**4**
College of Health Sciences and Technology	
Biomedical Sciences (BS)	21
Diagnostic Medical Sonography (BS)	2
Nutrition Management (BS)	3
Physician Assistant (BS)	3
Subtotal	**29**
Subtotal Baccalaureate Students in Other Colleges	**507**

On May 16, the Delta Xi chapter of Epsilon Pi Tau National Honor Society (EPT) inducted its second group of members consisting of 16 associate-level students studying technology and five faculty. This is the first EPT chapter in the nation dedicated to deaf and hard-of-hearing students and NTID's first national honor society.

Enrollment by Degree Programs (continued)

	Number of Students
Graduate Students in Other RIT Colleges	
College of Applied Science and Technology	
Facility Management (MS)	1
Human Resources Development (MS)	4
Subtotal	**5**
Saunders College of Business	
Accounting (MBA)	1
Business Administration (MBA)	1
Entrepreneurship & Innovative Ventures (MS)	1
Finance (MS)	1
Subtotal	**4**
College of Imaging Arts and Sciences	
Fine Arts Studio (MFA)	1
Visual Arts (MST)	1
Visual Communication Design (MFA)	1
Subtotal	**3**
College of Liberal Arts	
Criminal Justice (MS)	3
Experimental Psychology (MS)	1
School Psychology (MS)	1
Subtotal	**5**
College of Science	
Applied Statistics (MS)	1
Bioinformatics (MS)	1
Environmental Science (MS)	2
Subtotal	**4**
Kate Gleason College of Engineering	
Electrical Engineering (MS)	1
Engineering Management (ME)	1
Mechanical Engineering (MS)	1
Subtotal	**3**

	Number of Students
Golisano College of Computing and Information Sciences	
Computer Science (MS)	5
Computing and Information Science (PhD)	1
Computing Security (MS)	1
Human Computer Interaction (MS)	2
Information Science and Technology (MS)	2
Subtotal	**11**
Golisano Institute for Sustainability	
Architecture (M. Arch.)	3
Subtotal	**3**
College of Health Science and Technology	
Health Systems Administration (MS)	1
Physician Assistant (MS)	1
Subtotal	**2**
School of Individualized Study	
Professional Studies (MS)	3
Project Management (ACT)	1
Subtotal	**4**
Subtotal Graduate Students in Other Colleges	**44**
Total	**1,300**

Legend	
2M	Double Major
AAS	Associate of Applied Science
ACT	Advanced Certificate
AOS	Associate of Occupational Science
AS	Associate of Science
BFA	Bachelor of Fine Arts
BS	Bachelor of Science
CT	Certificate
M. Arch.	Master of Architecture
MBA	Master of Business Administration
MFA	Master of Fine Arts
MS	Master of Science
MST	Master of Teaching
NONDEG	Non-Degree
PhD	Doctor of Philosophy
UND	Undeclared

Average Class Size by Discipline

The variability in average class size is influenced by the nature of instruction. For example, many programs are laboratory-oriented and use specialized equipment, which limits the number of students who can reasonably be accommodated in a class.

	AY 2015-2016	
	Fall	**Spring**
Accounting Technology	11.2	8.9
Administrative Support Technology	8.8	8.4
American Sign Language	13.0	10.5
Applied Computer Technology	13.8	7.5
Applied Computer Technology – Technical Computing	6.5	6.9
Applied Mechanical Technology	8.3	6.8
ASL-Deaf Culture	9.0	10.0
ASL-English Interpretation	11.2	9.4
Career Development	14.2	9.7
Communication Studies	10.0	12.0
Computer-Aided Drafting Technology	9.2	10.6
Computer-Integrated Machining Technology	6.8	5.9
English	9.6	8.5
General Arts & Imaging	9.4	7.2
General Business	10.9	11.6
Graphic Design	9.0	7.8
Graphic Production	6.0	7.2
Humanities and Social Science	13.1	12.7
Laboratory Science Technology	10.1	9.0
Liberal Studies	11.7	19.0
Master of Science in Secondary Education	13.2	14.9
Mathematics	10.2	9.1
Science	9.4	8.6
Overall Average	**10.2**	**9.7**

Educational Support: Teaching

In addition to providing academic advisement, tutoring and notetaking services for deaf and hard-of-hearing students enrolled in the other colleges of RIT, NTID faculty also teach some RIT courses with deaf students enrolled. By providing direct instruction in these courses as well as advisement and tutoring, faculty members help maximize the benefit students receive to ensure their success in RIT's highly competitive academic environment. Below are the statistics for FY 2016.

| | | Number of Students | |
	Number of Sections	Deaf and Hard-of-Hearing	Hearing
Saunders College of Business			
Computer-Based Analysis	1	24	0
Leadership	1	0	6
Power and Influence	1	0	6
Subtotal	**3**	**24**	**12**
College of Imaging Arts and Sciences			
The Fine Print Workflow	1	1	7
History of Western Art: Ancient to Medieval	2	32	0
History of Western Art: Renaissance to Modern	2	27	0
Subtotal	**5**	**60**	**7**
College of Liberal Arts			
Advanced American Sign Language I	1	3	2
Advanced American Sign Language II	1	1	4
American Sign Language Literature	1	11	6
Beginning American Sign Language I	17	22	299
Beginning American Sign Language II	8	21	102
Beginning Spanish IA	1	13	0
Communication	1	22	0
Computer Crime	2	3	37
Deaf Art & Cinema	2	26	28
Deaf Culture in America	4	56	65
Deaf Literature	1	7	9
Developmental Psychology	1	10	21
Diversity in the Deaf Community	2	27	30
Foundations of Sociology	3	57	0
Global Deaf Literature	1	4	6
Intermediate American Sign Language I	1	3	6
Intermediate American Sign Language II	4	5	40
Introduction to Criminal Justice	1	20	0
Introduction to Psychology	6	86	53
Introduction to Visual Arts	2	31	0
Linguistics of American Sign Language	2	12	37
Major Issues in Criminal Justice	1	9	21
Oppression in the Lives of Deaf People	2	26	27

	Number of Sections	Number of Students	
		Deaf and Hard-of-Hearing	Hearing
College of Liberal Arts (continued)			
Science, Technology and Values	1	20	0
Senior Project in Psychology	2	5	1
Social Psychology	1	0	32
Theatre in the U.S.	1	0	19
Subtotal	**70**	**500**	**845**
College of Science			
Organic Chemistry Lab I	4	3	70
Organic Chemistry Lab II	1	0	11
Physics Research	1	1	0
Solar System Astronomy Lab	3	0	37
Stellar Astronomy Lab	3	3	42
Subtotal	**12**	**7**	**160**
Interdisciplinary Studies			
Critical Reading and Writing	10	144	0
Writing Seminar	12	167	0
Subtotal	**22**	**311**	**0**
Center for Intercollegiate Athletics and Recreation			
Insanity	2	15	28
Kundalini Yoga	2	8	61
P90X	2	4	52
Sunrise Yoga	2	1	58
Turbo Kick	2	6	39
Ultimate Frisbee	2	1	47
Subtotal	**12**	**35**	**285**
Total	**124**	**937**	**1,309**

American Sign Language and Interpreting Education Programs

The degree program in ASL-English Interpretation graduated 41 students in 2015-2016, 40 with BS degrees and 1 with an AAS. Forty-six new students matriculated into the program in September 2016. Currently, 20 percent of total enrollment are students from ethnic minority backgrounds.

Since its inception, the Department of ASL and Interpreting Education has graduated 763 students. Of that number, 467 have graduated with an AAS degree, 288 with a BS degree, and eight with a certificate.

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Fall Applicants	250	224	211	188	187
Accepted	51	51	49	50	57
Registrations	45	43	40	40	46
Enrollment					
AAS	1	0	0	0	0
BS	162	143	143	148	136
MS in Health Care Interpretation	N/A	N/A	N/A	N/A	8
Non-Matriculated	4	4	3	3	4
Total Enrollment	**167**	**147**	**146**	**151**	**148**
Employment Report					
Graduates	34	30	29	41	*
Employment Rate	100%	100%	100%	*	*

In addition to the interpreting program, ASL and Interpreting Education faculty also provided the following:	FY 2016 Enrollment
ASL courses in RIT's College of Liberal Arts (CLA)	540
ASL courses for deaf students, NTID	63
ASL course for the MSSE program, NTID	12
Introduction to ASL and Deaf Culture	17
New Signers Program	21
Global Understanding Program Fall Semester – Hogeschool, the Netherlands students to NTID	3
Global Understanding Program Summer – NTID interpreting students to Hogeschool, the Netherlands	8

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* As of the writing of this report, the employment information for FY 2016 and FY 2017 and graduation information for FY 2017 is incomplete.

Master of Science in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE)

The MSSE program is now in its 22nd year. To date, 386 students have graduated from the program. One hundred percent of the FY 2015 graduates have accepted teaching jobs throughout the country.

To complete the program, each student must successfully complete 94 credit hours, including two student-teaching assignments and a master's project.

In addition to the coursework and other expectations, all full-time students serve as graduate assistants during the semesters they are not student teaching. They work as teaching assistants, program assistants, research assistants or tutors, primarily at NTID.

To recruit students with strong content area backgrounds, especially in science and math, the program has implemented a 4+2 program with RIT's College of Science, College of Engineering and College of Liberal Arts as well as RIT's School of Individualized Study. The specifics related to this program can be found at www.ntid.rit.edu/msse-4plus2.

Forty-four applications for admission for fall 2016 were received. Nineteen were offered admission. Of those, 17 matriculated into the program. For the 2016-2017 academic year, the MSSE program has a total enrollment of 30 students: 13 second-year or returning students and 17 first-year students. Of the 30 matriculated students, 47 percent are deaf or hard-of-hearing and 27 percent are minority.

MSSE Student Data

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Fall Applications	49	38	40	33	44
Acceptances	30	16	19	17	19
New Registrations	19	16	16	15	17
Deaf and Hard-of-Hearing Enrollment	25	18	16	15	14
Total Enrollment*	**56**	**48**	**44**	**42**	**30**
Employment Report					
Graduates	15	34	21	20	**
Employment Rate	100%	100%	100%	**	**

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*   Included from FY 2007 to FY 2016 are non-matriculated students (between four and 15 per year) taking courses offered by the Master of Science program in Secondary Education, but who are part of a grant-supported joint program between NTID and Nazareth College in Rochester, New York, to train speech pathologists to work with deaf and hard-of-hearing people.
** As of the writing of this report, the employment information for FY 2016 and FY 2017 and graduation information for FY 2017 is incomplete.

Cooperative Work Experiences

Cooperative work experience is an integral part of academic programming at NTID. Employment specialists assist students in securing 10-week work experiences that augment their studies. Employment specialists or faculty members visit students and their supervisors at their workplaces to assess progress and resolve any workplace issues. Most academic programs require from one to three cooperative assignments, which generally add another year to the program length (totaling three years for associate degree programs and five years for bachelor's degree programs).

During FY 2016:
- 271 students were enrolled in cooperative work experiences
- 58 academic programs had students on cooperative work experiences
- 18 faculty and staff visited 48 students at their job sites during the summer

	Number of Students Involved in Cooperative Work Experiences*				
	FY 2012	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Sub-Baccalaureate					
NTID	96	105	90	94	88
Percent of Total Co-op Enrollment	32%	36%	38%	35%	32%
Baccalaureate/Master's					
College of Applied Science and Technology	57	64	40	52	51
Saunders College of Business	34	38	18	27	30
Golisano College of Computing and Information Sciences	41	29	33	45	43
Kate Gleason College of Engineering	11	16	18	19	25
College of Health Sciences and Technology	6	5	1	5	3
College of Imaging Arts and Sciences	11	7	10	9	10
College of Liberal Arts	37	25	22	19	16
College of Science	6	6	6	1	5
Subtotal	203	190	148	177	183
Percent of Total Co-op Enrollment	68%	64%	62%	65%	68%
Total Co-op Enrollment	**299**	**295**	**238**	**271**	**271**

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* Totals reported include deaf and hard-of-hearing international students, but do not include students in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported elsewhere in this section.

Student Support Services

NTID students have access to audiological services, speech and language services, mental health counseling, career counseling, academic advising, professional academic tutoring, self-advocacy training, wellness activities, substance abuse services and more.

Catherine Clark, a faculty member and one of NTID's five audiologists, provides cochlear implant mapping, hearing evaluations and other audiological services to NTID students. She also earned first place in the Practitioner category of the 2016 Oticon Focus on People Awards and was honored for her "Outstanding Dedication to Service" by Visions Global Empowerment during its 2016 annual awards ceremony.

Student Support Services Highlights

NTID provides a variety of services to support the college success of deaf and hard-of-hearing students:

- Audiological services include hearing evaluations, hearing aid trials, fittings, cochlear implant mapping, assistive technologies, accessories, and individual listening therapies that focus on the development of receptive communication skills. RIT students, faculty and staff, NTID-supported alumni and those enrolled in RIT's Osher Lifelong Learning Institute access these services. CSS Audiology also offers monthly ear, nose, throat and ophthalmology clinics for students on campus to meet with local physicians.

- Speech and language services are offered to students who want to enhance their use of spoken English and their general communication competence. Individual and group experiences provide opportunities to improve communication in conversations, group discussions and formal presentations. The Speech & Language Center enables students to use computer technology for speech and language analysis and visual feedback.

- Mental health counseling and psychotherapy are provided to deaf, hard-of-hearing and hearing students on campus at the RIT Office of Counseling & Psychological Services. Mental health counselors fluent in American Sign Language provide services for deaf and hard-of-hearing students. A staff psychiatrist at the Student Health Center is available for consultation or referral as needed. Mental health crisis intervention is available 24 hours a day. In addition to individual counseling and psychotherapy, students can participate in support groups and skill-building groups with counseling center staff.

- Personal and career counseling and academic advising. Upon entry, every NTID-supported student is assigned to a counselor/academic advisor from NTID's Counseling and Academic Advising Services. These professional counselors/academic advisors play an important role in helping students maximize their educational opportunities at RIT. NTID associate-level students receive personal and career counseling and academic advising from their assigned counselor/academic advisor. NTID-supported bachelor-level students also receive personal and career counseling from their assigned NTID counselor/academic advisor. The academic advising for bachelor-level students is provided by the primary academic advisor in their home college. In AY 2015-2016, NTID's Counseling and Academic Advising Services provided more than 11,000 hours of career counseling, personal counseling and academic advising for students, including working as career counselors for NTID's outreach program, Explore Your Future, and as career seminar instructors during the Summer Vestibule Program. In addition, the counselors/academic advisors in the department frequently serve as guest lecturers in Freshman Seminar classes and other courses related to various aspects of college success. This department also manages a full-service Career Resource and Testing Center, which provides a number of career assessment tools and resources. These include an interactive, computer-based career information system that helps students assess their career interests, learning styles and values, and explore a wide range of educational and career options. To supplement the results of such career assessments, students are also given individualized attention with their career decision-making process. NTID counselors/advisors also work in collaboration with other service providers on- and off-campus to help students access services and experiences that promote their academic growth and achieve academic success, as well as cultivate and enhance their personal and social development.

- The Student Life Team (SLT) continued its tradition in FY 2016 of both challenging and educating students, providing resources and support for students' successful transitions throughout college and after graduation. SLT's collaborations with NTID's Counseling and Academic Advising Services, the NTID Center on Employment, NTID Student and Academic Services, Department of Public Safety and several offices across RIT's Division of Student Affairs ensured that students were provided diverse opportunities to optimize their collegiate experiences. SLT's co-curricular and late night educational programming, spiritual/religious and civility exploration workshops, self-advocacy and community accountability mentoring programs, social and cultural programs, fraternity and sorority event collaborations and club/organization advising are avenues of outreaching and networking

with students. SLT values the ongoing partnership with NTID alumni to offer every student a greater sense of his/her purpose as a global citizen.

- Student Wellness / NTID Student and Academic Services provides instruction and services that support wellness education. Deaf and hard-of-hearing students are ensured opportunities for exploring, developing and implementing wellness concepts, principles and behaviors in their lives. It is important to ensure deaf and hard-of-hearing students receive a holistic education with a focus on career, academic, emotional, social, physical, spiritual, financial and environmental dimensions of wellness. Wellness initiatives occur through collaboration within many different areas of NTID and RIT. Students participated in wellness instructional classes, wellness presentations in freshman seminar classes, weekly "Wellness Wednesday" programs that address different topics, presentations in residence halls, Red Barn activities, intramural programs, institute workshops and personal mentoring.

- Financial aid for domestic students was provided in FY 2016 to NTID students in the form of Vocational Rehabilitation awards, grants-in-aid, federal and state grants, scholarships and federal loans through RIT's Financial Aid and Scholarships Office. In all, 449 students received NTID merit scholarships, 90 received RIT merit scholarships, 956 received NTID endowed scholarships and 94 students received scholarships from external funding sources. In addition, the NTID Financial Services Office provided privately funded short-term loans to students who encountered emergency situations.

- Summer Vestibule Program (SVP) is an orientation program for entering NTID students designed to transition them to college life. In 2016, 203 students went through the orientation program. Assessment tests are given to further evaluate a student's academic placement for English and mathematics classes. Students who are further evaluating their major are given a variety of career sampling choices. This is an opportunity for students to see if their major is what they expected. If not, they have the chance to enroll in a different major/program. There also is ample opportunity for peer interaction and fun. SVP always is a memorable experience as the students bond and make friends as they begin their collegiate career.

- First Year Experience incorporates a freshman seminar required for incoming first-year students and designed to further assist them in their transition to RIT/NTID. Eighteen sections were offered with an average class size of 12 students. A variety of topics are covered, such as navigating the campus, library resources, Student Information System, conflict resolution, time management, clubs/organizations, study skills, stress management, goal setting, healthy relationships and more. This is another opportunity for students to connect with their instructor if they have personal/academic struggles, and the instructor can act as a resource.

- Career Exploration Studies (CES) is a program that allows career-undecided students the opportunity to explore technical programs while satisfying necessary core and/or prerequisite coursework. During AY 2015-2016, CES served 54 students in fall and 32 students in spring. One hundred percent of CES students who applied to a major were accepted into a major within two semesters.

- Substance and Alcohol Intervention Services for the Deaf (SAISD) provides culturally sensitive, linguistically accessible information on alcohol, tobacco and other drugs. In addition, it offers intervention and prevention services to the deaf and hard-of-hearing community at RIT and throughout Rochester and the Monroe County area. SAISD also advocates for and promotes development of a full range of accessible treatment programs for alcohol and other drugs for deaf and hard-of-hearing consumers through the provision of cross-disability short-term technical assistance, consultation and training for professionals. Wherever possible, SAISD promotes its successful model across the state.

Support Services: Tutoring Hours

NTID faculty provide academic assistance in the form of tutoring for all NTID-supported deaf and hard-of-hearing students registered in the other colleges of RIT. Students registered in the School of Individualized Study are reported under the other colleges depending on the course type.

	AY 2015-2016		
	Tutoring Hours	Class Sections Served	Total Student Registrations
College of Applied Science and Technology (CAST)	*	360	732
College of Imaging Arts and Sciences (CIAS)	916	389	757
Saunders College of Business (SCB)	2,086*	174	552
Kate Gleason College of Engineering (KGCOE)	694*	218	294
College of Liberal Arts (CLA)	923	731	2,587
College of Health Sciences and Technology (CHST)	830	113	317
College of Science (COS)	6,989*	523	1,521
Golisano College of Computing and Information Sciences (GCCIS)	2,000*	338	658
Total	**14,438**	**2,846**	**7,418**

NTID's Student Life Team hosted the 18th annual Apple Festival in August. The Apple Festival is an opportunity for students to meet, eat, dance and learn how to get involved in clubs and organizations on campus.

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*   Hours for CAST are reported under SCB, KGCOE, COS and GCCIS.

Student Access Services

NTID's Access Services staff provide access services in the classroom as well as outside the classroom for events such as student government meetings, extracurricular programs, guest lecturers and entertainers.

More than 25,000 people came to campus on May 7, 2016, for the ninth annual Imagine RIT: Innovation + Creativity Festival, a one-day celebration of RIT's unique blend of technology and the arts. In addition to having student, faculty and staff exhibitors, NTID provided sign language interpreting support for the festival to ensure the event was accessible to deaf and hard-of-hearing attendees.

Student Access Services Highlights

NTID provides access services to meet the needs of a large number of deaf and hard-of-hearing students enrolled in baccalaureate and graduate degree programs in RIT's other colleges as well as students enrolled in NTID programs who take courses in the other colleges of RIT. Access services also are provided for non-academic events and activities throughout the RIT community. Educational access services that NTID offers for deaf and hard-of-hearing students enrolled in mainstream RIT classes include:

- **Sign language interpreting** provided by 131 staff members—the largest staff of professional interpreters of any college program in the world as well as freelance, apprentice and student interpreters. Students also may request interpreters for non-academic activities such as athletic events, religious services, student government meetings, student clubs and guest presentations.
- **Real-time captioning** provided as a real-time access service for students who benefit from English text more than sign language interpreting. A staff of 52 real-time captionists was trained in a computer-assisted system developed for transcribing in real time what teachers and students say in class. Real-time captioning also is provided for special events and out-of-class needs.
- **Classroom notetaking services** provided by more than 400 trained student notetakers whose classroom notes are uploaded onto a website for easy access by deaf and hard-of-hearing students.
- **Captioned classroom video materials.** NTID, in conjunction with RIT, provides captioned video materials for use in classrooms.
- **Assistive Listening Systems.** NTID loans FM systems to students who benefit from such systems in classrooms.

NTID also works with each of RIT's colleges to provide the support needed to implement strategies for maximizing access to campus services for deaf students. The Provost's Deaf Access Committee and other groups address the needs of deaf and hard-of-hearing RIT students and ensure that RIT is in full compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act for educational accommodation. The institutional position on accessibility for deaf and hard-of-hearing people includes the following strategies, for which NTID provides support:

- Sharing responsibility for providing workshops, training and information to assist faculty in the other RIT colleges in effectively teaching deaf and hard-of-hearing students.
- Providing training and ensuring that academic and administrative service areas that interact with students have staff with a range of communication skills and strategies (sign language, computer terminal or other written interaction) to communicate effectively with deaf students.
- Ensuring that all audio and visual media produced at RIT are effectively captioned, and that existing materials used in classrooms are captioned whenever possible.
- Encouraging RIT to advocate for the captioning of audio and visual materials, teleconferences and other educational media produced externally to RIT.

NTID was an early innovator in access services, initiating training programs for educational interpreters in the 1970s that have grown from small, short-term certificate-level training into a large baccalaureate degree program. Staff interpreters from these programs and others have built careers at NTID, developing specialized expertise across the diverse technologies of RIT's curriculum. The average tenure of a staff interpreter, as of fall 2016, is 13 years. This experienced resource, paired with similar expertise developing in real-time captioning where average staff tenure exceeds seven years, affords NTID students unparalleled access to the full array of educational opportunities RIT provides. Continued innovation and application of new technologies, including remote video interpreting and remote captioning, promise even better services in years ahead.

To ensure the expertise of its staff, Access Services expanded employment and mentorship of apprentice interpreters, sharing the resources and expertise of NTID with interpreters developing as specialists in post-secondary education. With growing demand for real-time captioning services and increasing retirements of veteran interpreting staff, Access Services hired 34 interpreters and 14 captionists, more than 25 percent of its current staff of 180 access providers hired within the past two years. Recent enhancements to a rich professional development program support their skill development.

Access Services: Interpreting, Notetaking and Real-Time Captioning

Interpreting, notetaking and real-time captioning services are provided to allow deaf and hard-of-hearing students equal access to information in classes offered by other RIT colleges.

RIT College	Interpreting Hours	Notetaking Hours	Real-Time Captioning Hours	Class Sections Served
College of Applied Science and Technology (CAST)	10,928	5,185	1,825	287
Saunders College of Business (SCB)	9,291	4,930	1,410	160
Golisano College of Computing and Information Sciences (GCCIS)	13,435	6,830	2,287	275
Kate Gleason College of Engineering (KGCOE)	4,412	3,505	1,868	140
College of Health Sciences and Technology (CHST)	2,898	2,829	1,472	85
College of Imaging Arts and Sciences (CIAS)	21,133	9,647	1,777	326
School of Individualized Study (SOIS)	1,310	736	259	38
College of Liberal Arts (CLA)	23,890	13,191	5,475	440
College of Science (COS)	19,875	14,315	6,068	452
Student Affairs Division (STUAF)	3,445	166	88	157
Golisano Institute for Sustainability (GIS)	540	523	552	11
NTID Students with Approved Accommodations*	953	67	0	32
FY 2016 Total Hours	**112,110**	**61,924**	**23,081**	**2,403**

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* NTID students in associate degree programs who were approved for interpreting and/or notetaking services and/or real-time captioning services.

Student Access Services

Access Services: Interpreting Services

In-class services include interpreting support in all colleges of RIT as well as student/professor meetings, field trips and other activities when required for credit-bearing courses. Non-class services include student use of interpreting services in student government, other student organizations, study abroad, judicial proceedings, emergency situations and extra-curricular programs. Administrative use includes support for RIT faculty/staff activities, such as visiting presenters, conferences, and presentations for faculty, staff and audiences.

FY 2016	In-Class			Non-Class Activity		Administrative Activity		Overall Total	
	Hours	%*	Sections						
Fall	54,888	81%	913	10,752	16%	2,499	4%	68,139	100%
Winter	43	3%	1	1,144	71%	414	26%	1,601	100%
Spring	55,178	79%	851	11,624	17%	2,833	4%	69,635	100%
Summer	2,001	20%	32	5,585	58%	2,085	22%	9,671	100%
FY 2016 Total	**112,110**	**75%**	**1,797**	**29,105**	**20%**	**7,831**	**5%**	**149,046**	**100%**
FY 2007 Total	80,417	73%	1,617	23,757	21%	6,666	6%	110,840	100%
FY 2008 Total	84,211	74%	1,869	23,620	21%	6,402	5%	114,233	100%
FY 2009 Total	80,475	73%	1,831	22,616	21%	6,527	6%	109,618	100%
FY 2010 Total	85,111	73%	1,848	24,993	21%	6,678	6%	116,782	100%
FY 2011 Total	98,032	75%	2,006	25,592	19%	7,441	6%	131,065	100%
FY 2012 Total	97,232	75%	2,032	25,766	19%	6,902	6%	129,900	100%
FY 2013 Total	111,757	77%	2,262	26,878	19%	6,368	4%	145,003	100%
FY 2014 Total**	99,173	75%	1,660	26,223	20%	6,659	5%	132,055	100%
FY 2015 Total	105,983	76%	1,739	27,196	19%	7,051	5%	140,230	100%

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*   Percentages are rounded to the nearest percent.
**   Reduced number of sections and hours required in FY 2014 result from RIT's move to a semester-based academic calendar.

Access Services: Real-Time Captioning Services

In keeping with NTID's *Strategic Vision 2010* and *Strategic Decisions 2020*, an increasing supply of real-time captioning is being made available for those students taking courses in the other RIT colleges. Students who believe they would benefit more from a text-based service may request it instead of sign language interpreting as their means of real-time access.

Real-time captioning is provided via specialized software that allows short-hand typing of classroom instruction; these services are provided on occasion for out-of-class activities such as orientations and meetings.

FY 2016	In-Class			Non-Class Activity		Administrative Activity		Overall Total	
	Hours	%*	Sections						
Fall	11,134	99%	312	82	1%	64	1%	11,280	100%
Winter	0	0%	0	20	100%	0	0%	20	100%
Spring	11,662	96%	303	385	3%	85	1%	12,132	100%
Summer	285	32%	10	452	50%	166	18%	903	100%
FY 2016 Total	**23,081**	**96%**	**625**	**939**	**3%**	**315**	**1%**	**24,335**	**100%**
FY 2007 Total	15,074	98%	426	288	2%	78	0%	15,440	100%
FY 2008 Total	16,186	97%	496	356	2%	180	1%	16,722	100%
FY 2009 Total	17,330	95%	538	255	1%	515	3%	18,168	100%
FY 2010 Total	18,977	97%	618	203	1%	313	2%	19,493	100%
FY 2011 Total	21,068	98%	696	223	1%	202	1%	21,493	100%
FY 2012 Total	19,092	98%	592	254	1%	171	1%	19,516	100%
FY 2013 Total	17,782	98%	577	265	1%	216	1%	18,263	100%
FY 2014 Total**	21,140	98%	489	351	2%	110	1%	21,601	100%
FY 2015 Total	21,459	96%	509	630	3%	122	1%	22,211	100%

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*   Percentages are rounded to the nearest percent.
**   Reduced number of sections required in FY 2014 result from RIT's move to a semester-based academic calendar.

Access Services: Staff Training

NTID Access Services offers interpreter, notetaker and real-time captionist training to both staff and student service providers. Notetaker training is provided to hearing RIT students hired to take classroom notes for deaf and hard-of-hearing students taking classes in the other colleges of RIT. Staff members enjoy in-service training courses, seminars and workshops throughout the year designed to increase knowledge and skills.
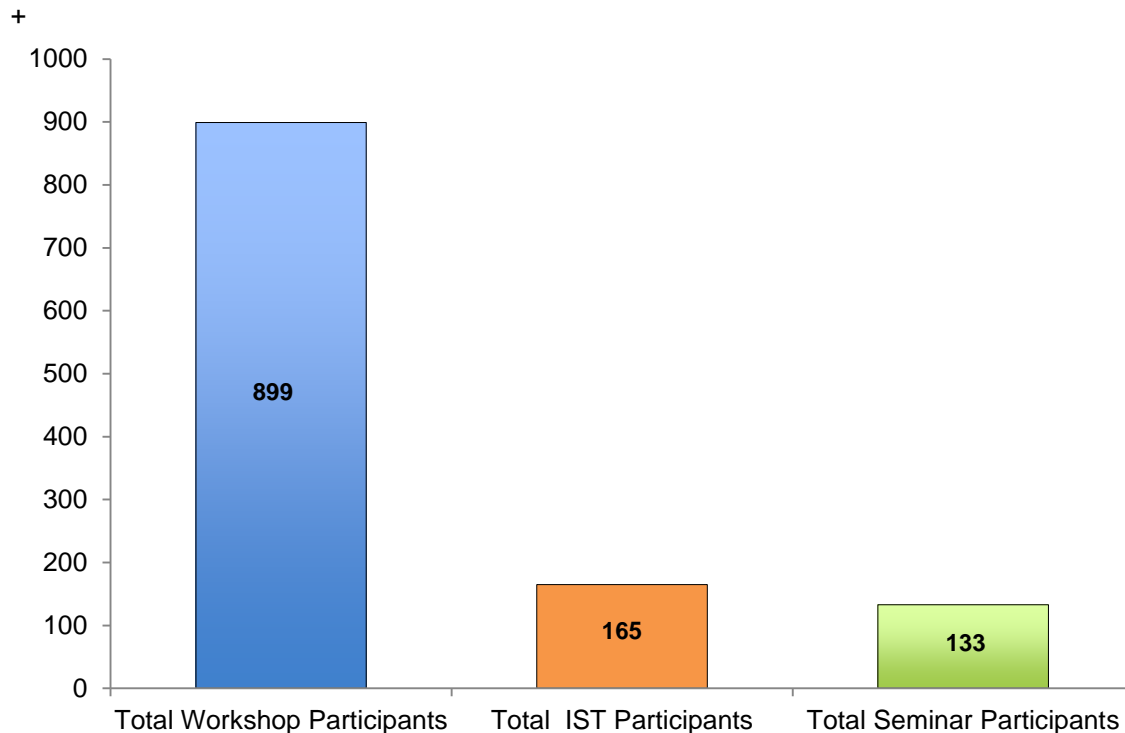
Programs	Number Enrolled				
	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
In-Service Training for Interpreters	132*	104	59	73	165
Notetaker Training	277	262	417	330	282
Real-Time Captionist Training	0	6	4	5	9
Total	**409**	**372**	**480**	**408**	**456**

Access Services Professional Development Program Participants
   Workshops: 899
   In-Service Trainings (IST): 165
   Seminars: 133

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* In 2012, 14 shorter workshops were provided to a total audience of 266 staff members in addition to the quarter-long IST courses reported above.

Persistence, Graduation & Employment

Of NTID's FY 2015 graduates, 94 percent of those seeking employment were employed in 2016.

RIT/NTID student Zainab Ajaz, right, meets with company representatives Jerry Henwood and Linda Haas from Global Connections to Employment Inc. Ajaz, an Applied Arts & Sciences major from St. Louis, joined hundreds of NTID students as they searched for co-op or full-time employment opportunities.

Persistence, Graduation and Employment Highlights

Preparing deaf and hard-of-hearing students to live and work in the mainstream of society is the primary reason NTID was established in 1965. Prior to 1965, there were few postsecondary educational opportunities for deaf and hard-of-hearing students and virtually none in technical studies. As a result, nearly 85 percent of deaf adults in the early 1960s found themselves in unskilled or semi-skilled jobs.

Today, NTID's highly successful academic programs and services are leading graduates to successful careers in a broad range of fields. Over the past five years, 93 percent of graduates who chose to enter the labor force found employment that is commensurate with the level of their education and training. Figures for 2015 graduates show that 94 percent, or 126 of the 134 students who chose to enter the workforce, found employment.

These statistics reflect the quality of an NTID education and its value. According to a study conducted by NTID with the Social Security Administration (SSA) in 2013, deaf and hard-of-hearing graduates from NTID far outearn those graduating from other institutions of higher education. Specifically, at age 50, $58,000 is the median salary for those graduating from NTID with a bachelor's degree, which is $17,000 more than those graduating from NTID with an associate degree, and $37,000 more than those graduating from other institutions of higher education. NTID deaf and hard-of-hearing graduates also experience higher rates of employment over their lifetimes than those graduating from other institutions of higher education.

Quality employment and higher earnings accrue to college graduates. Generally, students who withdraw fare no better earnings-wise than their peers who never went to college. With this in mind, NTID employs a variety of innovative strategies to improve persistence. All first-year students take Freshman Seminar, which undergoes continuing curriculum revisions to better address the challenges that these students experience. Students who appear to have a higher risk of attrition during their first year are identified and work closely with their Freshman Seminar instructor, academic counselor and academic chairperson. NTID requires all first-year students to meet with their academic advisor to review their program requirements, identify courses for the following semester and review their individual plan of employment that was developed with their vocational rehabilitation counselor, if receiving VR support, and plan of study for degree completion.

NTID's Retention Committee is dedicated to identifying retention issues that impact students' persistence from first-year transition through graduation. The AY 2015-2016 Retention Committee focused on reviewing the Step Up! program for first-year students of color in the past several years, analyzing exit interview results from NTID's Counseling and Academic Advising Services, examining other institutional systems that promote student retention and identifying strategies to increase the retention of NTID transfer students.

Persistence is a continuing concern for NTID. However, NTID's first-year retention and overall graduate rates continue to exceed national averages when compared to hearing students in associate and bachelor's degree programs in other colleges and universities. Notwithstanding these positive comparisons, NTID continues to work at improving its persistence to graduation rate.

For AY 2015-2016, RIT/NTID awarded 340 associate, bachelor's and master's degrees. Of those graduates, 33 percent earned associate degrees, 54 percent earned bachelor's degrees and 13 percent earned master's degrees. Thirty percent of degrees were granted to minority students.

First-Year Persistence Rates

Since there is variability from year to year in terms of persistence rates for entering cohorts of students, NTID monitors and reports annually on persistence using a three-year moving average. The table below presents information about three-year moving averages for first-time, full-time, degree-seeking NTID-supported undergraduate students since 2000. Thus, the most recent three-year average is reported for the 779 students who were first-time, full-time, degree-seeking in the years 2013, 2014 and 2015. Data in the table below indicate that for the most recent three-year period, 77 percent of new students persisted to the second year. Disaggregated rates can be found on the following page.

First-Year Persistence Rates*			
Three-Year Entry Cohort	Number in Cohort	Number Registering Second Year	Overall Persistence Rate
2000, 2001, 2002	674	479	71%
2001, 2002, 2003	646	464	72%
2002, 2003, 2004	625	442	71%
2003, 2004, 2005	594	418	70%
2004, 2005, 2006	607	422	70%
2005, 2006, 2007	697	498	71%
2006, 2007, 2008	804	607	75%
2007, 2008, 2009	861	650	74%
2008, 2009, 2010	844	627	74%
2009, 2010, 2011	780	577	74%
2010, 2011, 2012	827	597	72%
2011, 2012, 2013	855	658	77%
2012, 2013, 2014	814	623	77%
2013, 2014, 2015	779	596	77%

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* Three-year averages for first-time, full-time, degree-seeking students registering for fall term. Students in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation and the Master of Science program in Secondary Education are not included.

Persistence, Graduation & Employment

Persistence to Graduation for Deaf and Hard-of-Hearing Students

Nationally, four-year public and private colleges have a first-year persistence rate of 81 percent. This compares to an 87 percent persistence rate for first-year NTID students across four-year degree programs. Students admitted to NTID have ACT composite scores that are comparable to students in two-year colleges with open admissions policies; yet, first-year persistence rates at NTID are comparable with those of institutions admitting students who are far better prepared academically. The table below also indicates that NTID's graduation rates (38 percent for students admitted into sub-bachelor-level programs and 68 percent for those in bachelor-level programs) are much higher than public colleges with traditional or selective admission standards.

National and NTID Persistence Rates		
Colleges	**First-Year Persistence Rate***	**Graduation Rate***
Two-Year Institutions	61%	29%
NTID Sub-Baccalaureate**	**72%**	**38%**
Four-Year Institutions	81%	60%
Other RIT Colleges (NTID Baccalaureate)**	**87%**	**68%**

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*   Source of national estimates: www.nces.ed.gov
**   NTID calculates first-year persistence and graduation rates using a three-year moving average.

Degrees Granted: FY 2012 to FY 2016

During the past five years, NTID has awarded an average of 350 degrees annually. The number for FY 2016 was 340. During this same time frame, the number of students achieving bachelor's and master's degrees has increased. This change is indicative of the demands being made by deaf and hard-of-hearing persons for access to higher-level programs and NTID's success in shifting its resources to accommodate the increasing numbers of students seeking higher degrees. In FY 2016, 82 of the 340 graduate and undergraduate degrees and certificates (30 percent) were granted to students from minority backgrounds.*

Five different degree levels are awarded to deaf and hard-of-hearing graduates of RIT.

Sub-Baccalaureate Certification

1. An *Associate in Occupational Studies* (AOS) degree requires 45-52 semester credit hours of technical instruction and permits students to enter their careers directly upon graduation. In addition to completing technical courses satisfactorily, students must complete 15 semester credit hours in the NTID general education curriculum, as well as other required semester credit hours determined by their program of study.

2. An *Associate in Applied Science* (AAS) degree permits students to enter their careers directly upon graduation, or in many cases, to transfer to a baccalaureate program in the other colleges of RIT. Completion of this degree requires 48-52 semester credit hours of technical instruction. In addition to the technical courses, students must complete 24 semester credit hours in general education courses, primarily offered through RIT's College of Liberal Arts as well as other required credit hours as determined by their program of study.

3. The *Associate in Science* (AS) degree is an associate+bachelor's degree for students seeking admission to bachelor-level studies. This degree requires completion of 60-63 semester credit hours, half of which must be from liberal arts and science; the rest are from technical and professional areas.

Bachelor's/Master's Degrees

4. A *Bachelor's* degree is awarded to students who complete all required courses to graduate from a four- or five-year program in one of RIT's other eight colleges. A bachelor's degree requires completion of 120-128 semester credit hours.

5. A *Master's* degree is awarded to students who complete all required courses to graduate from a two- or three-year graduate program in one of RIT's other eight colleges. The credit requirements vary among programs, but a minimum of 30 semester credit hours at the graduate level is required.

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* Minority status is either unknown for 71 of these 340 graduates or the graduate has international visa status.

Persistence, Graduation & Employment
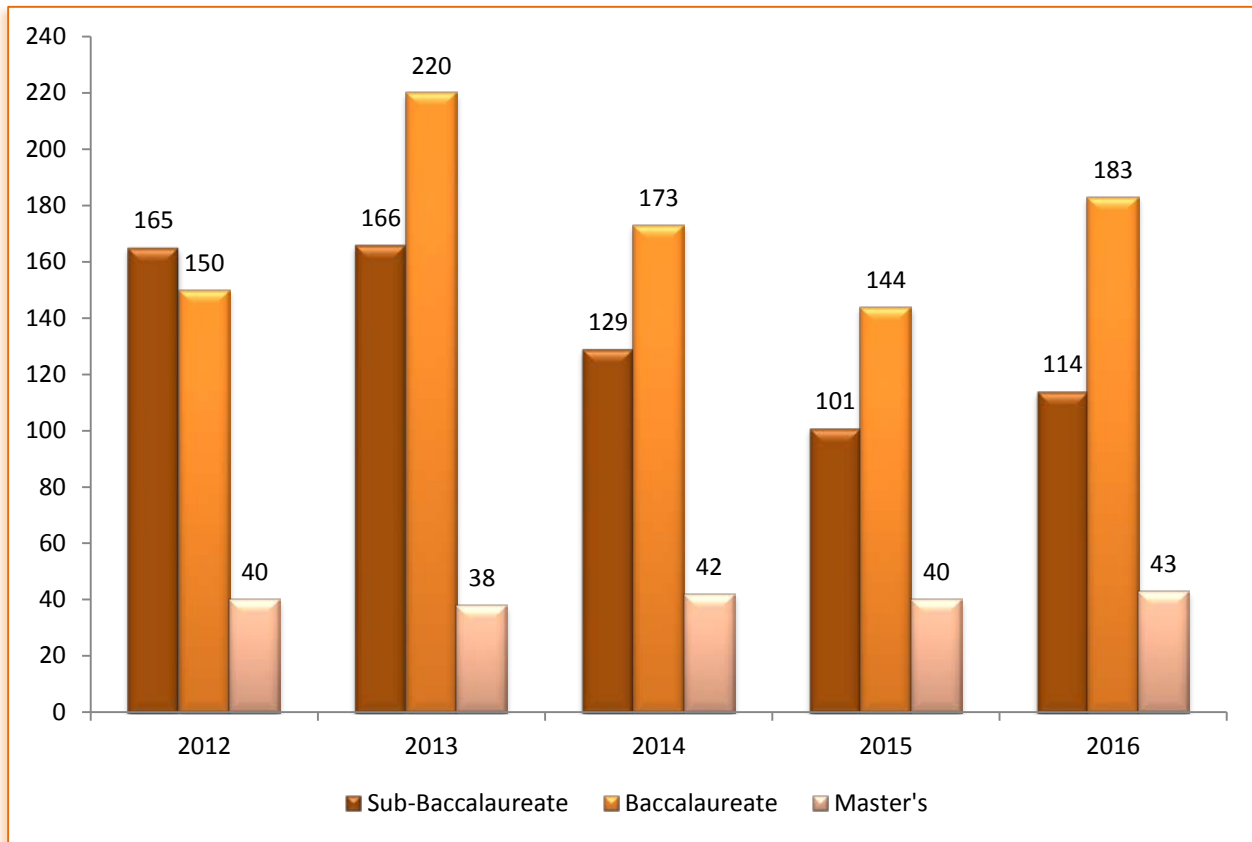
	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Sub-Baccalaureate*	46.5%	39.2%	37.5%	35.4%	33.2%
Baccalaureate*	42.3%	51.8%	50.3%	50.5%	54.2%
Master's**	11.2%	9.0%	12.2%	14.1%	12.6%

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*   This number includes hearing graduates from the ASL-English Interpretation programs.
**   This number includes deaf and hard-of-hearing graduates from RIT, as well as deaf, hard-of-hearing and hearing graduates from the Master of Science program in Secondary Education.

Graduates by Program Areas

Of all the degrees awarded to NTID students on the RIT campus in FY 2016, 51 percent were through programs offered by NTID and 49 percent through the other colleges of RIT. Historically, 65 percent of the degrees have been awarded from NTID and 35 percent from the other RIT colleges. This change is the result of increased demand by students for entry into bachelor-level programs, better articulation between NTID and RIT curricula and improved and expanded access/support services.

Data on minority status of these graduates appear in the Diversity and Pluralism section.

| | FY 2016 | | CUMULATIVE* | |
| | | | (FY 1970 – FY 2016) | |
	Number of Graduates	Percentage of Graduates	Number of Graduates	Percentage of Graduates
NTID				
Career-Focused and Associate+Bachelor's Degrees	113	33%	4,266	51%
ASL-English Interpretation Bachelor	40	12%	288	3%
ASL-English Interpretation Associate	1	0%	467	6%
ASL-English Interpretation Certificate	0	0%	8	0%
Master of Science in Secondary Education	20	6%	386	5%
Subtotal NTID	**174**	**51%**	**5,415**	**65%**
Other Colleges of RIT**				
College of Applied Science and Technology	25	7%	753	9%
Saunders College of Business	15	4%	425	5%
Golisano College of Computing and Information Sciences	20	6%	186	2%
Golisano Institute for Sustainability	0	0%	1	0%
Kate Gleason College of Engineering	7	3%	94	1%
College of Health Sciences and Technology	6	2%	24	0%
College of Imaging Arts and Sciences	22	6%	614	8%
College of Liberal Arts	39	11%	511	6%
College of Science	6	2%	172	2%
School of Individualized Study	26	8%	166	2%
Subtotal Other Colleges	**166**	**49%**	**2,946**	**35%**
Total	**340**	**100%**	**8,361**	**100%**

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* Graduates are summarized uniquely according to their most recent, highest level of degree completion.
** Includes bachelor's and master's degrees granted by the other colleges of RIT, as well as some associate degrees.

Time Required to Complete a Degree

With the exception of deaf and hard-of-hearing students directly admitted to an RIT college other than NTID, students who are deaf or hard of hearing take a longer time to complete a degree than hearing students. There are many reasons for this, not the least of which is academic preparedness. Deaf and hard-of-hearing students admitted to NTID generally are academically behind their 18- to 19-year-old hearing counterparts. Many enter NTID with ACT composite scores of less than 16 and reading comprehension and language skills between 7th- and 9th-grade levels. Therefore, considerable time and effort is devoted to remediation and career exploration. In addition, most programs have between one and three academic term requirements for cooperative education experiences (paid employment in a field related to study), while some programs require more than three terms of cooperative education. This can extend program length by approximately one year. The table below shows the average number of active terms and years elapsed between entry and date of degree.

Time Required to Complete a Degree: Graduates FY 2016		
First Degree Category	**Average Active Terms***	**Average Active Years***
Bachelor's degree**	12.4	4.4
AS/AAS degree	9.0	3.0
AOS degree	9.0	3.0
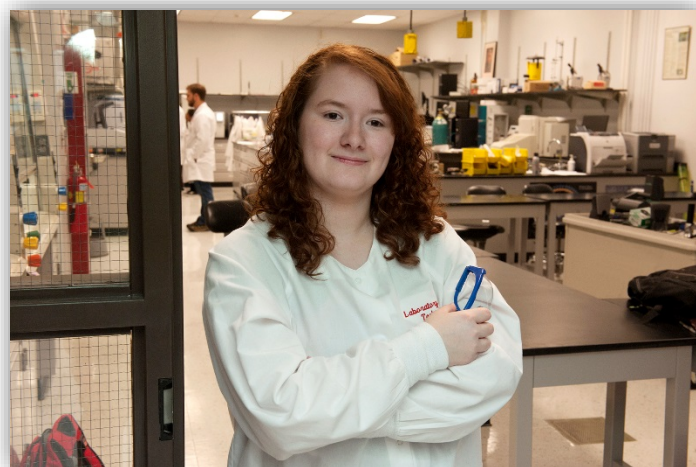
Michelle Mailhot, a Laboratory Science Technology major from West Newfield, Maine, recently completed a co-op as a Lab Technician at Merck High-Throughput Screening Facility in North Wales, Pennsylvania. After she graduates in 2017, she plans to pursue a BS in Biotechnology at RIT.

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* Does not include terms when students were withdrawn or on leave of absence.
** Does not include students graduating from the ASL-English Interpretation program.

Graduation and Employment for Recent Graduates

Employment rates are calculated using the methodology of the Bureau of Labor Statistics (BLS) in its Current Population Survey (household survey), which provides information on the labor force, employment and unemployment. As the BLS defines it, "The civilian labor force is the sum of employed and unemployed persons. Those not classified as employed or unemployed are not in the labor force. The unemployment rate is the number unemployed as a percent of the labor force. The labor force participation rate is the labor force as a percent of the population... "

NTID's labor force is the sum of those graduates who are employed and those who want to be employed. Those who do not want to be employed because they choose to continue to pursue bachelor's and master's degrees at RIT or at some other institution of higher education, or choose to become homemakers, or to be idle temporarily while traveling, etc., are not in the labor force. During FY 2015*, 235** deaf and hard-of-hearing students graduated, and 134 chose to enter the labor force. One hundred twenty-six were employed, while nine were unable to find employment. Therefore, 94.03 percent (126/134) found employment. NTID's employment rate over the past five years as calculated above is 93 percent. Of the 101 remaining graduates from 2015, 68 are continuing their education toward advanced degrees either at RIT or elsewhere, 15 are not looking for employment and 18 have an unknown status.

Degrees Granted

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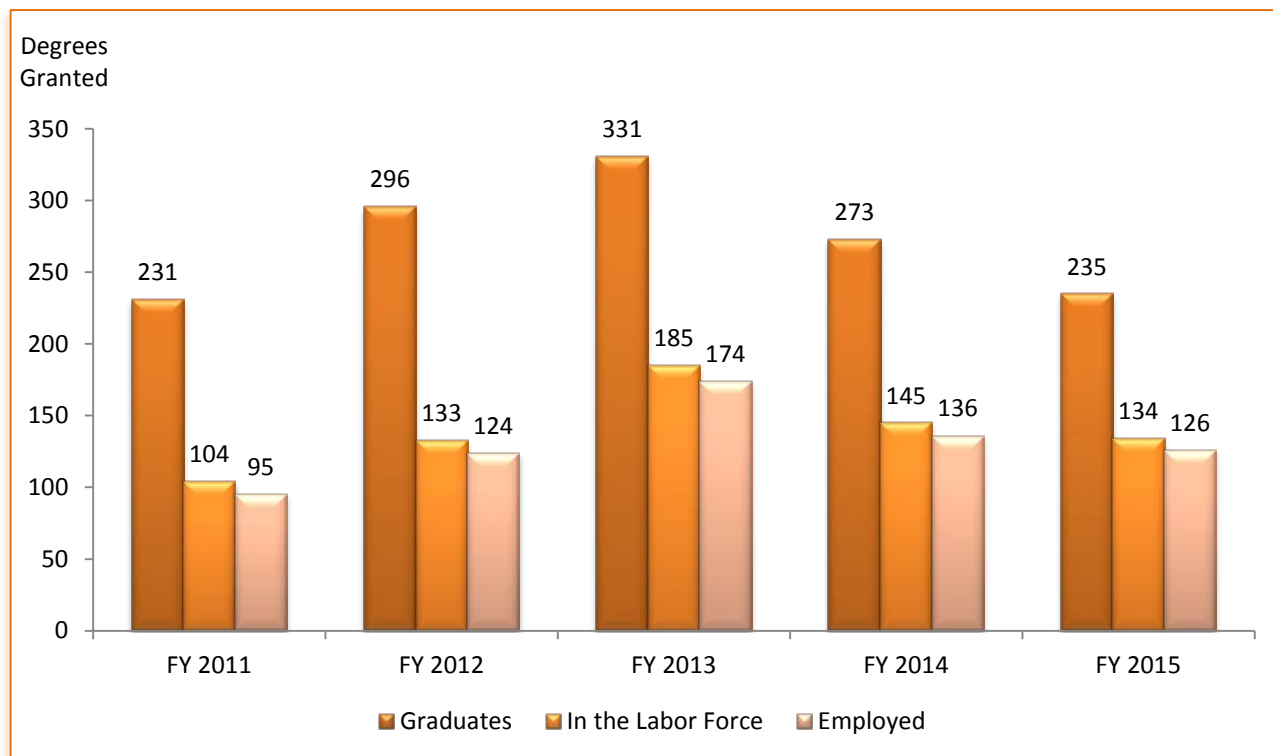
*   As of the writing of this report, the employment information for 2016 is incomplete; therefore, NTID reports employment rates of 2015 graduates.
**   Students are only counted once in the case of multiple degrees, and the total number of graduates does not include degrees in the ASL-English Interpretation program, the Master of Science program in Secondary Education or any certificates awarded.

Employment Services for Deaf and Hard-of-Hearing Students and Graduates

Prior to students' cooperative work experiences, NTID's Center on Employment (NCE) offers a Job Search Process course to support student learning about how to organize and conduct job search activities. Students utilize extensive NCE website and print resources to research prospective employers, identify appropriate employment opportunities and obtain information about applying for a job and working. During the academic year, employment advisors meet with students at different locations on campus and reach out to students at different NTID events. NCE staff also provide job-seeking advice to students and graduates through email, instant messaging and videophone.

During FY 2016:

- NCE personnel appeared as guest presenters to discuss the job search process in 10 sections of various technical programs.

- The 15th annual NTID Job Fair was held in October 2015 with 45 employers attending and close to 400 students and alumni participating.

  o Employer Panel for Students – representatives from Aetna, Microsoft, National Institutes of Health, National Security Agency and The Learning Center for the Deaf provided an overview of their company/agency and discussed the types of training and skills they seek.

- Three students and one NCE staff member attended the Career Opportunities for Students with Disabilities conference in Chicago, Illinois, in November 2015.

- One student and one staff member served on the panel for the Prudential Investment Management Manager Training program in November 2015.

- Twenty-three students participated in the Computer Forensic Boot Camp with partnerships with Guidance Software, P&G, Bender Consulting Services and Ernst & Young in March 2016.

- Students sought individualized job search assistance at various campus locations.

- Twenty-six students took advantage of one session offered to review and advise on resumes.

- To inform students about NCE services, NCE participated in several interactive events each semester for students, along with other NTID departments and student groups.
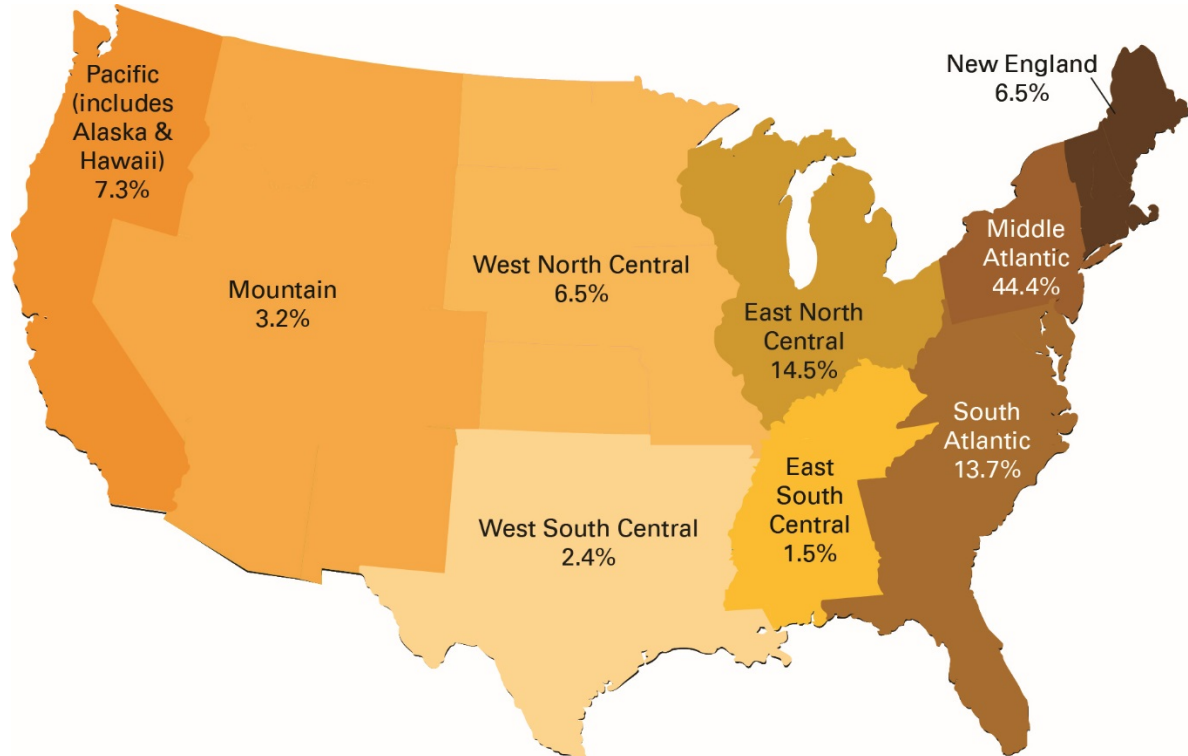
Where Recent Graduates Are Working

In FY 2015, 55 percent of U.S. NTID graduates accepted jobs in their home states as their first jobs after graduation, while 17 percent found employment in the Rochester area and 28 percent in other areas of the country. The majority of graduates are employed in the eastern parts of the country, areas that have been strong sources of applicants for NTID.

	Percent of Placed Graduates				
	FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015***
Area					
Rochester	17%	23%	24%	21%	17%
Home State	43%	38%	38%	36%	55%
Other	40%	39%	38%	43%	28%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Number of Graduates Placed	**95**	**124**	**174**	**136**	**126**

FY 2015 Graduate Placement by Region**

Pacific (includes Alaska & Hawaii) 7.3%
Mountain 3.2%
West North Central 6.5%
East North Central 14.5%
New England 6.5%
Middle Atlantic 44.4%
South Atlantic 13.7%
East South Central 1.5%
West South Central 2.4%

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* Placement numbers for FY 2016 graduates are incomplete and will be reported next year.
** International and unknown locations are excluded.

Persistence, Graduation & Employment

Employment by Sector of the Economy

Of the last cohort of graduates tracked for employment, 75 percent have acquired jobs in business and industry, 16 percent in education/non-profit and 9 percent in government.

Sector	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015*
Business/Industry	54%	65%	60%	61%	75%
Education/Non-Profit	31%	24%	31%	28%	16%
Government	15%	11%	9%	11%	9%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
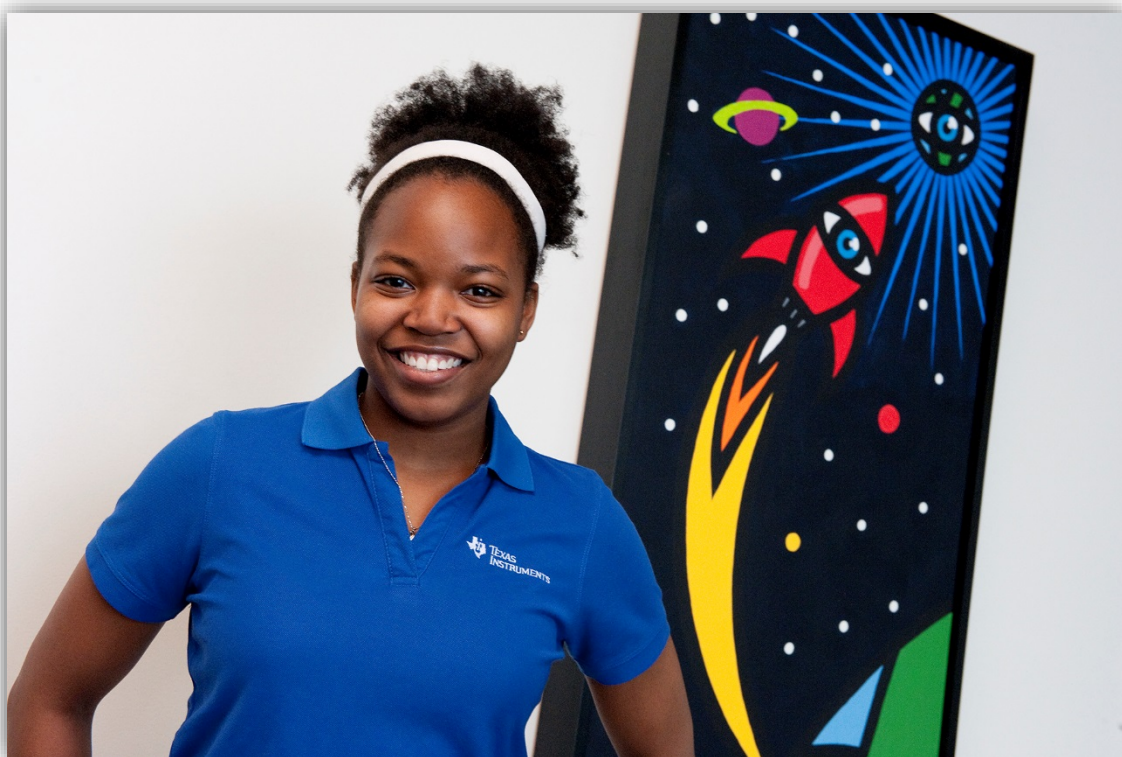
Lakeishia Brown, an Electrical Engineering major from Tampa, Florida, recently completed a co-op as a Product Engineer for Texas Instruments in Dallas, Texas. She was assigned two main projects involving the production of a schematic board layout of burn-in boards and analyzing integrated chips that had failed cold temperature testing.

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* Placement numbers for FY 2016 graduates are incomplete and will be reported next year.

Occupations of Recent Graduates: Entry Status by Labor Category

The following table reports on the occupations of employed alumni using the Standard Occupational Coding system (SOC) used by the U.S. Department of Labor. Occupations are grouped into 17 categories. Percentages among the various categories are different than seen in the *FY 2015 Annual Report*. This year shows moderate changes over many occupational categories.

Occupations of Working 2015 Graduates*	%	Sample Job Titles Held by 2015 Graduates within Category
Architecture & Engineering	13.7%	Packaging Engineer, Manufacturing Engineer, Chemical Engineer
Office & Administrative Support	13.7%	Office Assistant, Postal Clerk, File Clerk
Computer & Mathematics	11.4%	Web Programmer, Systems Analyst, Software Developer
Production Occupations	9.7%	Machinist, Package Handler
Arts, Design, Entertainment, Sports & Media	8.9%	Graphic Designer, Architectural Photographer, Web Designer
Business & Financial Operations	8.9%	Finance Officer, Auditor
Sales & Related	7.3%	Retail Associate, Merchandise Processor
Community & Social Services	4.8%	Residential Counselors
Food Preparation and Serving Related	4.8%	Line Cooker, Team Leader
Installation, Maintenance & Repair	4.0%	Maintenance Worker, Technician
Life, Physical & Social Science	4.0%	Chemistry Lab Technician, QC Lab Technician
Personal Care & Service	3.2%	Dietary Assistant, Group Home Aide
Education, Training & Library	1.6%	Resident Instructor
Management Occupations	1.6%	Senior Program Director
Construction & Extraction	0.8%	Streets Department Worker
Farming, Fishing & Forestry	0.8%	First Mate/Fisherman (Commercial)
Health Services	0.8%	Patient Care Technician
Total	**100%**	

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* Seven of the FY 2015 employed graduates had either unknown job titles or titles too ambiguous for categorization.

Occupations of Alumni by Labor Categories

NTID alumni from graduation years 1999–2014 were surveyed in 2014.

The following table reports on the occupations of employed NTID alumni using the Standard Occupational Coding system (SOC) used by the U.S. Department of Labor. Occupations are grouped into 13 major categories.

In 2014, the percentage of alumni working in Community and Social Services more than doubled compared with the 2010 alumni survey. Also, there were more alumni in Business & Financial Operations, and fewer alumni in the Education, Training & Library category.

The next alumni survey will be completed in 2019.

Occupations of Working Alumni*	%	Sample Job Titles Held by Alumni within Category
Community and Social Services	27.8%	Outreach Coordinator, Public Health Analyst, Residential Counselor
Business & Financial Operations	14.4%	Accountant, Billing Analyst, Management Analyst, Contracting Officer
Computer & Mathematics	13.4%	Information Assurance Analyst, IT Systems Analyst, Software Engineer, User-Interface Designer
Education, Training & Library	12.4%	Admissions Counselor, Instructional Faculty, Paraprofessional Teacher
Office & Administrative Support	9.3%	Administrative Assistant, Purchasing Specialist, Conference Administrator
Architecture & Engineering	6.2%	Capital Project Engineer, Facilities Engineer, R&D Assistant
Arts, Design, Entertainment, Sports & Media	4.1%	Creative Designer, Media Artist, Product Designer
Life, Physical & Social Science	3.1%	Chemical Lab Technician, Lab Manager, Lab Technician
Production Occupations	3.1%	CNC Operator, Setup Operator, Screen Printer
Management	2.1%	Supervisor, Business Owner
Sales & Related	2.1%	Customer Relations Representative, Sales Floor Team Member
Transportation & Material Moving	1.0%	Forklift Operator
Protective Services	1.0%	Security Officer

* There were several job categories not represented by any of the graduates.

Labor Force Status and Earnings of Alumni

The figures below represent the changing employment conditions of deaf and hard-of-hearing alumni from age 24 to 60. Data represented in these figures are from a 2012 study with the Social Security Administration and Cornell University. Findings indicate that individual graduates benefit significantly from the curricula offered through NTID, regardless of graduating.

However, within the NTID alumni population, the magnitude of the benefit does depend on educational attainment. Deaf and hard-of-hearing graduates from RIT show the highest percentage generating income across the majority of working years, as compared with those deaf and hard-of-hearing graduates from other institutions of higher education.

Percentage with Labor Earnings by Age and Degree Level

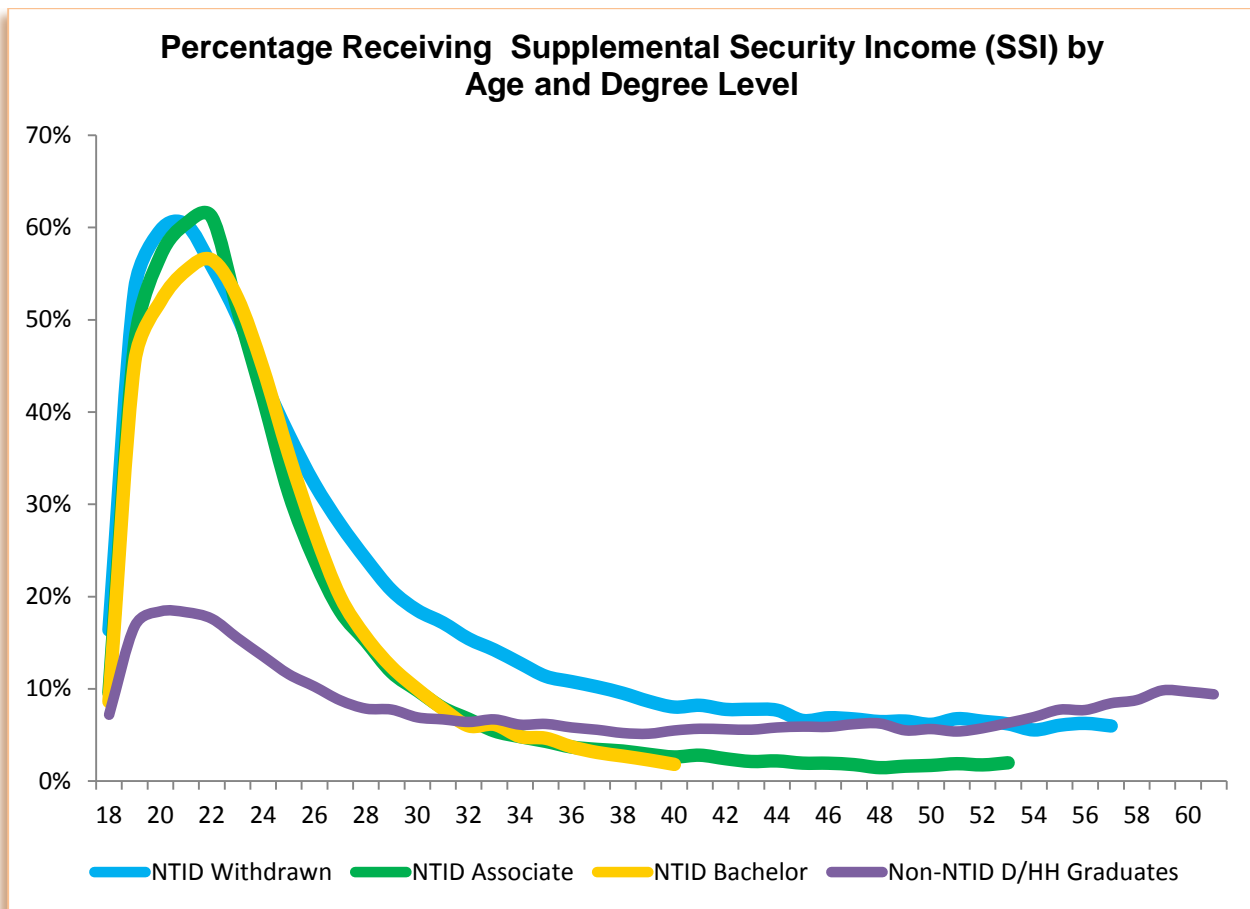Legend: NTID Withdrawn, NTID Associate, NTID Bachelor, Non-NTID D/HH Graduates

Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and hard-of-hearing graduates who completed a bachelor's degree from RIT (NTID Bachelor); 2) Deaf and hard-of-hearing associate degree earners from NTID (NTID Associate); 3) Deaf and hard-of-hearing individuals who attended RIT/NTID, but withdrew prior to degree completion (NTID Withdrawn); and 4) Deaf and hard-of-hearing graduates from other institutions of higher education (Non-NTID D/HH Graduates).

Persistence, Graduation & Employment

Labor Force Status and Earnings of Alumni (continued)

Research in collaboration with the Social Security Administration and Cornell University demonstrates the impact that an RIT/NTID education has on producing income for various categories of individuals. At age 50, NTID deaf and hard-of-hearing bachelor's degree graduates earn on average $17,000 more than those with sub-bachelor's degrees, who in turn earn $7,000 more than those who withdrew prior to degree completion from NTID, who earn $13,000 more than deaf and hard-of-hearing graduates from other institutions of higher education. Increased earnings result in greater federal tax contributions.
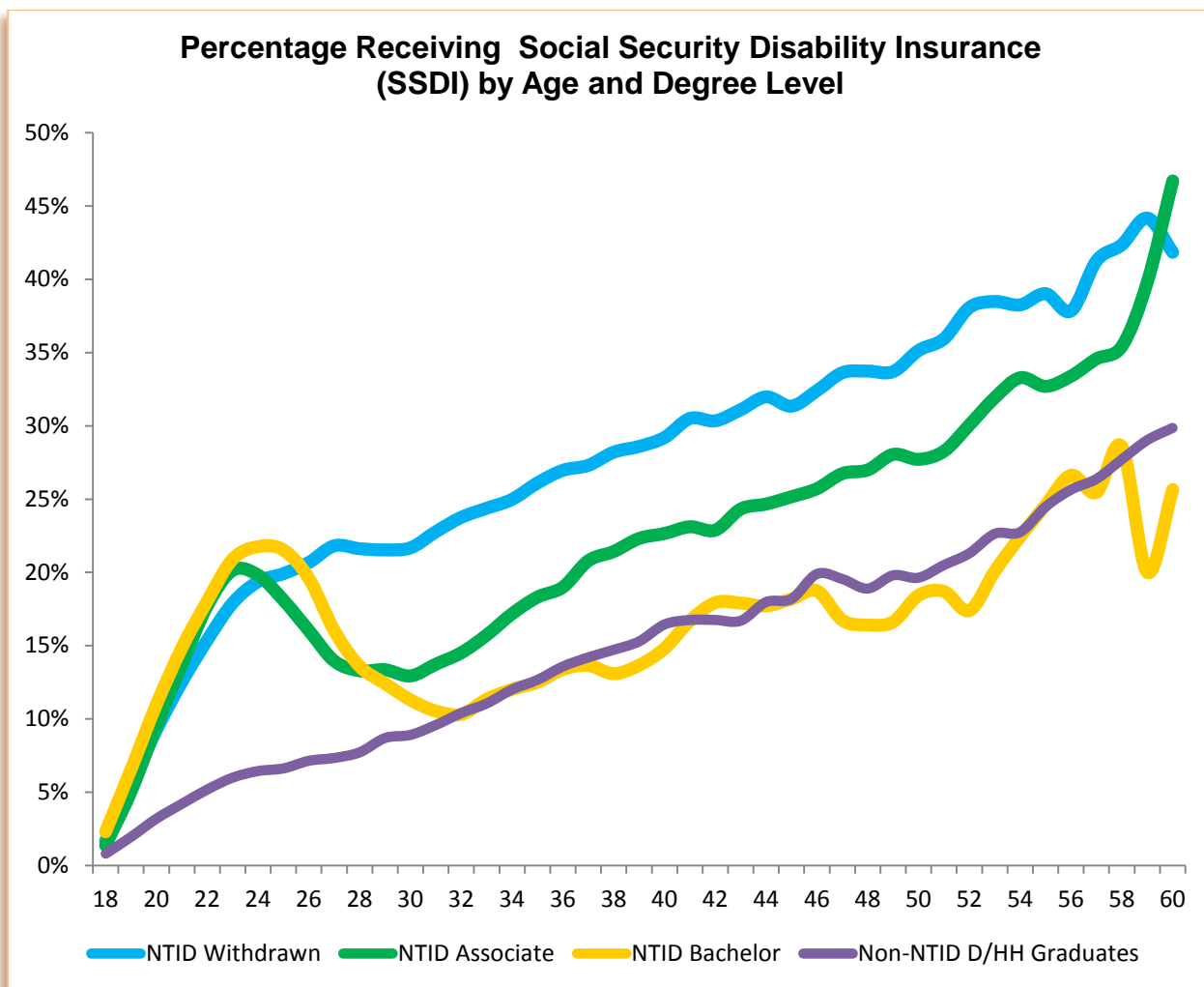
Labor Earnings by Age and Degree Level

Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and hard-of-hearing graduates who completed a bachelor's degree from RIT (NTID Bachelor); 2) Deaf and hard-of-hearing associate degree earners from NTID (NTID Associate); 3) Deaf and hard-of-hearing individuals who attended RIT/NTID, but withdrew prior to degree completion (NTID Withdrawn); and 4) Deaf and hard-of-hearing graduates from other institutions of higher education (Non-NTID D/HH Graduates).

Effect of College Graduation on Reduction in SSI and SSDI Payments

Research in collaboration with the Social Security Administration and Cornell University shows the role that the completion of a college degree plays in reducing dependence on continuing federal support. These differences exist for both the Supplemental Security Income (SSI) and the Social Security Disability Insurance (SSDI) programs. At age 40, NTID deaf and hard-of-hearing graduates collect SSI at a rate of less than 2 percent, as compared to 8 percent for deaf and hard-of-hearing graduates from other institutions of higher education.

Percentage Receiving Supplemental Security Income (SSI) by Age and Degree Level

NTID Withdrawn — NTID Associate — NTID Bachelor — Non-NTID D/HH Graduates

Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and hard-of-hearing graduates who completed a bachelor's degree from RIT (NTID Bachelor); 2) Deaf and hard-of-hearing associate degree earners from NTID (NTID Associate); 3) Deaf and hard-of-hearing individuals who attended RIT/NTID, but withdrew prior to degree completion (NTID Withdrawn); and 4) Deaf and hard-of-hearing graduates from other institutions of higher education (Non-NTID D/HH Graduates).

Persistence, Graduation & Employment

Effect of College Graduation on Reduction in SSI and SSDI Payments (continued)

While a smaller percentage of deaf and hard-of-hearing students collect SSDI in their collegiate years, by age 50, 18 percent of NTID deaf and hard-of-hearing bachelor's degree graduates collect SSDI, as compared with 20 percent of deaf and hard-of-hearing graduates from other institutions of higher education. As made evident by the chart below, the impact that a degree has on SSDI payment collection is substantial.

Percentage Receiving Social Security Disability Insurance (SSDI) by Age and Degree Level

Legend: NTID Withdrawn, NTID Associate, NTID Bachelor, Non-NTID D/HH Graduates

Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and hard-of-hearing graduates who completed a bachelor's degree from RIT (NTID Bachelor); 2) Deaf and hard-of-hearing associate degree earners from NTID (NTID Associate); 3) Deaf and hard-of-hearing individuals who attended RIT/NTID, but withdrew prior to degree completion (NTID Withdrawn); and 4) Deaf and hard-of-hearing graduates from other institutions of higher education (Non-NTID D/HH Graduates).

Diversity and Pluralism

More than one-third of NTID's student body is from minority groups.

Established in 2016, NTID's Sunshine 2.0, led by Fred Michael Beam '85, front center, and featuring Ronnie Bradley, rear left, Katie Mueller, rear center, and Kristina Garcia-Santiago, rear right, is a professional theater troupe that provides performances and activities for deaf and hard-of-hearing children and adults that highlight the fields of science, technology, engineering, arts and math, as well as topics pertaining to the Deaf experience.

Diversity and Pluralism Highlights

Students

As of fall 2016, the number of U.S. deaf and hard-of-hearing minority students at NTID is 412*, one of the larger numbers in the past five years. FY 2017 highlights follow:

- Thirty-six percent of the fall entering class is from minority groups. The percentage in the total student body is 38 percent, which is more than triple what it was 20 years ago.

Faculty and Staff

In addition to seeking faculty and staff members who are experts in their field and well versed in teaching techniques for deaf and hard-of-hearing students, NTID has undertaken recruitment and persistence strategies to attract and keep qualified minority and deaf and hard-of-hearing employees and employees with disabilities. NTID's commitment to nurturing a multicultural community and providing role models for its increasingly diverse student body is positively reflected in the demographic composition of its faculty and staff.

Of 65 employees from ethnic minority populations, 29 are Black or African American, 15 are Hispanic/Latino and 21 are other minorities.

Of 563** total number of employees, 130 are deaf or hard of hearing.

Of the 174 employees who are deaf or hard of hearing or are members of a minority group, 133 are in executive, faculty or exempt positions. Note that some individuals count in more than one category.

NTID continues to exercise a strong Affirmative Action posture with respect to external recruitment of faculty and staff. In the past year, 32 percent of all hires were either minority individuals or individuals who are deaf or hard of hearing.

NTID's commitment to Affirmative Action and diversity has become an integral component of the college's plan of work. Department heads and faculty and staff members are making concerted efforts to recruit, hire and retain individuals from these categories.

NTID's 1510 Theatre Lab/Black Box hosted performances of the award-winning musical "Godspell" that also was peformed at Rochester's Geva Theatre Center and in New York City. Featuring a diverse cast of deaf and hearing actors and told in a mix of music, sign/mime, dance and comedy, "Godspell" presents the gospel of St. Matthew updated to a present-day environmentally "green" New York City.

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* Does not include students enrolled in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science in Secondary Education program.
** Of the 563 employees, 541.18 are covered by NTID's operating funds.

Diversity and Pluralism Philosophy

NTID provides educational programs that prepare graduates to live and work in a changing global community and to enhance their lifelong learning. To succeed in the global workplace, students need to develop a solid understanding of the diversity of the workplace and possess the knowledge, skills and attributes to thrive in such an environment. The composition of the student body and of the faculty and staff who encounter students needs to reflect that diversity.

Diversity continues to be a focus in higher education and, more significantly, in society at large. Diversity adds richness to educational endeavors, particularly as the college strives for pluralism. Pluralism fosters a society in which members of diverse ethnic, racial, religious and other social groups are able to participate and develop individual traditions within the context of a community.

NTID prepares young people who are deaf or hard of hearing to be ready to enter a global community. With the continuing shifts in national and international demographics, fulfilling this commitment requires that students be prepared to enter a progressively more diverse society and workplace. Students need to develop the willingness, the knowledge and the skills to live and work in such an environment. This is critical if they are to gain the understanding necessary to participate actively in society and contribute in meaningful ways to their own success and that of the community in which they live.

In addition to preparing students to enter society and the workplace, NTID's academic environment must respond to the needs of people who are both deaf or hard of hearing and from minority backgrounds. NTID's commitment to recognize, celebrate and value cultural diversity and individual differences is grounded in the continuing efforts of this country to forge a pluralistic society. It does not arise merely from political pressure or rest solely on public law; instead, it is based on a composite of NTID's mission, a changing student body and the changing nature of the world. An educational institution has a responsibility not only to reflect society, but also to lead in promoting positive change within that society.

- RIT's Office of Diversity and Inclusion advocates for and advances the concerns and needs of the human, cultural and ethnic diversity of the RIT community. Persistent diligence is given to the specific needs of the underrepresented minority populations on campus. The goal is to increase partnerships that foster greater community understanding and appreciation.

- RIT's Campus Week of Dialogue offers campus members an opportunity to acknowledge, better understand and offer resolution to the important challenges experienced by members of the RIT community. This event engages faculty, staff and students in dialogue that ultimately heightens their sense of awareness and comfort levels, enabling constructive dialogue while addressing difficult issues related to diversity. The featured keynote presenter for the 2016 Expressions of King's Legacy Celebration in January was Andrew Young, close friend and associate of Dr. Martin Luther King Jr., and a leader in the Civil Rights movement. In 1972, Young was the first African American since the Reconstruction to be elected to Congress from Georgia when he won the state's Fifth District seat in the U.S. House of Representatives. He was elected to two terms before being appointed by President Jimmy Carter as ambassador to the United Nations, where he would, like King, advocate for human rights, at home and abroad. He also served as Mayor of Atlanta from 1981-1990.

- Diversity training is offered regularly through the RIT Center for Professional Development as well as within the college in advance of each faculty search, supported by RIT's Office of Faculty Recruitment and Retention.

- The NTID Diversity Group promotes the best possible learning, living and working experience for Black or African American, Hispanic/Latino and American Indian or Alaska Native members of the RIT/NTID community. The group's areas of focus include: RIT/NTID community involvement, professional development and serving as a resource for NTID's special assistant to the president on diversity. The group includes approximately 40 members.

Admissions Activity by Ethnicity

Forty-nine percent (291) of this year's 771 deaf and hard-of-hearing applicants were students from minority backgrounds. The FY 2017 entering class of deaf and hard-of-hearing students included 123 minority students, who represent 42 percent of the newly admitted deaf and hard-of-hearing students.

	FY 2013*	%	FY 2014*	%	FY 2015*	%	FY 2016*	%	FY 2017*	%
Total Applicants	989		833		796		860		771	
Non-Minority	296	51%	350	58%	339	58%	327	54%	308	51%
Minority	284	49%	253	42%	246	42%	284	46%	291	49%
Acceptances	504		507		464		488		432	
Non-Minority	202	55%	265	60%	272	63%	246	57%	235	57%
Minority	167	45%	177	40%	159	37%	186	43%	179	43%
Registrations	381		381		324		340		305	
Non-Minority	156	57%	205	62%	192	62%	177	58%	171	58%
Minority	117	43%	127	38%	111	38%	126	42%	123	42%

Students enjoy food and festivities at NTID's 2016 Apple Festival.

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*   Figures do not include admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Percentages are of individuals for whom NTID has data, less those with international visa status.

Ethnicity of Entering Students

The FY 2017 entering class included 126 minority students, who represent 36 percent of the entire incoming class. The FY 2017 entering class of deaf and hard-of-hearing students included 118 minority students, who represent 41 percent of the newly admitted deaf and hard-of-hearing students.

	FY 2014	%	FY 2015	%	FY 2016	%	FY 2017	%
Deaf and Hard-of-Hearing Undergrad and Grad Students								
American Indian or Alaska Native	0	0.0%	*		*		*	
Asian	34	10.2%	29	9.8%	27	8.9%	27	9.3%
Black or African American	38	11.4%	32	10.8%	33	10.9%	22	7.6%
Hispanic/Latino	42	12.7%	42	14.2%	52	17.2%	53	18.3%
Native Hawaiian or Other Pacific Islander	0		*		*		*	
White	205	61.7%	185	62.5%	177	58.4%	171	59.2%
Two or More Races	13	3.9%	8	2.7%	13	4.3%	10	3.5%
Non-Resident Alien (International)	14		10		13		11	
Unknown Race/Ethnicity	35		18		24		5	
Subtotal Minority Deaf and Hard-of-Hearing Undergrad and Grad Students	127	38.3%	111	37.5%	126	41.6%	118	40.8%
Subtotal Deaf and Hard-of-Hearing Undergrad and Grad Students	**381**		**324**		**340**		**305**	

	FY 2014	Percent Minority	FY 2015	Percent Minority	FY 2016	Percent Minority	FY 2017	Percent Minority
Other Enrollments								
ASL-English Interpretation	43	13.2%	40	13.9%	40	20.5%	46	8.9%
Master of Science in Secondary Education**	16	20.0%	16	0.0%	15	23.1%	17	33.3%
Total Minority Enrollments	**135**		**116**		**137**		**126**	
Total Enrollments	**440**		**380**		**395**		**368**	
Overall Percent Minority		**34.7%**		**33.9%**		**38.6%**		**36.4%**

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* Frequency counts small and not reported for confidentiality.
** Includes 4 to 15 non-matriculated students.

Diversity and Pluralism

Ethnicity of Enrolled Students

Minority enrollment at NTID has steadily increased from 8 percent in FY 1988 to 38 percent in FY 2017, more than four times what it was 28 years ago.

Until FY 2000 the number of international students was limited to 10 percent by a federally mandated cap. As a result of the reauthorization of the Education of the Deaf Act in 1998, the cap on international students was increased to 15 percent. However, a significant decrease in support from Vocational Rehabilitation in Canada and limited resources of students from other countries have had a negative impact on international enrollment.

	FY 2014	%	FY 2015	%	FY 2016	%	FY 2017	%
Deaf and Hard-of-Hearing Undergrad and Grad Students								
American Indian or Alaska Native	*		*		*		*	
Asian	88	8.7%	99	9.7%	115	10.9%	117	11.6%
Black or African American	120	11.8%	113	11.1%	120	11.4%	103	10.2%
Hispanic/Latino	133	13.1%	137	13.5%	151	14.3%	151	15.0%
Native Hawaiian or Other Pacific Islander	*		*		*		*	
White	646	63.7%	639	62.8%	637	60.3%	598	59.2%
Two or More Races	23	2.3%	28	2.8%	31	2.9%	34	3.4%
Non-Resident Alien (International)	39		40		44		39	
Unknown Race/Ethnicity	184		140		120		73	
Subtotal Minority Deaf and Hard-of-Hearing Undergrad and Grad Students	369	36.4%	378	37.2%	419	39.7%	412	40.8%
Subtotal Deaf and Hard-of-Hearing Undergrad and Grad Students	**1,237**		**1,197**		**1,220**		**1,122**	

	FY 2014	Percent Minority	FY 2015	Percent Minority	FY 2016	Percent Minority	FY 2017	Percent Minority
Other Enrollments								
ASL-English Interpretation	147	14.9%	146	15.8%	151	17.3%	140	14.5%
Master of Science in Secondary Education**	48	12.1%	44	6.7%	42	13.3%	30	30.4%
Master of Science in Health Care Interpretation	N/A		N/A		N/A		8	*
Total Minority Enrollments	**388**		**397**		**446**		**441**	
Total Enrollments	**1,432**		**1,387**		**1,413**		**1,300**	
Overall Percent Minority		**32.6%**		**34.3%**		**36.6%**		**37.6%**

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*   Frequency counts small and not reported for confidentiality.
**   Includes 4 to 15 non-matriculated students.

First-Year Student Persistence and Graduation Rates by Diversity Categories

NTID enrolls students with diverse backgrounds. This diversity has increased significantly during the past decade. However, there are noticeable differences among the various groups in terms of persistence and graduation rates. In FY 2008, the Department of Education requested that NTID's performance indicators in the areas of persistence and graduation be consistent with IPEDS methodology. The information below follows this methodology.

First-Year Persistence Rates for First-Time Full-Time Freshmen*

Fall 2013-2015 Cohort	Black or African American	Asian	Hispanic/Latino	Non-Resident Alien (International)	White
Cohort Count	80	71	105	12	433
Persisted to Second Year	55	67	79	10	329
First to Second Year Persistence Rate	**69%**	**94%**	**75%**	**83%**	**76%**

Six-Year Graduation Rates for First-Time Full-Time Freshmen*
Three-Year Moving Averages

Fall 2008-2010 Cohort	Black or African American	Asian	Hispanic/Latino	Non-Resident Alien (International)	White
Cohort Count	90	42	93	15	466
Graduated Within Six Years	26	22	27	9	236
Six-Year Graduation Rate	**29%**	**52%**	**29%**	**60%**	**51%**

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* Figures reported do not include students in the ASL-English Interpretation program or the Master of Science program in Secondary Education. Specific data for those two programs are included on separate pages for those programs.

Graduates by College and Program Areas: Minority Status

This table shows minority student graduates in the
academic program areas.

	FY 2016 Number of Graduates		
	Minority	Non-Minority	Total***
NTID			
Career-Focused and Associate+Bachelor's Degrees	39	45	113
ASL-English Interpretation	*	28	41
Master of Science in Secondary Education	*	15	20
Other Colleges of RIT**			
College of Applied Science and Technology	6	11	25
Saunders College of Business	*	11	15
Golisano College of Computing and Information Sciences	6	12	20
Golisano Institute for Sustainability	0	0	0
Kate Gleason College of Engineering	*	*	7
College of Health Sciences and Technology	*	*	6
College of Imaging Arts and Sciences	*	15	22
College of Liberal Arts	9	25	39
College of Science	*	*	6
School of Individualized Study	6	18	26
Total**	**82**	**187**	**340**

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*   Frequency counts small and not reported for confidentiality.
**   Includes bachelor's and master's degrees granted by the other colleges of RIT, as well as some sub-baccalaureate degrees.
*** Totals include small counts shown as asterisks (*), which are not displayed because of confidentiality. Also included are individuals with unknown race/ethnicity and international visa status. Neither are considered minority or non-minority.

Affirmative Action Report: Faculty and Staff

NTID continues to emphasize and encourage the hiring, promotion and persistence of women, minorities and individuals who are deaf and hard of hearing. Appropriate representation in each category remains a priority for NTID, given the ever-increasing ethnic diversity in the student body. In the chart below, individuals may appear in more than one category.

FY 2016

	Total Employees	Female	Black or African American	Hispanic /Latino	Other Minority	Deaf and Hard of Hearing***
Faculty*	170	87	10	**	10	69
Percent		51%	6%	**	6%	41%
Exempt Staff*	126	74	8	5	**	42
Percent		59%	7%	4%	**	33%
Executive/ Administrative Manager*	57	25	**	**	**	18
Percent		44%	**	**	**	32%
Non-Exempt Staff						
Real-Time Captionist	52	47	0	**	**	**
Percent		90%	0%	**	**	**
Interpreter	131	116	5	**	7	**
Percent		89%	4%	**	5%	**
Technical/ Clerical	84	72	6	**	**	18
Percent		86%	7%	**	**	21%
Total	**563******	**396**	**29**	**15**	**21**	**130**
Percent		**70%**	**5%**	**3%**	**4%**	**23%**

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* Of the 57 executive/administrative managers, 24 are included on the faculty line and 33 are included on the exempt staff line. Therefore the numbers in the Executive/Administrative Manager row are not included in the column totals, since they already are included on the faculty or exempt staff lines.

** Frequency counts small and not reported for confidentiality.

*** A database issue was corrected in the reported year. Retroactively adjusting the previous five years of data results in an average representation of faculty and staff who are deaf or hard of hearing at 23 percent.

**** Of the 563 employees, 541.18 are covered by NTID's operating funds.

Affirmative Action Report: Faculty and Staff Applicants

RIT/NTID tracks minority status and gender of applicants via voluntary self-identification. A summary of those data are provided below. RIT/NTID does not solicit, track or maintain disability status on its applicants. Individuals may be counted in more than one category.

NTID Applicants for Posted Positions
October 1, 2015 – September 30, 2016

	Number of Positions Posted	Total Applicants	Number of Applicants by Category					
			Female	Black or African American	Hispanic /Latino	Other Minority	White Male	Unknown
Faculty	25	149	59	18	9	19	55	1
Exempt Staff	43	685	368	99	39	57	229	2
Non-Exempt Staff*	60	914	730	81	52	78	108	25
Total	**128**	**1,748**	**1,157**	**198**	**100**	**154**	**392**	**28**

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* Includes real-time captionists, interpreters and technical and clerical positions.

Affirmative Action Report: Faculty and Staff Hiring Results

During FY 2016, individuals from an ethnic minority or who were deaf or hard of hearing totaled 32 percent of all new hires and women totaled 69 percent of all new hires. Individuals may appear in more than one Affirmative Action category.

FY 2016

	Total New Employees	Female	Black or African American	Hispanic/ Latino	Other Minority	Deaf and Hard of Hearing
Faculty	10	5	*	*	*	*
		50%	*	*	*	*
Exempt Staff	15	7	*	*	*	6
		47%	*	*	*	40%
Non-Exempt Staff						
Real-Time Captionist	10	*	*	*	*	*
			*	*	*	*
Interpreter	20	*	*	*	*	*
			*	*	*	*
Technical/Clerical	17	12	*	*	*	*
		71%	*	*	*	*
Total	**72**	**50**	**5**	*	*	**13**
		69%	8%	*	*	18%

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* Frequency counts small and not reported for confidentiality.

Affirmative Action Report: Faculty and Staff Termination Results

During FY 2016, 7 percent of terminations were individuals from ethnic minorities and 69 percent were women. In the chart below, individuals may appear in more than one Affirmative Action category.

FY 2016

	Total Terminated Employees	Female	Black or African American	Hispanic/Latino	Other Minority	Deaf and Hard of Hearing
Faculty	15	6	*	*	*	*
		40%	*	*	*	*
Exempt Staff	5	3	*	*	*	*
		60%	*	*	*	*
Non-Exempt Staff**	25	22	*	*	*	*
		88%	*	*	*	*
Total	**45**	**31**	*	*	*	**5**
		69%	*	*	*	11.1%

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* Frequency counts small and not reported for confidentiality.
** Includes technical and clerical positions, real-time captionists and interpreters.

Research, Innovation & Creativity

Oladimeji Okeniyi, an MSSE student from Nigeria, portrays Andrew Foster at the fourth annual Deaf-Mute Banquet honoring Foster's 90th birthday. Andrew Foster was a deaf African-American educator later known as the "Father of Deaf Education in Africa" for his work establishing 32 schools for the deaf across the African continent.

Research

NTID Research Overview

NTID determines topics for research on the basis of research priorities derived from both internal and external sources, including the NTID National Advisory Group and the U.S. Department of Education. NTID also seeks public input on its deafness-related research priorities through direct mailings of questionnaires to individuals and stakeholder organizations, focus groups at national professional meetings, publications and websites. The results of these solicitations are used to identify strategically important research topics. NTID faculty also contribute to special institutional projects established in response to immediate needs identified by the NTID administrative team and long- and short-term projects related to Performance Indicators established by the U.S. Department of Education. In addition to strategic research – largely focused on deafness and the deaf experience – NTID supports disciplinary-based research performed by scholars teaching in mathematics, science, business and other academic disciplines.

Changes in the Organization of Research at NTID

In FY 2016, NTID reorganized services for the support of research and grant-related activity. The changes include hiring an associate dean of research, creating a new strategic research center (Center for Cognition and Language, CCL) under the direction of Dr. Peter Hauser and restructuring the Center for Access Technology. Reports for the centers follow this section on organizational changes.

1. Associate Dean of Research

In FY 2016, NTID hired its first permanent associate dean of research, following an international search. The establishment of an Office of the Associate Dean of Research (OADR) provides a central location for launching new research objectives and for support of the research enterprise. The ADR is responsible for leading NTID efforts in evidence-based research for deaf and hard-of-hearing individuals, including teaching and learning, communication and language, employment success and access technology. In addition to providing leadership for strategic research in the college, the ADR supports all research and grant-related activity in the college and plays a key role in expanding NTID's emerging research agenda.

Robert Pollard, Ph.D., associate dean of research

Dr. Robert Pollard, a clinical psychologist, joined NTID in August, coming from 26 years of service at the University of Rochester Medical Center. Dr. Pollard has authored or co-authored nearly 100 publications and delivered hundreds of invited addresses nationally and internationally. His research and scholarship interests include a number of mental health-related subjects, sign language interpreting and deaf population public health. He has been principal investigator on dozens of grants, totaling over $6 million. He also has produced 15 films in American Sign Language, most of which were funded by grants and contracts.

2. NTID Center for Cognition and Language (CCL)

The NTID Center for Cognition and Language now subsumes what was previously known as the Deaf Studies Laboratory (DSL). See the additional information under Research Centers for a description of this new center and its work.

3. Restructuring of the Center on Access Technology (CAT)

In FY 2016, several units were spun out of the pre-existing Center for Access Technology (CAT), including the Health Care Implementation Commission, International Outreach Programs and the C-Print® and Deaf STEM Virtual Community projects. These changes were made in light of the initiation of the OADR and a corresponding need to reorganize the reporting structure of the CAT's varied research activities. The Center for Access Technology remains under the direction of Gary Behm '78, '81, focusing on the development of access technology to improve the lives of deaf and hard-of-hearing individuals.

RESEARCH CENTERS

This section summarizes the activities and accomplishments of each of the NTID Research Centers for FY 2016. When there is collaboration among several research centers, the activity is described in connection with the research center leading the effort.

Center on Access Technology (CAT)

Gary Behm '78, '81, director

The Center on Access Technology (CAT) was established in 2006 to address the challenges of utilizing, developing and/or adapting new technologies for use by people who are deaf or hard of hearing in order to improve access to personal communication within educational environments, social settings and the workplace. CAT investigates, evaluates and reports on the most effective use of access technologies, and trains individuals in order to accelerate the implementation of best practices within postsecondary deaf education. The center's main strands of research include cyber-infrastructure and provision of remote services, classroom access technologies, mobile and personal communication technologies, training and evaluation services and audio technologies that are of particular interest to hard-of-hearing people.

The NTID CAT Lab strives to involve students in the R&D enterprise. Faculty and students at all levels (associate, bachelor's, master's and doctorate) collaborate on multidisciplinary projects leading to real solutions.

Design of User Interface for Video Relay Services, funded by the Federal Communication Commission, via contractor VTCSecure. Gary Behm '78, '81, PI

This CAT project team consisted of faculty and students from NTID and RIT's College of Applied Science and Technology, Golisano College of Computing and Information Sciences and College of Imaging Arts & Sciences. The team played a vital role in the development of the user interface for a broad-based project called Accessible Communication for Everyone (ACE). The team worked with VTCSecure (contractor) and Gallaudet University (survey liaison) to capture data about user needs. It identified and analyzed requirements for user interface design on phones, tablets and desktop computers. It then built and demonstrated a prototype for the user interface, and proceeded to build a working version of the technology.

Team members also participated in outreach activities to increase public awareness of this FCC initiative and its benefits to the deaf and hard-of-hearing community. The CAT team developed and maintained the ACE APP website. They also created ACE marketing materials for VTCSecure, including pop-up banners and a series of ACE video logs.

CAT also provided comprehensive project management services across multiple companies and colleges through the end of 2015, so that the apps could be produced on four different platforms (iOS, OS X, Android and Windows PC). The user interfaces for phones, tablets and desktop computers included Dialpad, contact list, contact details, real-time text, an in-call menu (call waiting, call transfer, hang up, etc.) and incoming call functions. Product testing involved focus groups of deaf and hard-of-hearing and low-vision users. The CAT team also created App logo designs for product and function icons.

Accessible Communication for Everyone (ACE) App Notification System, funded by VTCSecure

The CAT lab, with additional funding to support student researchers, developed a prototype for a notification system, running on the smartphone and PC platforms, which could interface with ACE to alert users to incoming phone calls through different types of light signals (household lamps, strobe light, etc.). The long-term goal is to develop and integrate the feature with a general "Smart Home" system.

Research (continued)

Automated Speech Recognition, Gary Behm '78, '81, PI

In FY 2016 the CAT lab began to experiment with automated speech recognition (ASR) technology, a development that has grown out of interdisciplinary research in linguistics, computer science and electrical engineering. Present efforts in this area aim to automatically recognize and reliably translate spoken language into text. CAT's goal is to explore the use of the technology in employment, health care, educational and social settings.

NTID's ASR team is led by the CAT lab and includes experts in linguistics, electrical and acoustical engineering and computer science from NTID and RIT's College of Engineering, College of Liberal Arts, Golisano College of Computing and Information Sciences and College of Applied Science and Technology. Based on preliminary evaluations, the team selected two ASR systems for further evaluation – IBM Watson and Microsoft's Cognitive Services Speech Recognition – and set up a test bed for each system in the CAT lab. In this picture, NTID students from the CAT lab present their exploratory work on the ASR application at the 25th RIT Undergraduate Research Symposium.
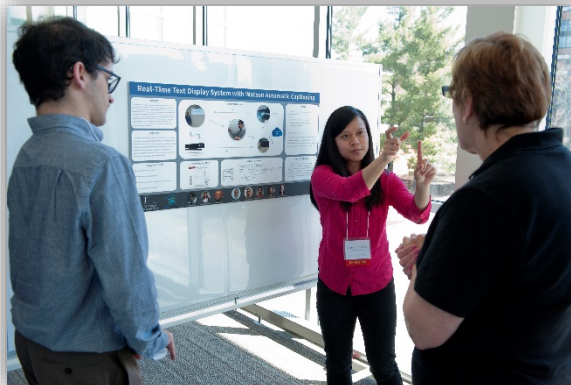
The team has created a catalog of recordings and documents that are available for use as test content. It has also tested and developed recommendations for specific microphones and computing devices that perform well in ASR scenarios, and worked to develop noise suppression, reverberation and feedback mechanism algorithms to improve the quality of the speech signal.

NTID Center on Cognition and Language (CCL)

Peter Hauser, Ph.D., director

In FY 2016, NTID established a new Strategic Research Center, the NTID Center on Cognition and Language (NCCL) under the direction of Dr. Peter Hauser. The NCCL incorporates and builds upon the activities of the former Deaf Studies Laboratory (DSL). Space in Rosica Hall was expanded and renovated to accommodate the enhanced mission of this research area. The renovated center facilities, which occupy about 1,700 square feet in Rosica Hall, more than doubles the space formerly occupied by the DSL. The center now includes additional space for students, research faculty, and research associates, a dedicated office for the director and an additional room for running experiments.

The center's research mission is to promote interdisciplinary collaboration in exploring topics that lead to new discoveries regarding cognitive and language factors, as well as socio-cultural factors, that affect deaf individuals' learning, well-being and health. NCCL globally disseminates these discoveries to foster a transformative impact on deaf people's lives. During FY 2016, the center personnel gave 31 national presentations and 11 international presentations to academic, medical, education and community audiences (publications are listed below).

The center's training mission is to offer state-of-the-art research mentorship programs and activities for deaf scholars and, ultimately, to increase the number of deaf scientists in social, behavioral and biomedical research disciplines. During FY 2016, 13 RIT/NTID undergraduate and graduate students were actively involved in this center's activities, in addition to three post-doctoral fellows. Of the 42 national/international presentations offered by the center, 21 were co-presented with NTID students.

The NCCL operates four laboratories and three training programs; each are described below. The center's training and research programs are funded by the National Institute of Health, National Science Foundation and NTID internal funding.

Research (continued)

1. Deaf x Laboratory

Matthew Dye, Ph.D., director

The mission of the Deaf x Laboratory is to investigate how the deaf experience ("x") shapes cognition, including attention and the executive brain functions. During FY 2016, the Deaf x Laboratory worked on three major projects.

- Development of Temporal Visual Selective Attention in Deaf Children
  National Science Foundation: BCS-1550988   09/01/2016 – 08/31/2019
  Matthew Dye, PI; Peter Hauser, co-PI $449,947

  This longitudinal study focuses on the separate effects of auditory deprivation and language deprivation on the development of temporal visual selective attention in deaf children. During FY 2016, the project team hired a research associate, developed partnerships for data collection with five schools for the deaf and created the testing protocol.

- U.S.-Swedish Workshop on Assessment of Multimodal Multilingual Outcomes in Deaf and Hard-of-Hearing Children
  National Science Foundation: OISE 1565990   11/17/2015 – 11/16/2016
  Matthew Dye, PI $61,679

  This program brought together U.S.-based and Swedish-based researchers to develop novel and transformative approaches to the study of deaf and hard-of-hearing children. The funding was used to bring 20 U.S. researchers to Stockholm for the workshop, which was hosted by Dr. Dye.

- Validity of Avatar Stimuli for Psycholinguistic Research on ASL
  NTID Scholarship Portfolio Development Initiative (SPDI)   09/01/2016 – 08/29/2017
  Matthew Dye, PI $10,000

  This project, which started late in the fiscal year, will use EEG technology to determine if avatar presentations of lexicons are recognized by the brain in the same way that it recognizes signs produced by humans. If the lexical avatars are recognized in the same way as human signers, then avatar technologies can be used for future psycholinguistic research with manipulations that are not possible with human signers.

2. Deaf Health Laboratory

Jessica Cuculick '98, '02, Ed.D., co-director   **Scott Smith, M.D., M.P.H., co-director**

The Deaf Health Laboratory investigates health issues in the deaf and hard-of-hearing community including preventive health, health literacy, health knowledge and the deaf experience in health care. During FY 2016, lab personnel worked on two projects.

- Mechanisms of Health Literacy and Information Accessibility
  National Institutes of Health: 1R01DC014703-01A1   09/17/2015 – 08/31/2020
  Subaward from University of Michigan $600,189
  Peter Hauser, RIT PI; Scott Smith, RIT co-PI

  This project investigates the mechanisms of health literacy in deaf people, focusing particularly on how deaf people navigate and use websites to obtain health-related information. During FY 2016, the project team hired a research program coordinator, provided multi-site data collection training, eye-tracking technology training, developed the experiment and began participant recruitment plans.

- Deaf College Students' Interactive Health Literacy: A Mixed Methods Approach
  NTID Scholarship Portfolio Development Initiative (SPDI)   09/01/2016 – 08/29/2017
  Jessica Cuculick '98, '02, PI; Scott Smith, co-PI $9,987

  This project is exploring health literacy relative to age-related preventive health among deaf college students. During FY 2016, the project team developed qualitative and quantitative study designs for this project and planned data collection procedures.

3. **Deaf Studies Laboratory (DSL)**

Peter Hauser, Ph.D., director

This laboratory investigates how deaf persons' experiences of stigma impacts education, health and career success. The laboratory has been developing an implicit measure of prejudice about deaf individuals ("audism") to understand the effects of prejudice, and the deaf individual's internalization of it, on learning, psychological resilience and academic/vocational success.

- Deaf Students Persistence and Resilience
  NTID Scholarship Portfolio Development Initiative (SPDI)   09/01/2014 – 05/31/2017
  Kim Kurz '93, '95, PI $17,000

  This project explores the risk and protective factors that contribute to deaf individuals' psychological resilience. During FY 2016, deaf individuals were interviewed about how they navigated academia, and the data were analyzed. The results illustrated that deaf individuals experience prejudice (audism), as well as "linguistism," and perceive that they have to work harder in academic settings than their hearing peers. The protective factors identified were social support, role models and "Deaf can" optimism. The results of the study illustrated that students who can resist internalizing audism exhibit a level of resilience commensurate with hearing college students. Those who internalized audism had significantly less resilience. Involvement in the Deaf community and ASL fluency were found to serve as protective factors.

4. **Sign Language Laboratory**

Joseph Hill, Ph.D., co-director   **Kim Kurz '93, '95 Ph.D., co-director**

The Sign Language Laboratory investigates issues in sign language acquisition, educational interpreting and sociolinguistics, including language variation and language attitudes.

- Cognitive Benefits of Learning a Second Language in a Second Modality
  Scholarship Portfolio Development Initiative (SPDI)   09/01/2016 – 09/29/2017
  Kim Kurz '93, '95, PI; Matthew Dye, co-PI $9,960

  The major goal of this study is to understand the cognitive underpinnings of learning a sign language for individuals whose native language is spoken.

- ASL Test Development Project
  NTID Office of the President   09/01/2016 – 09/29/2019
  Peter Hauser, PI $323,000

  This project will develop multiple measures of American Sign Language (ASL) competency to advance research on sign language and to provide organizations ways to document the ASL skills of their students, clients or employees. During FY 2016 the project's plan and infrastructure were developed. In FY 2017, the project team will host focus groups with the NTID community, develop test items and conduct pilot testing.

Research (continued)

Training Programs:

The NCCL presently plays a major role in two ongoing training programs for deaf and hard-of-hearing individuals; it also has offered a travel program.

1. Rochester Bridges to the Doctorate
   NIH R25 GM107739   9/1/2013 – 5/31/2018
   Peter Hauser, RIT PI $1,351,243

   The Bridges program is a partnership between University of Rochester (UR) and RIT/NTID that aims to increase the number of deaf and hard-of-hearing master's degree students who go on to enroll in biomedical and behavioral science doctoral programs. The Rochester Bridges Program provides graduate scholars with unparalleled, mentored research experiences at RIT and UR. The scholars, who also take three or more doctoral-level courses at UR, receive research stipends, tuition waivers and conference travel funds.

   During FY 2016, three first-year master's students and three second-year students were enrolled in the program and worked in research laboratories at RIT and UR. These students gave a total of 20 public and/or conference presentations. All of the second year students were accepted into Ph.D. programs at research intensive institutes.

2. Rochester Post-doctoral Partnership
   NIH K12 GM106997   7/1/2015 – 3/31/2020
   Dewhurst (UR)/Doolittle (CHST), PIs, $401,904
   Peter Hauser, co-PI

   This program provides highly trained deaf and hard-of-hearing biomedical and behavioral scientists with the knowledge and skills to pursue research and teaching careers in academia. A partnership with the National Center for Deaf Health Research (NCDHR) at the University of Rochester (UR), the program enhances teaching opportunities at each institution to create a pipeline of deaf and hard-of-hearing scientists for careers in research and teaching in academia. During FY 2016, two deaf post-doctoral fellows were accepted into this program and began their research studies at UR. One of the fellows taught two classes at RIT/NTID.

3. Broadening the Participation of Deaf Students in Sign Language Research program
   Funding: NSF BCS-1528941   07/01/2015 – 09/30/2016
   Peter Hauser, PI $77,465

   The long-term goal of this project is to increase the number of deaf and hard-of-hearing individuals conducting sign language research. It provides mentoring to selected graduate students scheduled to present at the Theoretical Issues in Sign Language Research (TISLR) Conference, and covers the cost of high-quality ASL interpreting at that conference so that the students have access to the presentations and opportunities to network with international sign language researchers.

   During FY 2016, Dr. Hauser mentored five deaf students from RIT/NTID, Gallaudet University, Boston University and University of Texas-Austin, and accompanied them to the TISLR conference in Melbourne, Australia, where each of them presented their work.

Publications

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Hirshorn, E. A., Dye, M. W. G., Hauser, P. C., Supalla, T. R., & Bavelier, D. (2015). The contributions of phonological knowledge, memory, and language background to reading comprehension in deaf populations. *Frontiers in Psychology, 6,* 1153. doi: 10.3389/fpsyg.2015.01153

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Kurz, C., & Kurz, K. (2015). Deaf faculty perspectives: Doctoral study experience. In B.K. Eldredge, D. Stringham, F. Fleischer, & K. Morton (Eds.), *Deaf Studies Today! Montage*. Proceeding of the Third Biannual Deaf Studies Today! Conference, Utah Valley University, Orem (pp.109-120). Orem: UT: Utah Valley University.

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Kurz, K., Schick, B., & Hauser, P. C. (2015). Deaf children's comprehension of direct instruction versus interpreted education. *Journal of Science Education for Students with Disabilities, 18,* 10-24.

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Research (continued)

Center for Education Research Partnerships (CERP)

Marc Marschark, Ph.D., director

The Center for Education Research Partnerships (CERP) is charged with establishing and joining research partnerships concerning development and learning among deaf and hard-of-hearing students across the lifespan and in various educational settings (www.rit.edu/ntid/cerp). Primary activities include promotion of related collaboration among individuals, educational institutions and organizations, both nationally and internationally. These and other activities focus on bridging research and practice to optimize educational opportunities and success for students who are deaf or hard-of-hearing. This notion of serving as a collaborator and an incubator for new ideas lies at the heart of the center.

CERP was established to contribute to the education of deaf and hard-of-hearing students of all ages through the sharing of findings and expertise with others. The success of this initiative is evidenced in two CERP faculty members making 26 presentations to outside audiences during the academic year, including eight keynote addresses. CERP collaborated with colleagues at more than a dozen schools and universities in the U.S. and abroad through ongoing research, joint publications, grant proposals and the publishing of five books (plus one book translation).

CERP's dissemination activities (invited presentations and publications) and ongoing research seek "simply to change the world through better understanding and improving the education of deaf students." In FY 2016, in addition to the six books, CERP members have published (or have in press) 11 peer-reviewed journal articles and seven peer-reviewed book chapters. CERP members also have co-chaired the organization and holding of three international conferences on deaf education.

Beyond this sharing of knowledge related to deaf education, CERP activities bring greater visibility to RIT/NTID, thus creating additional opportunities for both collaborations and extramural funding. This year, as in most years, CERP responded to hundreds of requests for information and/or assistance. CERP's Educating Deaf Children website (www.educatingdeafchildren.org) and the Raising and Educating Deaf Children: Policy, Practice, and Outcomes (www.raisingandeducatingdeafchildren.org) each had tens of thousands of visitors. Both websites are supported by donations from private foundations and schools for the deaf.

During FY 2016, CERP continued work on a $2.3 million research grant from the National Institute for Deafness and Other Communication Disorders (NIDCD) for a project entitled *Language, Learning, and Cognition among Deaf Students with and without Cochlear Implants*. CERP also holds a subcontract from SRI International, partnering in a project for the U.S. Department of Education on transition of deaf and hard-of-hearing high school students. Two new grant proposals were submitted to support CERP educational research activities.

CERP Research Findings: A center for education research partnerships obviously has, at its heart, research. The most important accomplishments this year are new and exciting findings concerning the language and cognitive foundations of learning by deaf and hard-of-hearing students with and without cochlear implants. The grant from NIDCD is providing insights and longitudinal exploration of ways in which spoken language and sign language interact with cognitive abilities to affect student learning, psychosocial functioning and academic outcomes. Results have implications for K-12 programming as well as college-level settings; indeed, they pertain to lifelong learning by deaf, hard-of-hearing and hearing students of all ages.

Selected Publications

Beal-Alvarez, J., & Trussell, J.W. (2015). Depicting verbs and constructed action: Necessary narrative components in Deaf adults' storybook renditions. *Sign Language Studies, 16*(1), 5-29.

Blom, H. & Marschark, M. (2015). Simultaneous communication and cochlear implants in the classroom? *Deafness and Education International*, *17*, 123-131.

Knoors, H. & Marschark, M., Editors (2015). *Educating deaf learners: Creating a global evidence base.* New York, NY: Oxford University Press.

Marschark, M., Lampropoulou, V., & Skordilis, E., Editors (2016). *Diversity in deaf education.* New York, NY: Oxford University Press.

Marschark, M., Sarchet, T., & Trani, A. (2016). Effects of hearing loss and sign language use on working memory. *Journal of Deaf Studies and Deaf Education*, *21*, 148-155.

Marschark, M., Spencer, L., Durkin, A., Borgna, G., Convertino, C., Machmer, E., Kronenberger, W.G., & Trani, A. (2015). Understanding language, hearing status, and visual-spatial skills. *Journal of Deaf Studies and Deaf Education, 20*, 310-330.

Marschark, M. & Spencer, P.E., Editors (2016). *The Oxford handbook of deaf studies in language.* New York, NY: Oxford University Press.

Nagle, K., Shaver, D.M., Newman, L.A., & Marschark, M. (2016). College and career readiness: Course taking of deaf and hard-of-hearing secondary school students. *American Annals of the Deaf, 160*, 467-482.

Trussell, J.W., & Easterbrooks, S. R. (2016). Morphological knowledge and students who are deaf or hard-of-hearing: A review of the literature. *Communication Disorders Quarterly,* Advance online publication.

Trussell, J.W., & Easterbrooks, S. R. (2015). Effect of a morphographic intervention on DHH students' learning of morphographic analysis. *Journal of Deaf Studies and Deaf Education, 20*(3): 229-241.

Research Center for Teaching and Learning (RC*f*TL)

Susan Foster, Ph.D., co-director   **Christopher Kurz '95, Ph.D., co-director**   **Sara Schley, Ph.D., co-director**

The primary mission of the RC*f*TL is to create a sustainable setting in which diverse teams of faculty and students conduct research that will improve deaf education, expose students to research practice and prepare a future generation of NTID educational researchers and scholars. A secondary mission is to facilitate the development of collaborative partnerships between NTID faculty and faculty in the other colleges of RIT focused on education of deaf and hard-of-hearing students.

As of August 2015, Dr. Carol Marchetti, associate professor in the School of Mathematical Sciences in RIT's College of Science, joined the center as faculty associate for cross-disciplinary research. Dr. Marchetti has been highly successful in researching, developing and implementing techniques for effectively teaching statistics to a mixed class of deaf and hearing undergraduate students. Her work to develop inclusive educational practices has been supported by both internal and external grants. This collaborative arrangement between NTID and RIT's College of Science is a three-year renewable assignment. Expectations include collaborating with and supporting NTID faculty on research projects associated with the RC*f*TL, particularly those involving external grant submissions; encouraging involvement of deaf and hard-of-hearing undergraduate and MSSE students in research; and outreach to faculty in other RIT colleges to promote collaboration on projects related to deaf education.

Research Projects

In FY 2016, center personnel led two federally-funded research projects.

- <u>Communication, Access, and Persistence among Deaf and Hard-of-hearing Students in Foundational Statistics Courses.</u>
  National Science Foundation $396,986   9/1/2014 – 8/30/2017
  Carol Marchetti, PI; Co-PIs Susan Foster, Jane Jackson, and Keith Mousley '78, '80

  This project is developing accessible supplemental online learning tools (SOLTs) aimed at improving the success of deaf and hard-of-hearing students in introductory statistics. Fundamental concepts are explained in video tutorials with direct ASL instruction, visuals, English and captioning. The design of each SOLT incorporates a series of micro-videos that breaks a topic into parts and explains the terms and concepts needed to understand the topic. During FY 2016, the team developed practices for creating videos to enhance accessibility for deaf and hard-of-hearing students, produced and tested videos on topics in "numerical and categorical" and "sampling and bias" and designed an educational gaming framework to link the videos to applications that engage students.

- <u>Faculty in Pedagogical Exploration and Innovation for Accessible STEM Instruction with Deaf/Hard-of-Hearing Students</u> (Collaborative Research)
  National Science Foundation $443,200   8/29/2016 – 8/28/2019
  Sara Schley, PI; Co-PIs: Stephanie Cawthon (University of Texas), Jessica Cuculick '98, '02 (NTID/NCCL)

  This project will develop and run Faculty Learning Communities to teach faculty members in other colleges of RIT basic principles about instructing deaf and hard-of-hearing students. Participants will devise and test ways of improving communication and collaboration in postsecondary classes with mixed groups of deaf and hearing students. Successful strategies will contribute to the development of an online "accessibility toolkit" of strategies for teaching STEM subjects in a mainstream classroom.

Faculty Mentoring Activities

A focus of the research center involves mentoring and developing faculty research skills. Since many projects funded through NTID's Scholarship Portfolio Development Initiative (SPDI) deal with teaching and learning, RC*f*TL personnel often serve as project mentors, including on the following projects:

<u>Accessible Technology to Support Visual Attention, Retention, and Procedural Learning</u>
SPDI $19,700   8/4/2014-12/31/2016
Michael Stinson, PI; Co-PI Karen Beiter; mentor: Susan Foster

The project is investigating optimal presentation of graphical information and captions. During FY 2016, the team analyzed data collected from 30 students. When graphical information and captions are adjacent to each other, students remember more of the graphical information than when graphical information and captions are separated by a video displaying the lecturer's face. There was no difference between retention of captions for the two conditions.

<u>Health Literacy of Deaf and Hearing Female Students at RIT: A Qualitative Approach</u>
SPDI $19,700   9/1/2014-8/31/2016
Deirdre Schlehofer, PI; Co-PIs: Deborah Blizzard (College of Liberal Arts) and Jessica Cuculick '98, '02 (NTID/NCCL); mentor, Susan Foster

Winner of the best faculty poster presentation award at the Clinical & Translational Science Institute at the University of Rochester Medical Center on December 3, 2015, the title of the poster, presented at the UNYTE Translational Research Network Scientific Session, was "Health Perceptions of Deaf and Hard-of-hearing Female College Students."

A deaf minority student, who was a Summer Undergraduate Research Fellow (SURF), worked with the team as her first research experience. The student gave a poster presentation focusing on health barriers and perceptions among deaf and hard-of-hearing female college students at the 25th RIT Undergraduate Research Symposium on August 5, 2016.

Examination of Social Networks of Deaf Entrepreneurs: A Pilot Study
SPDI $13,000   9/1/2014-8/31/2016
Scot Atkins '89, '92, PI; Susan Foster, mentor

In FY 2016, the PI completed preliminary coding analysis using NVivo with the Entrepreneur interview data. An MSSE graduate student assisted in the preliminary preparation of the interviews and the literature review. The PI presented at the International Deaf Geographies Conference in Rochester, New York, and at the NTID Research Conference.

Grant Writing Activity

Center personnel led four proposal writing efforts (three listed below and one funded project listed above). Center personnel also collaborated on three proposals submitted by other researchers who plan to investigate issues in teaching and learning (not listed below).

1. Multimedia Technology in Authentic Postsecondary Contexts: Exploration of Malleable Instructional Design and Accommodation Factors for Deaf, Hard-of-hearing, and Hearing Students.
    Submitted to IES Postsecondary and Adult Education.   Amount Requested: $1,399,994.
    Sara Schley, PI; Co-PIs: Vicki Hanson (GCCIS), Michael Stinson, Carol Marchetti. (under review)

    The proposed project will explore the cognitive load that students experience when viewing online class materials that have multiple areas of information input.

2. Deaf Education Curriculum Development and Pilot Teacher Training in Cambodia
    Submitted to UNICEF   Amount requested: $42,546
    Christopher Kurz '95, PI; Thomastine Sarchet '03, '09, Co-PI   (under review)

    This project will develop the curriculum for a set of train-the-trainer workshops for teachers of the deaf in Cambodia. The curriculum will include a series of modules about deaf education that will prepare general teachers to become teachers of the deaf.

3. Data-based Personnel Preparation with Special Emphasis on Recruitment of Teachers of Deaf and Hard-of-hearing Students in STEM and from Diverse Populations
    Submitted to OSEP   Amount Requested: $1,215,000
    Christopher Kurz '95, PI; Co-PIs: Gerald Bateman, and Jessica Trussell   (not funded)

    This program would provide scholarships and training opportunities for graduate students studying to become teachers of the deaf. The proposal targets teachers who want to teach STEM subjects and work with deaf students with special educational needs.

Research (continued)

Dissemination

In FY 2016 center personnel produced five peer-reviewed publications, two media publications and six print conference proceedings. They also gave 20 conference presentations and one keynote presentation, provided six workshops and gave an international invited talk in the past year. In addition to the publications listed below, four articles are in press.

Schley, S. & Stinson, M. 2016. Collaborative writing in the classroom: Online, in-person and synchronous group work. *Journal of Postsecondary Education and Disability*, 29(2).

Schley, S. 2016. Hendrick Hudson Board of Education v. Rowley, *The SAGE Deaf Studies Encyclopedia*, Thousand Oaks, CA: Sage Publications, p. 471-472.

Schley, S. 2015. Solitary Suggestions: Mainstreamed Singletons Speak Out. Invited Review of Turning the Tide: Making Life Better for Deaf and Hard-of-hearing Schoolchildren. Washington, DC: Gallaudet University Press. *Journal of Deaf Studies and Deaf Education*, *20*(2), 202-202.

Higgins, J.A., Famularo, L., Cawthon, S.W., Kurz, C.A., Reis, J.E., & Reis, L.M. (2016). Development of American Sign Language guidelines for K-12 academic assessments. *Journal of Deaf Studies and Deaf Education.* doi: 10.1093/deafed/enw051

Mousley, K., & Kurz, C. (2016). Pre-College Deaf Students' Understanding of Fractional Concepts: What We Know and What We Do Not Know, *Journal of Science Education for Students with Disabilities.*

Media Publications

Schley, S. 2016 (January). Accessibility ToolKit: Mockup. Website. Retrieved January 6, 2016, from http://www.ntid.rit.edu/rcftl/toolkit.

Kurz, C. (2016). Academic language - Mathematics in American Sign Language (ASL): Educational Interpreters as Language Scientists. [DVD]. Boys Town National Research Hospital, Omaha, NE.

Research on Employment and Adapting to Change: Center for Studies on Career Success (REACH)

Ronald Kelly, Ph.D., center director   **Gerald P. Berent, Ph.D., associate director**

The primary goal of REACH is to conduct research on employment and factors of change, as well as career success for deaf and hard-of-hearing people. This includes conducting scholarly research on the employment and career outcomes of deaf college graduates and the examination of multiple factors that contribute to their career and life success. These factors include readiness for college, academic performance in college, personal characteristics, career growth, career change and related decision-making activities.

Research Projects

Researchers in the center are presently working on two projects that are funded by the National Science Foundation (NSF) for a combined total of $834,706.

1. Deaf Learners' Acquisition of English Verbs and their Component Properties
    National Science Foundation BCS-1251342 $300,502   9/1/2013-2/28/2017
    Gerald Berent, PI.; Co-PIs: Ronald Kelly, Kathryn Schmitz '95, Z. Chen (RIT College of Liberal Arts) and Stanley Van Horn (RIT Student Affairs).

    Approximately 80 percent of deaf and hard-of-hearing students enter RIT/NTID under-prepared in English language and reading skills as measured by the ACT college readiness test (Kelly, 2008). Verb knowledge is critical to clearly understanding the accurate meanings of college-level reading

materials, comprehension of class lectures, participation in class discussions, and written communication for demonstrating knowledge of course content. In addition, there is academic English vocabulary unique to the content and materials covered in university level subjects. Functional knowledge of academic English vocabulary is essential to college students' educational success. The majority of deaf and hard-of-hearing students entering college encounter English language challenges, including limited knowledge of academic English vocabulary.

While most people cannot identify and describe the different types of verbs, almost all hearing native speakers of English accurately function with them in their daily conversations, and when reading and writing. The research project examines the verb knowledge of deaf and hard-of-hearing students and compares the results to the verb knowledge of hearing second-language learners of English and to native hearing speakers of English. The objective is to obtain a better understanding of what to focus on in the teaching/learning process to improve the English language skills of deaf and hard-of-hearing students.

To date, this research project has tested and collected data from 785 college students at RIT/NTID (deaf and hard-of-hearing = 347; hearing second-language learners = 355; and 83 hearing native speakers of English). Data collection will continue until February 2017.

Preliminary results to date show similarities in verb knowledge between the deaf and hard-of-hearing and the hearing second-language learners with comparable scores on the Michigan Test of English Language Proficiency. As expected, the hearing native speakers of English score significantly higher on these tests compared to both the deaf/hard-of-hearing and hearing second language learners.

2. Stereotype Threat Effects on Deaf and Hard-of-Hearing College Students' Math Performance
    National Science Foundation DRL-1420063 $534,204   9/1/2014-8/31/2017
    Ronald Kelly, PI; Co-PIs: J. Jamison (U of Rochester), Peter Hauser (NTID/NCCL) and Gerald Berent.

Stereotyping and identity issues abound for deaf and hard-of-hearing individuals relative to their educational and career performance. This research examines stereotype threat effects in deaf and hard-of-hearing college students and the extent that negative stereotype threat results in their under-performance while being evaluated (e.g., taking math tests; or more generally when performance is being evaluated in other educational and career settings). Stereotype threat occurs when a member of a stigmatized group feels at risk of confirming, as self-characteristic, a negative stereotype about one's group. Awareness of the stereotype, beliefs that stereotypes are applicable to self-identity and evaluation in the context of stereotypes are all necessary for the experience of threat to occur and to negatively impact one's performance.

On average, approximately 85 percent of deaf and hard-of-hearing students enter RIT/NTID under-prepared with respect to math skills as measured by the ACT college readiness test. The question is whether stereotype threat effects specifically contribute to deaf and hard-of-hearing students' under performance while their math skills are being evaluated with math tests.

During the first two plus years, this research project has tested and collected data from 790 college students at RIT/NTID (deaf and hard-of-hearing = 437; and hearing = 353). Data collection will continue until August 31, 2017. Student participants were given three types of math tests: arithmetic calculation = 144 problems; modular math = 50 problems; and GRE type math = 30 problems. The students were instructed to complete as many problems as possible within the time limits for each timed test of five minutes, 10 minutes, and 20 minutes respectively.

Preliminary findings show that the deaf and hard-of-hearing students assigned to the stereotype *Threat Condition* performed significantly more poorly than the students assigned to the *Non-Threat Condition* for both the arithmetic problems and the modular math problems. The GRE type

problems posed a far greater challenge to the deaf and hard-of-hearing participants where they performed significantly more poorly regardless of Threat or Non-Threat conditions. These preliminary results suggest that stereotype threat effects do indeed negatively influence deaf and hard-of-hearing students' performance on the tests of arithmetic calculation and modular math problems.

Collaborative Research: During the week of June 12, David Baldridge (College of Business, Oregon State University) met with a team of faculty and staff with respect to collaborative research examining the careers and entrepreneurship of deaf and hard-of-hearing people. Participants were Richard Dirmyer, Scot Atkins, Richard DeMartino and Ronald R. Kelly. This meeting initiated the second year of this collaborative effort. To date, several studies are in process and one study has been completed with a manuscript submitted for publication review. The team is currently seeking external funding via foundation support.

Mentoring and Consultation: REACH researchers provided consultation on design, statistical analysis and publication to 11 NTID faculty members.

Dissemination

Kelly, R. R., Quagliata, A. B., DeMartino, R., & Perotti, V. (2016). 21st century deaf workers: Going beyond just employed to career growth and entrepreneurship. In M. Marshark, V. Lampropoulou, & E. K. Skordilis (Eds.) *Diversity in deaf education* (pp. 473–505). New York, NY: Oxford University Press.

Kelly, R. R., Quagliata, A. B., DeMartino, R., & Perotti, V. (in process, 2016). *The Influence of Self-Efficacy on the Career Outcomes of Deaf College Graduates and Their Hearing Peers.* Manuscript under revision in response to reviewer comments.

Gustafson, M. S., Scott, L., & Kelly, R. R. (2016, April). *Self-perceptions of communication by deaf/hoh adolescents as a tool for SLPs and audiologists.* Poster presentation at the 56th Annual Convention of the New York State Speech-Language-Hearing Association, in Saratoga Springs, NY.

Berent, G. P., Kelly, R. R., Persky, K., Finton, E., & Rizzo, S. (2016, February). *Implications of new verb knowledge research for teaching English to deaf students.* Presentation at the 42nd Annual Conference of the Association of College Educators—Deaf and Hard-of-hearing, in New York, NY.

Mousley, K., & Kelly, R. R. ((2016, February). *Relationship of learning long-division and fraction skills.* Poster presentation at the 42nd Annual Conference of the Association of College Educators—Deaf and Hard-of-hearing, in New York, NY.

OTHER FUNDED RESEARCH AND OUTREACH EFFORTS

C-Print® Research

Michael Stinson, Ph.D., principal investigator

Two grant-funded projects are presently active in this research area.

1. Analyzing the Use of C-Print® Mobile Technology in STEM Lab Settings across Multiple Postsecondary Sites.   National Science Foundation $395,000   final year Michael Stinson, PI; Co-PIs: Lisa Elliot, Pamela Francis.

   The purposes of this project are: (1) to expand the types of venues in which the C-Print® mobile technology-based service is used at RIT, other universities and a community college; and (2) to conduct experimental investigations to evaluate the extent to which the service aids students'

access and learning in STEM labs at the postsecondary level. The research goal is to examine the effects of the use of C-Print® mobile on the academic performance of deaf and hard-of-hearing students in laboratory sections of STEM courses and on their confidence and interest in their STEM major.

2. Investigating Team Knowledge Building in Complex Science and Statistics Problem Solving when the Teams Include Deaf/Hard-of-hearing and Hearing College Students, Year 1.
National Science Foundation $499,830
Michael Stinson, PI; Co-PIs: Lisa Elliot, Carol Marchetti (NTID/RCfTL), Judith Rentsch. (University of Tennessee)

This project is testing the contribution of team knowledge building theory to optimal solution of complex problems in teams with deaf, hard-of-hearing and hearing students. It uses statistics as the test domain. While group work often is implemented in science, technology, engineering and mathematics (STEM) coursework because of its perceived pedagogical benefits, deaf and hard-of-hearing students and hearing students often struggle to communicate with each other in these critical STEM learning activities. Test teams with two deaf and hard-of-hearing students and two hearing students participate in one of three conditions: (a) control, (b) training and information board, or (c) training, information board, and messaging. The study informs development of interventions and strategies that directly translate to improved problem solving and participation by team members with diverse characteristics, including deaf and hard-of-hearing members, in STEM secondary and postsecondary classrooms and work settings.

Publications

Hyde, M., Nikolaraizi, M., Powell, D., & Stinson, M. (2016). Considering critical factors towards the inclusion of deaf and hard-of-hearing students in higher education. In M. Marschark, V. Lampropoulou, & E. Skordilis (Eds.) *Diversity in Deaf Education.* (pp. 441-472). New York, NY: Oxford University Press.

Schley, S. & Stinson, M. (2016). Collaborative writing in the post-secondary classroom: Online, in-person and synchronous group work with deaf, hard-of-hearing, and hearing students. *Journal of Postsecondary Education and Disability, 29*(2), 151-164*.*

Stinson, M. & Francis, P. (2016). Real-time text in the classroom. In M. Marschark & L. Abbate (Eds.) *Raising and educating deaf children: Foundations for policy, practice, and outcomes*: http://www.raisingandeducatingdeafchildren.org. New York, NY: Oxford University Press.

Stinson, M. (2015). Speech-to-text interpreting. In F. Pochhacker (Ed.) *Routledge encyclopedia of interpreting studies,* pp. 399-400. Oxford, United Kingdom: Routledge Publishers.

Deaf STEM Community Alliance

Lisa Elliot, Ph.D., principal investigator

Deaf STEM Community Alliance: Supporting Postsecondary Deaf and Hard-of-Hearing Students in Science, Technology, Engineering and Mathematics.
Investigators: Lisa Elliot, James DeCaro

Funded by the NSF, this project completed its fifth year during FY 2016. The project has created a unique Virtual Academic Community (VAC), a cyber-infrastructure that hosts remote access and support services, an electronic resource library and a communication network for deaf and hard-of-hearing students, their instructors, and access and support service providers, called the Deaf and Hard of Hearing Virtual Academic Community (DHHVAC). The DHHVAC includes a

AAA-rated accessible website according to the WEC Web Content Accessibility Guidelines (www.rit.edu/ntid/dhhvac/), approximately 150 remote tutoring sessions and recruitment of a core of deaf and hard-of-hearing professionals in STEM careers to serve as mentors for the students.

The program is designed to increase graduation rates of deaf and hard-of-hearing STEM majors in postsecondary education in the long term. Grant team members are creating a model that demonstrates how an online environment can support deaf and hard-of-hearing students in mainstream settings. Cornell University (Ithaca, New York) and Camden County College (Blackwood, New Jersey) are working with NTID to pilot a national model.

Health Care Implementation Commission (HCIC)

From 2010 to 2012, NTID spearheaded a National Task Force on Health Careers for Deaf and Hard-of-Hearing People. Representatives from the University of Rochester Medical Center, Rochester Regional Health System and Gallaudet University participated in the effort and contributed to the report. The central finding was that many deaf and hard-of-hearing individuals experience academic challenges, poor career guidance, low expectations and employment challenges that result in their lack of desire and ability to pursue advanced degrees and careers in the health care industry.

As a result, RIT/NTID formed a Health Care Implementation Commission (HCIC) to execute the recommendations made by the Task Force. The HCIC draws upon the faculty and staff from relevant colleges and programs across the university for the central purpose of developing educational pathways for deaf and hard-of-hearing students to prepare for careers in the health care fields.

HCIC Leadership

Scott Smith, M.D., M.P.H., chair

In November 2015, NTID hired Scott R. Smith, M.D., M.P.H., a deaf pediatrician and health researcher, to serve as the chair of the NTID Health Care Implementation Commission. The chair is charged with the task of advancing the overarching vision of establishing Rochester, New York, as a National Hub of Excellence for training deaf and hard-of-hearing health care professionals and health research scientists. Dr. Smith works to share information about ongoing endeavors within and outside RIT/NTID through local and national conference presentations and publications. He also is a co-chair of the 2017 Association of Medical Professionals with Hearing Loss (AMPHL) Conference Planning Committee, to be hosted at NTID in June.

During FY 2016, the Health Care Implementation Commission worked on both ongoing and new research projects to improve the health of all deaf people.

a. Collaborated with NTID's Outreach Department to implement the second iteration of the NTID Health Care Exploration Camp summer program, the first program designed for deaf and hard-of-hearing high school students aspiring to careers in the health care field. Fourteen students were selected from a pool of more than 30 competitive applicants; as a result, the camp will be expanded to 24 slots in summer 2017.

b. Collaborated with NTID's American Sign Language and Interpreting Education (ASLIE) department in continuing support of its certificate program in Healthcare Interpreting (CHI) (approximately 15 interpreters participate annually), as well as support of a new master's degree in Health Care Interpretation that was implemented during FY 2016. Four full-time and four part-time interpreting students enrolled in the program.

c. Collaborated with the NTID Department of Science and Mathematics to develop a set of new AS degree programs in Applied Sciences (biology, chemistry, biochemistry, etc.). The goal is to streamline the educational pathways for NTID students who aspire to transfer to science degree programs at RIT. The proposed programs are in the process of being formally approved and implemented.

Research (continued)

d. Collaborated with the Outreach Department to continue a regular Speaker's Bureau of presentations and events to expose students and others to successful deaf and hard-of-hearing professionals and scientists as well as health care and health science interpreters.

e. Collaborated with the NTID Center on Employment (NCE) to increase potential employers' awareness of employing deaf and hard-of-hearing individuals within the health care industry through participation in national conferences of health care employers and recruiting these health care employers to participate in the annual NTID Job Fair.

f. Collaborated with the Center on Access Technology (CAT) on ongoing projects to develop a workable Automated Speech Recognition (ASR) system as well as clear surgical masks that would broaden opportunities for deaf and hard-of-hearing individuals to work in the health care field.

g. Collaborated with the Association of Medical Professionals with Hearing Loss (AMPHL) to plan the Eighth Biennial AMPHL Conference, which will be hosted at NTID in June 2017. Collaborated with the Rochester Partnership to Advance Research and Academic Careers in Deaf Scholars Program (RPP) to plan the Summer Research Training Institute for deaf and hard-of-hearing research scientists, which will be held at the University of Rochester immediately following the 2017 AMPHL Conference.

h. Collaborated with the NTID Center for Cognition and Language to support four RIT graduate students in the Bridges to the Doctorate program. Also collaborated on the Rochester Partnership to Advance Research and Academic Careers in Deaf Scholars Program (RPP) to mentor two postdoctoral students. RIT's role in that program is to provide teaching experiences for postdoctoral scholars who are deaf or hard of hearing. (See section on the NTID Center for Cognition and Language for additional information on the training programs.)

i. Led an effort to submit a proposal to the NIH (R25, Research Initiative for Scientific Enrichment) that will create a new program at RIT for deaf and hard-of-hearing undergraduates who wish to prepare for research careers in the health care industry. This process established a cross-campus network of administrators and potential research mentors in NTID and RIT's College of Science, College of Liberal Arts, College of Health Science Technology, College of Engineering and College of Computing and Information Studies.

j. Collaborated with the University of Rochester to submit a manuscript to *Science* that argues for the establishment of a National Hub of Excellence for training deaf and hard-of-hearing health care professionals and health research scientists.

Personnel Preparation Program

Gerald Bateman, program director

An Accountability Initiative with Special Emphasis on Recruitment of STEM and Minority Teachers of Deaf and Hard-of-Hearing Students
1/1/2012 - 12/31/2016, $1,247,199;   U.S. Department of Education
Christopher Kurz '95, Co-director

In FY 2016, the Personnel Preparation grant supported 31 graduate students in the Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing. The program, which prepares teachers to serve deaf and hard-of-hearing students, included a comprehensive approach to teacher accountability. The program also targets and recruits minority students to become classroom and itinerant teachers of deaf and hard-of-hearing students.

Research (continued)

Mobile Applications Curriculum Development Grant

Brian Trager '00, '05, program director

RoadMAPPs to Careers: A New Approach to Mobile Apps Education featuring a Mapp for Deaf and Hard-of-Hearing Students
6/1/2016 – 3/31/2019, $820,504;   National Science Foundation
Co-directors: David Lawrence, Elissa Olsen '78, '80, '99

The project supports the development and implementation of an associate degree program designed to increase the number of students in the mobile application development workforce. The five-semester degree program will educate students using a native cross-platform development approach to create mobile apps for multiple platforms. During FY 2016, several foundational courses were developed, and nine students were recruited into the first cohort.

Substance and Alcohol Intervention Services for the Deaf (SAISD)

Jeffrey Rubin, program director

Ongoing, NYS Office of Alcoholism and Substance Abuse Services/Coordinated Care Services, Inc/ DHHS Substance Abuse and Mental Health

SAISD has been in continuous operation since 1979. The five staff members at SAISD provide alcohol, tobacco and other drug (ATOD) information/referral, prevention/education, intervention, cross-disability professional consultation and training and support to treatment services. The target population served includes the deaf and hard-of-hearing student population at RIT/NTID and the deaf and hard-of-hearing community in Monroe County and its 15 surrounding counties in upstate New York (approximately 55,000 individuals).

Scholarship Portfolio Development Initiative

The NTID Scholarship Portfolio Development Initiative (SPDI) is designed to support early-stage career researchers in launching new lines of research. SPDI provides intramural funds of up to $10,000 for one-year projects and requires an experienced researcher to serve as a mentor. In FY 2016, seven new proposals were funded for a total of $69,514.

SPDI Proposals funded in FY 2016

Cognitive Benefits of Learning a Second Language, $9,960
        Kim Kurz '93, '95, PI; Matthew Dye, Co-PI; Peter Hauser, mentor

Deaf College Students' Interactive Health Literacy, $9,987
        Jessica Cuculick '98, '02, PI; Scott Smith, Co-PI; Peter Hauser, mentor

Exploration of Automatic Speech Recognition Systems in NTID Classrooms, $9,579
        Linda Gottermeier, PI; Todd Pagano, mentor

Morphology Instruction for Deaf and Hard-of-hearing Students, $9,988
        Jessica Trussell, PI; Marc Marschark, mentor

Orbital Decay in Evolving Multi-body Systems, $10,000
        Jason Nordhaus, PI; Manuela Campanelli (College of Science), mentor

The Validity of Avatar Stimuli for Psycholinguistic Research on ASL, $10,000
        Matthew Dye, PI; Kim Kurz '93, '95, Co-PI, Matthew Huenerfauth (Golisano College of Computing and Information Sciences), mentor

Vizing's Conjecture and Zero Forcing on Graphs, $10,000
> Bonnie Jacob, PI; Carol Marchetti (College of Science) and Stanislow Radziszowski (Golisano College of Computing and Information Sciences), mentors

STUDENT RESEARCH ACTIVITIES

Todd Pagano, Ph.D., associate dean for teaching & scholarship excellence

RIT and NTID place significant emphasis on student involvement in research. RIT's *Strategic Plan 2025* discusses the "Student-Centered Research University" as one of the five tenets of the RIT plan for "greatness through difference." NTID's *Strategic Decisions 2020* also highlights the importance of student participation in "Innovation and Scholarship Research."

During FY 2016, NTID redoubled its efforts to engage students in research. FY 2016 was a highly productive year for students and faculty working together on cutting-edge research projects. Several new initiatives were established to support student research, and NTID hosted its first annual Student Research Fair to recognize their accomplishments.

At NTID, support for student research is shared by the associate dean of research (Robert Pollard), who is responsible for student participation on grant-funded activity, and the associate dean of teaching and scholarship excellence (Todd Pagano), who leads NTID's effort related to student-centered discipline-based research.

Support for Student Involvement in Research

In FY 2016, NTID established three support mechanisms to encourage student research:

- <u>Student research micro-grants</u>: Students (with approval of a faculty mentor) can apply for up to $1,000 in funding to support a specific research project. For example, students can request funds to purchase a specific software program or chemicals, or to pay subject fees.

- <u>Summer Undergraduate Research Fellows</u> (SURF): Funds have been allocated to support NTID undergraduate students conducting research under the direction of a faculty mentor during the summer term. The funds are used to pay student stipends.

- <u>Conference travel awards</u>: Undergraduate students who have made significant progress can apply for funding to travel to a professional conference and present their findings.

Inaugural NTID Student Research Fair

On April 15, 2016, 30 student researchers gave presentations on 20 projects at NTID's first Student Research Fair. In the weeks leading up to the event, students had the opportunity to participate in a set of faculty-led workshops that focused on writing a research abstract, creating a research poster and presenting at conferences.

Members of the RIT community, including NTID's National Advisory Group, attended the fair to interact with student researchers such as the students pictured here describing their work. The projects presented came from the fields of health science, communication studies, access technology, Deaf culture, biochemistry, mathematical modelling and environmental science. The fair coincided with National Undergraduate Research Week.

The students' project titles included:

- Insertion Mutagenesis to Introduce HA Affinity Tags to PHO13 Gene in Yeast Expression Plasmids

- Phenotypic Studies of PHO13Δ in Saccharomyces Cerevisiae

- Determining a Boolean Model for Human Lactation

- Improving Deaf Adults' Lifestyles: Quality of Life and Weight Loss

- Language Through the Eyes: Early Exposure to Sign Language Facilitates Cognitive Development

- Survival of Various Pathogenic Microorganisms in Surface Water and Sediments in Western New York

- Potential Utilization of the Smart Glasses as a Vehicle of Accessibility in College Classrooms

- Using the Kinect to Classify Signs by Movements

- Comparison of Two Quantification Methods for Kjeldahl Protein Digestions of Wild Fruits

- Fluorescence Characteristics and PARAFAC Modelling of Bitumen from Ancient Ceramics

- Paired Anaerobic Bacteria Symbiosis on the Byproducts of Microbial Fuel Cells

- Photophysical Processes in Measurements of Natural Organic Matter with Increasing Tannic Acid Additions using Multidimensional Fluorescence Spectroscopy

- Booth ASL Storytelling App

- ASL/Deaf Culture for Pre-K Students

- Accessible Communication for Everyone (ACE) App

- Enhanced Museum Experience App for Deaf and Hard-of-Hearing People

- Real-Time Text Display with Automatic Captioning

- VL2 ASL Storytelling App

25th RIT Undergraduate Research Symposium on August 5, 2016

Each year RIT hosts a large undergraduate research symposium. In FY 2016, more than 40 NTID-supported students were involved in research projects that were presented. It was a record year for the symposium, which grew to include more than 250 presentations. NTID student research was supported by federal grants, internal awards and faculty start-up funds. The projects represented both discipline-based research and center-based research that explored deafness and the deaf experience.

Among the student presenters was a cohort of 10 students under the direction of Dr. Raja Kushalnagar, assistant professor in Information and Computing Studies. His students, who represented NTID as well as colleges across the country, were supported by a Research Experiences for Undergraduates (REU) grant from the National Science Foundation. All students in this group were working to develop access technology for deaf and hard-of-hearing or low-vision users.

Innovation and Creativity at NTID

Under the leadership of RIT President William W. Destler, the university is increasing its emphasis on innovation and creativity, both in the curriculum and in other activities across campus.

The sampling of projects below reflects the innovative and creative activities underway within the National Technical Institute for the Deaf.

Digital Language Laboratory for Interpreting Instruction

The NTID American Sign Language and Interpreting Education department uses a computer-based digital laboratory for ASL-English Interpretation instruction. There are three multimedia labs with 10 stations in each. Each student station is equipped with a computer, dual monitors, a camera and a headset with microphone. Each lab is equipped with two digital control racks, two ceiling-mounted robotic video cameras, a microphone, six speakers, an LCD projector and a separate instructor's station with room controls.

Interpreting students use digital technology to record their interpreting between American Sign Language and spoken English. The labs allow them to review their work easily and improve their interpreting skills. When finished with an assignment, the students can save their work to their own digital folder on the server, or they can save it to a USB stick. They also can drop their files into their instructor's digital folder for assessment. The ability to digitally capture, store and receive video and audio files on the network enables students and faculty to assess interpreting work immediately. The system provides secure anytime, anywhere access to the files from any computer on the RIT/NTID network or from home.

Cochlear Implant Support

The number of students at RIT/NTID with cochlear implants has grown exponentially, from 29 students in 1999 to 410 in the fall of 2016. To accommodate the needs of these students, NTID's latest hires have been trained to map cochlear implants, increasing the capacity for providing this support service.

Distance Learning Advances

Through a grant from The Sprint Foundation that was matched with internal funds, NTID has taken a major step in supporting distance learning for deaf and hard-of-hearing remote learners. A classroom in the NTID Learning Center was converted to The Sprint Relay Experimental Distance Learning/Access Demonstration Lab in the summer of 2007. The lab is being used as a beta testing site for adapting and evaluating alternative instructional and access technologies in support of remote learners who are deaf or hard of hearing. It also provides a forum for information exchange among RIT/NTID faculty, students, instructional designers, technologists, researchers and access service providers. Projects have included:

- Flipped classroom pre-recorded lectures of math and English courses for students to watch before attending classes;
- Classroom/lecture capturing recording of math, English, interpreting and sign language courses and in-class exercises for archiving and providing anytime, anywhere access for students outside of a classroom;
- Web and video conferencing with remote locations such as India, Mongolia, South Africa and Chile;
- Multi-point video and phone conferencing supporting faculty collaboration;
- Classroom collaboration using online software to support students in courses in the master's program in secondary education;
- Lecture capturing of graduate students instructing a group of students for practice and performance review;
- Recording mock/practice interviews to assist graduating students with real-world experiences; and
- Recruiting high school students at remote locations using application sharing and web conferencing.

The Sprint Relay Lab features:
- Desktop computers, wireless laptops and mobile tablets (iOS & Android-based);
- Mobile podium with touch-screen interactive monitor enabling instructors to maintain eye contact with students while using the whiteboard;
- Three wall-mounted HD video cameras (instructor and audience) streaming live videos and a fourth supplementary SD video camera to capture front-of-classroom activities such as student presentations or sign language interpreters;
- Multi-type wireless microphones to capture audio from instructors, students, interpreters and visitors;
- Videoconferencing systems (Polycom HDX9004, and software based);
- Two short-throw interactive wall-mounted projectors with computer-based display, featuring network capabilities, supporting real-time interactions among remote and onsite learners; and
- One ceiling-mounted projector.

These distance-learning tools allow deaf and hard-of-hearing students from around the world to be part of one classroom. The innovative adaptation of current and emerging technology promises significant contributions in expanding conventional notions of where, how and with whom learning can happen.

Innovative Teacher Education

The microteaching component of all methods courses continues to be used by faculty members in NTID's Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE). This is accomplished through the technical support from the NTID Learning Center as well as the NTID Performing Arts program. Deaf actors have been hired to act out high school student behaviors in mock classroom settings. Two cameras capture both the MSSE teacher-candidate and the actors, and split screen videos are uploaded to the Web, so the teacher-candidates can study and critique their own efforts. The actors model behavior that the teacher-candidates likely will face in a middle or high school classroom setting: addressing students being unprepared for class or not understanding the class materials, handling students arguing or falling asleep in class and resolving boundary issues between the teachers and students. The student actors provide feedback to the teacher-candidates after the end of the lesson. The experience helps teacher-candidates learn how to manage situations before they become teachers. They have indicated microteaching is a valuable part of their learning experience.

In addition to microteaching, the teacher-candidates also are required to observe veteran teachers in live classroom situations as part of their 100-hour practicum requirement. This provides the opportunity to allow the free flow of ideas and strategies between the seasoned teachers and teacher-candidates.

Speech-to-Text Services

C-Print® is a real-time captioning system developed at NTID with support from external and internal funding. It is an access service for students who benefit from a real-time display of English text more than from sign language interpreting. C-Print® currently is used by hundreds of postsecondary and secondary programs across the nation that offer services to deaf students. The system allows captionists to transcribe to text what teachers and students say in class. Research continues, currently focusing on the use of tablet PCs to allow the integration of graphical information along with the text and the use of mobile devices (e.g., smart phones) to transmit real-time captioning over a cellular network in non-traditional learning environments.

Online Access Services Request System

NTID has created an online Service Request and Assignment System for providing streamlined access to sign language interpreting, notetaking and real-time captioning services for students. NTID operates the largest sign language interpreting, notetaking and speech-to-text service organization in the world, including 131 sign language interpreters, more than 400 student notetakers each semester and 52 real-time captionists. In addition, unique access services are available for vision-impaired students.

Innovation and Creativity at NTID (continued)

Center for International Educational Outreach

The Center for International Educational Outreach has been established with its own director, Research Associate Professor Thomastine Sarchet. As the 15-year project with the Nippon Foundation of Japan now has been successfully concluded, the office is initiating new projects in Ethiopia, Cambodia and the Philippines. All international work is funded by external grants and contracts.

NTID Performing Arts

For its 41st season in AY 2015-2016, NTID Performing Arts presented three main stage productions and special events that involved more than 400 deaf, hard-of-hearing and hearing students, faculty, staff and members of the Rochester community as actors, dancers, theater technicians and front-of-house staff (box office and ushers). These performances were attended by more than 8,000 people from throughout New York State as well as schools and community groups from neighboring states. This season included the heart-warming production "Tribes," the production of the Sherlock Holmes mystery, "The Crucifer of Blood," a full dance performance of the Changing Seasons, which included talented student dance groups, and the RIT College of Liberal Arts production of "Rocky Horror Picture Show," including the famous midnight performance. A celebration with faculty, staff and their families of an annual holiday show also took place.

Special events in NTID's Panara Theatre this year included a "Live and Loud" performance by NTID alumnus, Sean Forbes, the New York State Ballet Company's performance of the "Nutcracker" ballet and events commemorating Martin Luther King Jr. in January. Additional theater performances included two performances by RIT's Vis Viva Dance Company, two performances by RIT's 8 Beat Measure a cappella group, Brick City Singers a cappella group and the 'Chill Beats' evening of a cappella from all of the different groups on campus.

Support also was provided for the NTID Math Competition; the 303rd birthday celebration of l'Epee, the RIT Young Professional Conference, RIT/NTID Student Life Team's movie night, Tiger Media's two evenings of movies for students and events during NTID's Summer Vestibule Program (SVP) and Explore Your Future (EYF).

NTID's 1510 Theatre Lab/Black Box hosted performances of the award-winning musical "Godspell" that also was performed at Rochester's Geva Theatre Center and in New York City.

During AY 2015-2016, more than 375 students registered for and attended Performing Arts classes. Twenty-four students were awarded performing arts scholarships and eight students were awarded a performing arts certificate this past year. In total, approximately 8,255 people were served by NTID Performing Arts activities during the 2015-2016 production season.

Showcasing Deaf Artists

A team of NTID faculty and staff developed a website that showcases and promotes the works of deaf and hard-of-hearing artists (www.rit.edu/deafartists). The site features art and biographical information on more than 100 professional deaf artists from around the world as well as streaming videos and articles related to deaf artists and deaf art. Also included on the site are the self-portraits of a group of RIT/NTID students, along with video and/or written descriptions.

Preserving Deaf History

The experiences of deaf people during World War II are captured in a website developed by a team of NTID faculty and staff (www.rit.edu/ntid/ccs/deafww2/). Designed for students, teachers, scholars, researchers and historians, the site features articles, scripts, video clips, testimonies, artwork, books and links to related sites. Also included is an award-winning NTID documentary, *Exodus: A Deaf Jewish Family Escapes the Holocaust* and the documentary, *Worry: A Jewish Deaf-Blind Survivor Shares Her Story*.

The HeART of Deaf Culture: Literary & Artistic Expressions of the Deaf Experience

This multimedia interactive website, produced and edited by NTID faculty members Karen Christie and Patti Durr, explores deaf visual art, ASL and English literature, deaf theater and deaf cinema. It contains in-depth interviews with deaf scholars and creators from each genre, and features more than 300 artworks, poems, abc stories, performances and film clips: https://www.ntid.rit.edu/educational-materials/?controller=product&product_id=34.

Deaf Studies Archive

The RIT/NTID Deaf Studies Archive (https://library.rit.edu/depts/archives/ritntid-deaf-studies-archive) documents RIT's central role in educating people who are deaf or hard of hearing in the United States and draws from Rochester's significant deaf community. The main focus of the archive is Deaf culture, studies, education, theater and artists. This significant archive of primary resources, artwork, videos and books documents the founding and growth of NTID and highlights the many remarkable contributions of deaf, hard-of-hearing and hearing individuals affiliated with NTID. The Rochester area enjoys a vibrant deaf community, and the Deaf Studies Archive represents the first time an effort has been made to preserve some record of this culture. From the papers of distinguished faculty to artwork by alumni to the records of a local deaf theater group, this growing archive showcases the many talented and dedicated individuals affiliated with NTID and beyond. The Deaf Studies Archive is located in the RIT Archives in the Wallace Center and is curated by the NTID librarian and the RIT archivist. The NTID librarian also teaches Deaf Studies classes.

RIT ASL & Deaf Studies Community Center (RADSCC)

The RIT ASL & Deaf Studies Community Center continues to promote education, understanding and participation in the RIT deaf community by all members of the RIT community. A variety of events ranging from weekly ASL classes to regular community meetings and special Rochester-area group gatherings are hosted in the RADSCC located in RIT's Wallace Center. RADSCC's ASL Lecture Series presenters for AY 2015-2016 included Isaac Agboola, Khadijat Rashid, Debra Russell, Takiyah Harris, Trudy Suggs, Raychelle Harris and Kathleen (Kat) Brockway. RADSCC used its fourth annual Deaf-Mute Banquet to honor the 90th birthday of Andrew Foster, a deaf African-American educator from Alabama later known as the "Father of Deaf Education in Africa" for his work establishing 32 schools for the deaf across the African continent.

Dyer Arts Center

In AY 2015-2016, the RIT/NTID Joseph F. and Helen C. Dyer Arts Center hosted 18 exhibits. Most notable was the first-ever exhibit on Black Deaf artists, titled "Unfolding the Soul of Black Deaf Expressions," which had more than 150 art pieces. People from all over the country came to visit the exhibit. Other exhibits focused on NTID alumni and current students' artworks. The Dyer Arts Center was home to 65 events hosted by various departments and student organizations. The Dyer hosted community/art events such as a Zentangle party and collage-making workshop led by RIT/NTID alumni. The Dyer also hosted student events such as a Destress Workshop in collaboration with NTID's Counseling and Academic Advising Services. The Dyer Arts Center has acquired 20 new artworks from deaf artists such as Takiyah Harris, Eddie Swayze, Susan Dupor, David Prusinki, Fred Beam, Hilary Allumaga and Yiqiao Wang. With the help of a new collections assistant, they have also been able to transfer the permanent collection to a new relational database, increasing preservation and accessibility to the artworks. A new gallery assistant was hired in January 2016.

Imagine RIT: Innovation and Creativity Festival

An abundance of innovation and creativity was present throughout the RIT campus Saturday, May 7, 2016, during the ninth annual Imagine RIT: Innovation + Creativity Festival. The event showcased RIT's unique blend of technology and the arts.

More than 25,000 people came to campus on Saturday, May 7, 2016, for the ninth annual Imagine RIT: Innovation + Creativity Festival, a one-day celebration of RIT's unique blend of technology and the arts. As in previous years, the festival, which hosted more than 400 student, faculty and staff exhibits, demonstrations and performances, featured a strong NTID presence. NTID students, faculty, staff and alumni were involved in numerous exhibits across campus.

A sampling of NTID student, faculty and staff exhibits includes:

- **WAVIO Sound Recognition Technology:** The latest in sound recognition technology, the system combines intelligent sound recognition technology with simple hardware to provide an all-in-one system that will work for anyone who is deaf or hard of hearing.

- **The Future of Access in Museums Starts with an App:** The RIT/NTID Communication Access Technology team created a mobile application that allows visitors to enjoy an enhanced experience in understanding art pieces that are displayed in the Dyer Arts Center. This app uses Near Field Communication (NFC) to correspond with a tag mounted next to an art piece. A tag is encoded with specific information about an art piece through photos, text and captioned videos done in American Sign Language (ASL). With one tap of a smartphone, visitors are able to learn more about the art piece and communication barriers are instantly removed. Most museums require auditory abilities to learn more about art pieces, and visitors who are deaf or hard of hearing often have to depend on books filled with textual materials translated from spoken recordings. This interactive app (undergoing beta-testing) may be the future of access for museums.

- **Sign Language Iconography:** Designs that will help to increase customer loyalty and workplace morale as well as effective communication by using sign language icons to represent content that contains sign language. Staff or employees can display a badge of the icon, signaling that they can communicate in sign language.

- **InMoov ASL Robot:** A 3D printed life-size humanoid robot that communicates with visitors using basic American Sign Language. It is programmed to sign some simple words such as "Tigers," "Welcome" and "Robot."

- **Speech Report, A Speech Therapy App:** Speech Report is a mobile app for speech therapy users. It allows users to practice their speech and give feedback to their speech therapist at any time and any place. Created by two RIT/NTID undergraduate students.

- **Access Technology for DeafBlind Users in Groups:** The team is developing a prototype of an access technology for DeafBlind people with Usher Syndrome to improve communication with their peers during meetings or other interactive settings.

- **Automatic Speech Balloons:** The Automatic Speech Balloons system will display speech from multiple speakers, in text form within speech balloons. Children and adults will be able to both listen to the speakers and see their speech dialogue, in a form similar to cartoons. The Automatic Speech Balloon system will be accessible to all people, deaf or hearing.

- **Translate Voice to Text:** Translate voice to text for hard-of-hearing and deaf individuals with a mini processor that comes with a microphone.

- **Deaf & Hard of Hearing Virtual Academic Community:** Sponsored by the Deaf STEM Community Alliance, DHHVAC provides remote tutoring and mentoring using Google Apps for Education to support deaf and hard-of-hearing STEM majors.

- **Accessible Communication for Everyone (ACE):** The ACE app is being built for the Deaf community, by the Deaf community. ACE app uses standard software video phone for PC, MAC, iOS and Android.

RIT/NTID also provided sign language interpreting support for the festival to ensure the event was accessible to deaf and hard-of-hearing attendees.

All of the exhibits, activities and performances demonstrated the innovative thinking and creative spirit and energy that are uniquely RIT and that have shaped RIT President William Destler's vision of RIT as a hub for innovation and entrepreneurship.

Department of Information and Computing Studies faculty member Brian Trager '00, '05, right, discusses mobile application development with students Vincent Venutolo, far left, a Computing and Information Technology major from Bensalem, Pennsylvania, and Cody Johnson, center, a Human-Centered Computing major from Ham Lake, Minnesota. Trager is the program director of a three-year grant from the National Science Foundation of $820,504 to support the development and implementation of an associate degree program designed to increase the number of deaf and hard-of-hearing students in the mobile apps workforce. Nine students were recruited into the program, which launched September 2016.

Intellectual Property: Licensed Educational Materials, Patents and Inventions

NTID educational materials are categorized into two groups. Materials developed before the October 1997 RIT Intellectual Property Policy was implemented are unlicensed materials. Materials developed after RIT implemented the policy are licensed, and the sales revenue is shared by the creator(s) of the materials and NTID, per the requirements of the policy. All materials are copyrighted to Rochester Institute of Technology and are available through a variety of vendors. Below is a summary of the materials in both categories and distribution information.

Unlicensed Educational Materials

- *From Dream to Reality* (NTID's history book)
  Distributed through NTID Communications, Marketing and Multimedia Services

- *Let's Communicate* (brochure)
  Distributed through NTID Communications, Marketing and Multimedia Services

- *Tips for Communicating* (brochure)
  Distributed through NTID Communications, Marketing and Multimedia Services

- *Project Access Workshop Planner's Guide*
  Distributed through NTID Communications, Marketing and Multimedia Services

Licensed Educational Materials

- *Attention Deficit Scales for Adults - Sign Language Version*
  Distributed through NTID Communications, Marketing and Multimedia Services

- *ASL at Work*
  Distributed by Dawn Sign Press

- *ASL Dictionary and Inflection Guide* (online subscription)
  Order online at www.ntid.rit.edu/dig

- *ASL Dictionary and Inflection Guide (iOS application and Android application)*
  Order online through the Apple Store at https://itunes.apple.com/us/app/id510152499 or through Google Play at
  https://play.google.com/store/apps/details?id=digmob.rit.edu.asldictionaryfromntid&hl=en

- C-Print® Pro Software and C-Print® online training
  Distributed through NTID College Operations

- *Educational Interpreting* (DVDs and companion booklet)
  Distributed through Harris Communications, Butte Publications and NTID Communications, Marketing and Multimedia Services

- *NTID Speechreading* (DVD and supplementary materials)
  Distributed through AUDiTEC

- *Processing Skills Development* (ASL texts)
  Distributed through Barnes & Noble @ RIT and NTID Communications, Marketing and Multimedia Services

- *The Heart of the Hydrogen Jukebox* (DVD)
  Distributed through NTID Communications, Marketing and Multimedia Services

- *The HeART of Deaf Culture* (online subscription)
  Distributed through NTID Communications, Marketing and Multimedia Services

Intellectual Property (continued)

Patents/Inventions and Copyrights

- Trademark NTID Speech Recognition Test® (NSRT®), pending patent; application also available for early demonstration and trials, developed in NTID's Center on Access Technology (CAT).

- Translation to ASL of the Connor-Davidson Resilience Scale (CD-RISC), by NTID's Center on Cognition and Language through an agreement between Connor-Davidson and the University of Michigan.

- A previously reported pending patent titled, "See-Through Mask to Facilitate Communication in Environments Requiring the Wearing of a Mask," which came to RIT/NTID via assignment from IBM has been abandoned for lack of novelty.

- An ASL Dictionary and Inflection Guide translation to South African Sign Language via license agreement from NTID through the ASLIE Department.

Student Innovation within RIT/NTID

- NTID student start-up Hz Innovations is developing and launching their product, Wavio sound recognition technology, developed within NTID's Center on Access Technology (CAT).

- NTID student start-up MotionSavvy is developing and launching their product, UNI sign-to-speech and speech-to-text software, developed within NTID's Center on Access Technology (CAT).

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Outreach

A primary goal of NTID's Pre-College Outreach programs is to better prepare deaf and hard-of-hearing middle and high school students for college.

Twenty deaf and hard-of-hearing girls in grades 7–9 attended the week-long summer camp TechGirlz in 2016 to explore their interests in science, technology, engineering and mathematics.

Outreach Highlights

NTID's educational outreach efforts include a number of innovative programs designed to share educational information and provide technical assistance to alumni, other deaf and hard-of-hearing adults, teachers of deaf and hard-of-hearing students, employers, Vocational Rehabilitation personnel, secondary and middle school students and parents of deaf and hard-of-hearing children.

Pre-College Outreach Programs

- NTID's *Strategic Vision 2010* called for an increase in outreach efforts aimed at deaf and hard-of-hearing middle school and high school students. The purpose was to provide educational experiences for these students that would enable them to envision a place for themselves in a college environment after their high school graduation. A special focus of this effort was young women and Black or African American, Hispanic/Latino and American Indian or Alaska Native students. During FY 2016, NTID faculty and staff conducted nine outreach programs: the SpiRIT Writing Contest for students in grades 10–12; Explore Your Future, a summer program for students in grades 10–11; TechGirlz, a summer camp for girls in grades 7–9; TechBoyz, a summer camp for boys in grades 7–9; Steps to Success, a one day camp for Black or African American, Hispanic/Latino and American Indian or Alaska Native students in grades 7–9; a math competition for middle school students; the Digital Arts, Film and Animation Competition for students in grades 9–12; the Health Care Careers Exploration Camp, a summer program for students in grades 9–11, and Droids and Drones, a camp held in Alabama for students in grades 10–12. (See following pages for program details.)

- Explore Your Future (EYF), a week-long career exploration and evaluation program for deaf and hard-of-hearing students about to enter their junior or senior year of high school, is one of NTID's most successful outreach programs. EYF provides opportunities for high school students to learn about themselves and their educational and life/career choices, and is based on the idea that people have differing interests in six areas: Realistic, Investigative, Artistic, Social, Enterprising and Conventional. Students participate in hands-on career exploration classes and personal awareness instruction. Myriad social activities and dorm-living opportunities give the students a taste of college life. A total of 6,096 students have participated in EYF over the past 32 years. Thirty-six percent of the summer 2015 participants subsequently enrolled at NTID. Two sessions were offered in summer 2016. This year's participants came from 32 states, with one student coming from Laab im Walde, Austria.

Other Outreach Activities

- C-Print® software, developed at NTID, is used by real-time captionists to produce text of spoken content. C-Print is an access service option for deaf and hard-of-hearing students in educational environments. Inquiries about C-Print come via email, phone calls and website visits. From October 2015 through September 2016, there were approximately 2,891 email dialogues and 235 phone call discussions with C-Print Product Development. The C-Print website received 11,774 visits from October 2015 to September 2016. NTID conducts online real-time captionist training as a distance-education program designed to give individuals the core preparation necessary to provide speech-to-text services, primarily in a classroom setting. Orders/requests for online training totaled 113 and for software totaled 149 from October 2015 through September 2016. In addition, the C-Print Mobile client is available for download in the iTunes and Google Play stores.

- The NTID Office of Alumni and Constituent Relations plans and implements strategies for engaging alumni and other constituents through social and professional development events, volunteer opportunities and other activities, both campus-based and in targeted regions around the country. With counsel from and collaboration with the NTID Alumni Association Board of Directors, Alumni and Constituent Relations works to build and maintain connections between NTID and its more than 8,000 alumni. Over the past year, more than 1,000 alumni and guests participated in more than 30 alumni activities and events across the country and internationally including receptions, workshops and networking opportunities.

Pre-College Outreach

NTID's *Strategic Vision 2010* called for development of an educational outreach consortium that would allow NTID to share its expertise to improve the education and career development of individuals who are deaf or hard of hearing. An outgrowth of this decision has been a series of outreach initiatives designed to provide educational experiences for students in grades 6–12.

NTID's pre-college outreach focuses on empowering deaf and hard-of-hearing middle school and secondary students and their parents with information to help students' long-term career success. A special focus of this effort is young women and Black or African American, Hispanic/Latino and American Indian or Alaska Native students.

In 2016, RIT/NTID welcomed more than 464 middle school and high school students and their parents from all over the country to nine pre-college outreach efforts—three were outreach competitions, five were summer camps and one was a camp held in Talladega, Alabama. Participation is expected to grow annually as marketing and other promotional efforts continue.

Parents, students and teachers alike had high praise for the 2016 competitions and camps. With the success of these initiatives, RIT/NTID is well on the way to its goal of making outreach a central focus, and sharing 46 years of expertise in access services, program development and the application of technology to ensure that students will possess the skills and knowledge necessary to be active participants in the 21st-century American workforce.

Digital Arts, Film and Animation Competition

Deaf and hard-of-hearing students in grades 9–12 submitted 28 entries to the 2016 Digital Arts, Film and Animation Competition in four different categories: Web page design, graphic media, photo illustration and film. Four winners were selected and received cash prizes and plaques.

Math Competition

RIT/NTID's national Math Competition for middle school students challenges math skills, develops self-confidence and rewards achievements. In April 2016, 119 students from 34 middle schools participated in the competition at NTID. Cash prizes were given to the top three teams and individual winners. The intent of the competition is to foster interest in mathematics.

SpiRIT Writing Contest

RIT's 11th annual SpiRIT Writing Contest for deaf and hard-of-hearing students attracted 31 students in grades 10–12 from around the United States in July 2016. Students and their teachers submitted portfolios of the students' best work. The winners received either a full scholarship to NTID's Explore Your Future program or a $500 cash prize.

TechGirlz and TechBoyz Camps

Twenty deaf and hard-of-hearing girls and 27 deaf and hard-of-hearing boys in grades 7–9 attended TechGirlz/TechBoyz in 2016 to explore their interests in science, technology, engineering and mathematics. This is the 10th year for TechGirlz and the fifth year for TechBoyz. The week-long summer camps held in July gave girls and boys the opportunity to learn more about careers in science and technology-related fields. They built their own computers, analyzed a "crime scene" and worked with computer-aided drafting equipment to create a telescope. The program included an hour-long workshop for parents that focused on what colleges expect from high school students, how parents can encourage their students to prepare for college and how to access financial aid.

Pre-College Outreach (continued)

Health Care Careers Exploration Camp

The Health Care Careers Exploration Camp is a program for deaf and hard-of-hearing students entering 10th–12th grade. This program allowed 14 students the opportunity to learn about various careers in health care in order to discover what types of careers fit their interests. The students attended medical demonstrations and area medical facilities, were part of hands-on demonstrations and became CPR/first aid certified.
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Steps to Success

Steps to Success 2016 was held in partnership with the Atlanta Area School for the Deaf in Clarkston, Georgia. Eight families who have middle-school-aged deaf or hard-of-hearing Black or African American, Hispanic/Latino and American Indian or Alaska Native students children registered for the program to learn about best practices and ways to prepare for postsecondary careers.

Droids and Drones

Droids and Drones was offered for the first time this year. This program was designed to promote career interest in science, technology, engineering and math with emphasis on drone technology and aviation physics. The week-long program, held at the Alabama School for the Deaf campus in Talladega, Alabama, was attended by 18 students from Alabama and Georgia.

Pre-College Outreach AY 2015-2016			
	Total Participants	Minorities	
		Number	Percent
Explore Your Future	199	94	47%
SpiRIT Writing Contest	31	15	48%
Digital Arts, Film and Animation	28	14	50%
Math Competition	119	25	21%
Steps to Success	8	8	100%
Health Care Careers Exploration Camp	14	6	43%
TechGirlz/TechBoyz Camp	47	10	21%
Droids and Drones	18	10	56%

Explore Your Future

Explore Your Future (EYF) is a week-long career exploration and evaluation program conducted at NTID each summer for deaf and hard-of-hearing students about to enter their junior or senior year of high school. It is one of the college's most successful outreach programs. The program provides high school students with the opportunity to learn about themselves and their educational and life/career choices. It incorporates the framework that people have differing interests in six areas: Realistic, Investigative, Artistic, Social, Enterprising and Conventional. Students participate in hands-on career exploration classes and personal awareness instruction. Myriad social activities and dorm-living opportunities give participants a taste of college life. A total of 6,096 students have participated in EYF over the past 32 years. Thirty-six percent of summer 2015 participants subsequently enrolled at NTID. Two sessions were offered in summer 2016. This year's participants came from 32 states and Austria.

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Number of Participants	191	192	100	213	199
Percentage of Minorities	30%*	34%	32%	34%	47%
Percentage Enrolling at NTID	53%	31%	60%	36%	N/A**

High school juniors and seniors build a remote-controlled car as part of Explore Your Future (EYF) camp. In 2016, 199 students attended EYF.

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*   Twenty percent of students enrolled in EYF 2012 did not indicate their ethnicity on the registration form.
**   Students from EYF 2016 currently are in the process of applying to NTID.

Explore Your Future – Enrollment by Location

Summer 2016 EYF students represented 32 states
and Austria.

Home State or Country	Number in EYF Summer 2016
Alabama	1
Arizona	2
California	19
Colorado	1
Connecticut	9
Delaware	1
Florida	13
Georgia	4
Hawaii	1
Illinois	21
Indiana	4
Maine	1
Maryland	14
Massachusetts	7
Michigan	6
Minnesota	1
Missouri	10
Nebraska	1
New Jersey	9
New York	36
North Carolina	1
North Dakota	2
Ohio	5
Oklahoma	4
Pennsylvania	6
Rhode Island	2
Tennessee	1
Texas	10
Vermont	1
Virginia	1
Washington	3
Wisconsin	1
Austria	1
Total	**199**

DeafTEC

The National Science Foundation (NSF) Advanced Technological Education (ATE) National Center of Excellence grant, *DeafTEC: Technological Education Center for Deaf and Hard-of-Hearing Students,* was awarded in August 2011. A four-year renewal of the award was received in August 2015. The largest NSF awards in RIT's history, DeafTEC establishes the first ATE center to support individuals who are deaf or hard of hearing. DeafTEC's goal is to successfully integrate more deaf and hard-of-hearing individuals into the workplace in highly skilled STEM technician jobs in which these individuals are currently underrepresented and underutilized. Through regional partnerships, a comprehensive clearinghouse of online resources and a national dual credit program, DeafTEC provides deaf and hard-of-hearing students, as well as their teachers, counselors, employers and co-workers, with the resources that will help those individuals succeed, both in the classroom and on the job.

Regional Partnership Model: The goal of the DeafTEC partnership model is to build a mutually supportive professional community in selected regions of the country that will improve access to technological education and employment for deaf and hard-of-hearing students. DeafTEC has established this train-the-trainer partnership model by selecting one high school, one community college and one or more employers within four regional areas: California, Florida, Texas and, added in 2015, the Midwest region based in Illinois. DeafTEC's regional partners are:

California
    California School for the Deaf, Riverside
    Cisco Systems Inc., San Jose
    Solar Turbines Incorporated, San Diego
    Qualcomm, San Diego

Midwest
    Hinsdale South High School, Darien, Illinois
    Harper College, Palatine, Illinois
    AT&T, Chicago, Illinois
    Motorola Solutions, Inc., Chicago, Illinois
    Caterpillar, Inc., Peoria, Illinois

Florida
    Florida School for the Deaf and the Blind, St. Augustine
    Florida State College at Jacksonville, Jacksonville
    ConMed Corporation, Largo
    Lockheed Martin, Orlando

Texas
    Texas School for the Deaf, Austin
    Austin Community College, Austin
    The Dow Chemical Company, Seadrift
    Lockheed Martin, Dallas

The DeafTEC partnership model involves personnel from each regional partner attending train-the-trainer professional development activities that prepare them to offer the four DeafTEC workshops described below. The trainers then offer these workshops to high school teachers, college faculty and employers within their regions:

1. *Working Together: Deaf and Hearing People* workshop is designed to help employers develop the sensitivity and skills to successfully integrate deaf employees into the workplace.
2. *Project Access* workshop sensitizes teachers in mainstreamed settings to the challenges faced by deaf and hard-of-hearing students and shares Universal Design for instruction strategies and best practices that will benefit all students in the classroom.

3. *Promoting Student Success in Math through Best Practices* workshop provides high school and college math instructors with a toolbox of effective strategies for teaching math to deaf and hard-of-hearing students.

4. *Writing in the Disciplines* workshop assists STEM instructors in bringing a *Writing in the Disciplines* (WID) approach to their STEM classes, which provides students with writing practice that both improves their writing and enhances their learning in the discipline.

Train-the-Trainer Professional Development. Two Train-the-Trainer (TtT) workshops were offered to participants from high school, community college and industry partners:

1. TtT Working Together was offered to 20 participants on June 21, 2016
2. TtT Project Access was offered to 16 participants on June 22-23, 2016

To date, DeafTEC has offered a total of 13 train-the-trainer sessions to 181 participants. (66 participants were trained to offer more than one workshop.)

Partner-Led Professional Development. In FY 2016, DeafTEC partners offered 23 workshops to 352 participants.

- Eleven *Project Access* workshops to 128 educators
- Five *Writing in the Disciplines* workshops to 60 educators
- Seven *Working Together* workshops were offered by industry partners to 117 employees

To date, DeafTEC partners have offered 100 workshops to a total of 1,608 attendees.

Student STEM Activities. Five hundred twelve (512) high school and middle school students participated in STEM awareness activities offered by DeafTEC's high school partners. These activities included:

- Motorola Solutions' STEM Career Presentation at Hinsdale South High School on October 28, 2015; 22 high school students attended
- Texas School for the Deaf's Discovery Retreat Science and Pseudoscience in Ghost Hunting on October 30, 2015; 23 high school students attended
- Florida School for the Deaf and the Blind's Facing the Future Together & DeafTEC Student STEM Experience on January 16-17, 2016; eight middle and high school students attended
- Texas School for the Deaf's Middle School and Parent STEM Discovery Retreat on February 13, 2016; 23 middle school students and 20 parents attended
- STEM Panel Presentation Harper College on March 17, 2016; 22 high school students attended
- California School for the Deaf, Riverside's STEM Career Day on April 19, 2016; 380 high school and middle students attended
- Texas School for the Deaf's Discovery Retreat Wearable Technologies on April 22-24, 2016; 34 high school students attended

Other partner activities:

- Participation in Shadow Day. Two deaf and hard-of-hearing BS-level engineering students and one NTID Engineering Studies faculty attended "Shadow Day" at Solar Turbines in San Diego on October 16, 2015, supported by DeafTEC. The goal of Shadow Day was to provide students with an opportunity to experience a typical workday for engineers at Solar. Students attended presentations, went on facilities tours, shadowed an engineer for a day and participated in mock interviews.

Website Development. The DeafTEC website (www.deaftec.org/) serves as a national resource on technical educational and technician careers for deaf and hard-of-hearing students, their parents, teachers and future employers. The website contains sections related to the following resources:

- **Class Act Update and Expansion.** This section of the website focuses on helping instructors understand and address the challenges deaf and hard-of-hearing students face in mainstream classes, and presents strategies that teachers can use to meet these challenges and improve their teaching. DeafTEC professionals continue to update and expand materials in this section,

including creating STEM-focused lectures for illustrating classroom lecturing do's and don'ts, and updating the popular PacerSpacer videos. The best practices for teaching materials can be found at: http://deaftec.org/classact.

- **Writing in the Disciplines (WID) Resources.** Three new videos have been posted that emphasize the importance of writing in STEM. In *Faculty: Writing in the Disciplines,* deaf and hearing faculty at NTID talk about the types of writing required in STEM careers. In *Faculty: The Importance of Writing,* faculty share how important writing well is to being successful in STEM. In *Students: The Importance of Writing,* students talk about the challenges they have faced in writing, the types of writing required in their STEM classes and future careers, and what has helped them become better writers. The videos can be seen at http://deaftec.org/why-writing-matters-stem.

  Five additional videos that discuss best practices for teaching writing to deaf and hard-of-hearing students (as well as for other students that face challenges in writing) have been filmed and will be posted after final edits and captioning.

- **Math Resources.** DeafTEC's 64 online math tutorials continue to be extremely popular. The large collection of math tutorials can be found at http://deaftec.org/resources/math. An unsolicited comment submitted through the DeafTEC website stated: *"The math videos are fantastic and a great start for us. In fact, they are the only ones that I was able to find. I'm passing these along to the program supervisor to see how they will fit in with her student's plan of study."*

- **STEM Careers.** Materials related to Information Technology, Engineering/Manufacturing and Lab Science careers continue to be expanded including the addition of a new video featuring an NTID alumna working in the lab science field. This section of the website now contains six high-quality videos of deaf professionals talking about how they prepared for these careers and how they succeeded on the job. The videos can be viewed at http://deaftec.org/stem/professionals.

- **The Importance of STEM.** This new webpage under the website's Resources section makes the case for why a career in a STEM field is such a good choice for deaf and hard-of-hearing students, since deaf and hard-of-hearing workers in STEM careers earn 30 percent more than deaf workers in non-STEM careers, regardless of degree. This new resource can be viewed at http://deaftec.org/why-stem-deaf-and-hard-hearing-students.

- **Employers' Resources:** Progress is being made with the development of online learning modules for employers to help them learn how best to integrate successfully deaf and hard-of-hearing individuals into their workplaces. The modules are based on the *Working Together: Deaf and Hearing* workshop created by NTID's Center on Employment and offered by DeafTEC's Regional Partners. Work on all six modules has begun with four completed and out for review. When completed, these modules will be made available online on the DeafTEC website. This section of the website can be viewed at http://www.deaftec.org/employers.

- **STEM ASL Video Dictionary Project.** The dictionary, created with Geoff Poor, professor in NTID's American Sign Language and Interpreting Education department, presents technical signs developed and vetted by experts across the country. Signed vocabulary for math has been completed during this reporting period. The STEM ASL Video Dictionary now contains accurate signs for technical vocabulary as well as signed definitions and usage for three STEM disciplines: Information Technology, Lab Sciences and Mathematics. This project is being supported, in part, by a gift from The Dow Chemical Company and can be viewed at http://deaftec.org/stem-asl-video-dictionary.

- **Website Affiliates Section**. This private section of the website, created for all of DeafTEC stakeholders, has been reorganized and continues to be updated and expanded. It includes material presented at various train-the-trainer events for use by regional partners, reports and all

of DeafTEC's evaluation tools. It also includes an archive of all professional development events offered by regional partners. This provides both a repository for the providers of the events, and the opportunity for them to share their material with other trainers.

Dissemination of DeafTEC Resources. In FY 2016, 11 presentations were made at national or international conferences to share DeafTEC's resources related to best practices for teaching deaf and hard-of-hearing students; a total of 29 presentations have been made over the grant period.

Other DeafTEC Initiatives

- **Epsilon Pi Tau National Honor Society.** On May 16, 2016, with support from DeafTEC, the Delta Xi chapter of Epsilon Pi Tau National Honor Society established at NTID inducted its second group of members consisting of 16 associate-level students and five faculty including the president of NTID. This is the first EPT chapter in the nation dedicated to deaf and hard-of-hearing students and NTID's first national honor society.

Project Fast Forward. Project Fast Forward originally was established in 2006 with a three-year grant from the National Science Foundation's Advanced Technological Education program under award DUE#: 0602761 and now is an integral part of DeafTEC. The goal of the project is to build a pathway for deaf and hard-of-hearing students to transition from high school to college in selected STEM disciplines by allowing deaf and hard-of-hearing high school students to take dual-credit courses, earning RIT/NTID college credit while they are still in high school.

- **School Partners.** During the academic year 2015-2016, dual credit courses were offered at two new schools and 11 established schools. Three additional schools were recruited to teach dual-credit courses beginning in academic year 2016-2017. Current partner schools are:
    - Alabama School for the Deaf and Blind, Talladega, Alabama
    - American School for the Deaf, West Hartford, Connecticut
    - Atlanta Area School for the Deaf, Atlanta, Georgia
    - California School for the Deaf, Fremont, California
    - California School for the Deaf, Riverside, California
    - Cypress Ridge High School, Houston, Texas
    - Eastern North Carolina School for the Deaf, Wilson, North Carolina
    - Florida School for the Deaf and the Blind, St. Augustine, Florida
    - Hindsdale South High School, Hindsdale, Illinois
    - Indiana School for the Deaf, Indianapolis, Indiana
    - Lexington School for the Deaf, Jackson Heights, Queens, New York
    - Marlton School for the Deaf, Los Angeles, California
    - Maryland School for the Deaf, Frederick, Maryland
    - McNeill High School, Round Rock, Texas
    - Mill Neck Manor School for the Deaf, Mill Neck, New York
    - North Carolina School for the Deaf, Morganton, North Carolina
    - Plano Senior High School, Plano, Texas
    - Rochester School for the Deaf, Rochester, New York
    - Texas School for the Deaf, Austin, Texas
    - University High School, Irvine, California
    - Western Pennsylvania School for the Deaf, Pittsburgh, Pennsylvania

- **Dual-Credit Courses.** For the 2015-2016 academic year, the following courses were developed for high schools to teach and earn their students RIT/NTID college credit:
    - *Applications Software*: An introduction to word processing, spreadsheet, presentation and database applications
    - *Web Development I*: An introduction to Web page development, including XHTML and Web graphics

- o *PC Hardware I*: An introduction to the fundamental hardware concepts of personal computer (PC) systems, including their structure and components
- o *Page Layout I:* An introduction to page layout applications to produce pages and documents to given specifications
- o *Raster/Vector Graphics:* Introduces the skills needed for the successful production and manipulation of raster and vector images using image creation and production software
- o *Blueprint Reading:* An introduction to the skills necessary to read and interpret fundamental engineering drawings of details, subassemblies and assemblies
- o *Engineering Graphics:* Introduces basic skills needed to create professional 2D drawings using AutoCAD software for mechanical, architectural and civil drawings
- o *Processes of Science: Forensics:* An introduction to science processes using the content of forensics as a vehicle to establish an appreciation of the scientific method, critical thinking and problem solving
- o *Processes of Science: Environmental Studies:* An introduction to science processes using the content of environmental studies as a vehicle to establish an appreciation of the scientific method, critical thinking and problem solving

- **Courses Taught and Credit Earned.** During 2015-2016, 20 course sections were taught at partner high schools with 111 deaf and hard-of-hearing high school students enrolled in those courses. The following is the total number of Project Fast Forward dual-credit courses taught and students served through Project Fast Forward from fall 2007 to spring 2016:

  - o 131 dual-credit course sections were taught by 44 teachers in their high schools.
  - o 689 registrations were recorded in Project Fast Forward courses.
  - o 540 unique deaf and hard-of-hearing students participated in the program.
  - o 149 deaf and hard-of-hearing students took more than one course.
  - o Of the 689 students who registered for a dual credit course 2015-2016, 63 percent (388/609) received passing grades. In many cases this was due to the high school teacher not fulfilling the expectations of the course, and not due to students' failure. Removing the course grades that are the result of teacher actions, 531 students actually completed a dual credit course, with a passing rate of 73 percent.
  - o 1,164 RIT/NTID credits were awarded to deaf and hard-of-hearing students.

For the academic year 2016-2017, 29 dual-credit course sections are being taught and 185 high school students are registered for dual credit.

- **Professional Development.** Offered to high school teachers and guidance counselors from partnering high schools. Teachers received technical training on course content and teaching methodologies and on improving access for deaf students in mainstream classrooms. Both teachers and counselors also received training on selected STEM career opportunities for deaf and hard-of-hearing individuals and on the dual-credit program.

In July 2016, training was offered to 15 new Project Fast Forward high school teachers, two established teachers teaching a new course and three new guidance counselors. For 10 summers, 2007-2016, the following numbers of teachers and counselors have participated in summer professional development:
  - o 50 teachers from 27 high schools have attended summer professional development to prepare to teach dual credit courses in their high schools, with many teachers returning to NTID to learn content for a second and third course for a total of 82 teacher trainings.
  - o 25 guidance counselors attended summer professional development activities to work with students taking dual credit courses in their high schools.

Employer Outreach

NTID initiates and delivers consultation, training, follow-up and other support services to employers. Through these services, employers become aware of the needs of deaf and hard-of-hearing people for employment and, in partnership with NTID, facilitate graduates entering the workforce and continuing their career development. A total of 754 employer representatives received training through the NTID Center on Employment (NCE) in AY 2015-2016.

Employer Training and Educational Programs

NTID's Center on Employment conducted, delivered and presented 26 programs for 754 human resources professionals and company representatives.

NTID Job Fair

The 15th annual NTID Job Fair was held in October 2015 with 45 employers attending and close to 400 students and alumni participating. During this fair, five employers participated on a panel attended by student job seekers to explain the job search process from their company's perspective and answer questions from student attendees.

Co-op Visitation Program

Eighteen NTID faculty and staff visited 48 students on cooperative education assignments and their supervisors in nine states.

Outreach to Employers, Alumni and Other Deaf and Hard-of-Hearing Adults

- Coordinated 26 on-campus orientations; 20 resume packages requested
- Consulted with 56 alumni and other deaf and hard-of-hearing adults seeking job search assistance
- Completed St. Louis, Missouri, trip, which included two *Working Together: Deaf & Hearing People* workshops and one employer orientation in April 2016
- Supported two engineering students plus one faculty member in participating in the Solar Turbines Training Academy/Shadow Day in San Diego, California, in October 2015

NCE Marketing Highlights

- Presented *Disability Etiquette & Assistive Technologies* and exhibited at the United States Business Leadership Network Conference in September 2016 in Orlando, Florida
- Presented *Deaf & Hearing People: Communication and Accommodation* through the Department of Homeland Security Webcast in September 2016
- Exhibited at SHRM Diversity & Inclusion, American Society for Health Care HR Administration, National Industrial Liaison Group, and Specialty Graphic Imaging Association
- Posted student/recent graduate success stories on the NCE website at least once a month
- Reviewed and revised the program marketing pieces, NCE brochure and NCE website (www.ntid.rit.edu/nce/) to ensure content was up to date
- Produced "The Deaf Experience" video for the "Working Together: Deaf & Hearing People" workshop
- Posted current relevant information on the NCE Facebook page
- Developed news releases and articles to promote employer participation in the NTID Job Fair

Faculty and Staff

As of fall 2016, 30 percent of NTID's workforce was eligible for retirement.

Annemarie Ross '05, an associate professor in the Laboratory Science Technology (LST) program, instructs LST majors Yasin Bayraktar, of Austin, Texas, and Jayshaud Potter, of Battle Creek, Michigan.

Faculty and Staff Highlights

Attracting and retaining the most capable and dedicated faculty and staff in order to provide an exceptional learning environment for deaf and hard-of-hearing students is central to fulfilling NTID's mission and purpose. NTID's highly qualified faculty and staff bring to the institute a wide variety of experiences, skills and backgrounds. Some are veteran educators with many years of higher education teaching experience, while others bring to the NTID classroom a wealth of hands-on knowledge gained from working in business and industry. Among the latter group are alumni who, after gaining significant work experience away from NTID, have returned to their alma mater to share the expertise they have learned on the job with a new generation of students.

In 1987, NTID employed 687 faculty and staff. As of fall 2016, NTID employed 563* faculty and staff, up from 530 in fall 2015.

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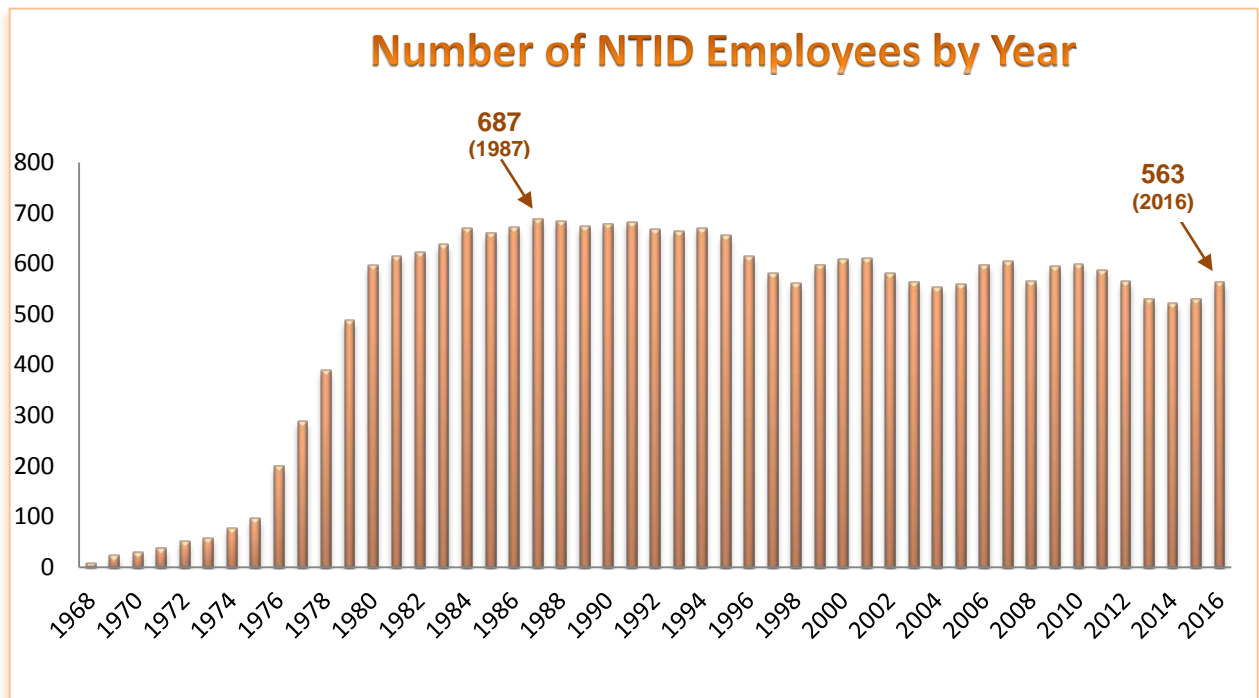
*   Of the 563 employees, 541.18 are covered by NTID's operating funds.

Average Salary: Faculty and Staff

RIT endeavors to maintain faculty salaries that are on par with the colleges and universities with which it competes. Similarly, RIT provides staff salaries that are competitive with other local and regional colleges and businesses. Annual pay increments for NTID faculty and staff are established by RIT.

	Total Number in Position	Average Salary October 2015 – September 2016
Faculty*		
Professor	27	$113,306
Associate Professor	39	$94,022
Assistant Professor	32	$72,603
Principal/Senior Lecturer	24	$68,325
Lecturer	48	$59,864
Subtotal Faculty	**170**	**$79,514**
Staff		
Exempt Staff**	126	$65,946
Non-Exempt Staff***	267	$44,937
Subtotal Staff	**393**	**$51,698**
Total	**563******	**$60,177**

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* Faculty are based on full-time, 9.5 month salaries; visiting faculty are noted within their rank.
** Based on full-time 12-month salaries.
*** Technical and clerical positions and real-time captionists are based on 35 hours per week/12 months per year. Interpreters are based on 40 hours per week/12 months per year.
**** Of the 563 employees, 541.18 are covered by NTID's operating funds.

Tenure-Track Positions and Faculty Rank

In FY 2016, senior-level faculty members (professor and associate professor) comprised 67 percent of all ranked tenure-track faculty as compared to 47 percent in FY 1985. Of the 92 tenure-track positions, 86 percent are tenured.

Rank	Number of Tenure-Track Positions*					FY 2016 Faculty with Tenure	
	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	Number	Percent
Professor	34	31	28	25	26	26	100%
Associate Professor	52	49	45	43	36	36	100%
Assistant Professor	48	37	35	35	30	17	57%
Instructor/Lecturer	4	0	0	0	0	0	0%
Total Positions	**138**	**117**	**108**	**103**	**92**	**79**	**86%**

NTID Visual Communications Studies (VCS) lecturer Stacy Bick '99, '00, left, and department chair Kurt Stoskopf '95, '00, right, present on employment opportunities for VCS graduates to first-year NTID students.

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* Includes ranked administrators.

Degree Levels of Tenured and Tenure-Track Faculty

Faculty members join NTID with a wide variety of backgrounds, including those with substantial experience in the private sector. In FY 2016, 95 percent of full-time, tenure-track faculty members held graduate degrees.

FY 2016 Highest Degree Level Achieved Tenure and Tenure-Track Faculty*		
	Number	Percent
Doctorate	42	46%
Master's	45	49%
Bachelor's	5	5%
Total	**92**	**100%**

Dr. Alvin C. Merritt Boyd III '07, special assistant for diversity and inclusion and faculty in NTID's Department of Business Studies, meets with students interested in business-related degrees during NTID's Summer Vestibule Program.

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* Includes ranked administrators.

Age, Length of Service and Retirement Status of NTID Faculty and Staff*

NTID's faculty and staff average 47.2 years of age with 14.2 years of service at NTID. As of October 2016, 30 percent are eligible for retirement.**

	Percent Full Time	Average Age	Average Length of Service	Age of Faculty/Staff					Currently in Retirement Transition
				≤ 54	55-61	62-64	65-69	≥70	
Professor	100%	64.1	30.0	2	4	4	14	3	2
Associate Professor	100%	56.8	26.0	13	12	7	6	1	1
Assistant Professor	100%	49.3	15.2	20	5	5	1	1	2
Principal/Senior Lecturer	100%	50.9	15.1	14	7	2	1	0	0
Lecturer	90%	40.7	7.0	42	3	2	1	0	0
Exempt Staff	98%	46.6	13.3	89	25	5	6	1	0
Technical/Clerical	90%	48.9	13.4	44	30	2	7	1	1
Interpreter	83%	42.6	13.5	105	20	3	2	1	0
Real-Time Captionist	38%	44.9	7.8	40	11	0	1	0	0

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*   Data not available for all faculty and staff.
**   To be eligible for retirement, an employee's age and years of service must be greater than or equal to 70, and they must be at least 55 years of age if hired after 1995, and at least 50 years of age if hired before 1995.

Faculty and Staff New Hires

The distribution of new hires by category and for
full-time and part-time positions is shown below.

	New Hires				
	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Full-Time:					
Faculty	11	3	11	16	7
Exempt Staff	7	2	3	11	14
Non-Exempt Staff*	7	4	14	18	32
Total Full-Time	**25**	**9**	**28**	**45**	**53**
Part-Time:					
Faculty	0	0	0	1	3
Exempt Staff	1	2	0	1	1
Non-Exempt Staff*	5	10	3	12	15
Total Part-Time	**6**	**12**	**3**	**14**	**19**
Total	**31**	**21**	**31**	**59**	**72**

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* Includes technical and clerical positions, real-time captionists and interpreters.

Faculty and Staff Terminations

The faculty and staff turnover rate, 8.0 percent, is a decrease from last year. Retirements of current faculty and staff are expected to rise as the employee base ages.

Full-Time/Part-Time	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016 Percent	Number
Faculty	8.2%	15.1%	8.8%	11.2%	8.8%	15
Exempt Staff	17.6%	10.6%	9.2%	5.1%	4.0%	5
Non-Exempt Staff*	7.2%	6.9%	9.5%	8.2%	9.4%	25
Total	**9.7%**	**10.4%**	**9.2%**	**8.5%**	**8.0%**	**45**

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* Includes technical and clerical positions, real-time captionists and interpreters.

RIT/NTID Leadership

Dr. William W. Destler, center, RIT's ninth president, announced he will retire in June 2017 after 10 years at RIT. Under Destler's leadership, RIT's enrollment reached record levels, selectivity and diversity have improved, the value of research awards has increased and geographic draw has widened across the U.S. and overseas.

NTID Administrative Council*

Dr. Gerard J. Buckley '78
President, NTID;
Vice President and
Dean, RIT

Dr. Stephen Aldersley
Associate Vice President for
Academic Affairs

Gary Behm '78, '81
Director, Center on
Access Technology

**Dr. Alvin C. Merritt Boyd III
'07**
Special Assistant for
Diversity and Inclusion

Dr. Pamela Carmichael '04
Assistant Vice President of
Communications, Marketing
and Multimedia Services

Marianne Gustafson
Associate Dean for
Curriculum and
Special Projects

Linda L. Hoke
Executive Assistant to
the President

Bernard Hurwitz, J.D.
Assistant Vice President for
NTID Administration and
External Relations

Dr. Denise Kavin
Special Assistant for
SD2020 Implementation

**Dr. Mary Karol Matchett
'88**
Assistant Vice President
for Student and
Academic Services

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* The following individuals also served on the NTID Administrative Council in FY 2016: Dr. Gary Long – Interim Associate Dean of Research, and Mark Rosica – Interim Associate Dean for Student and Academic Services.

Steven Morse, CPA '86
Assistant Vice President for
Finance and Budget

Dr. Todd Pagano
Associate Dean for
Teaching and
Scholarship Excellence

Dr. Rico Peterson
Assistant Dean and Director,
NTID Access Services

Dr. Robert Pollard
Associate Dean
of Research

Thomastine Sarchet '03, '09
Director, International
Educational Outreach

Dr. Kathryn Schmitz '95
Associate Dean for
Academic Administration

Erwin Smith
Assistant Vice President for
Information Technology and
College Operations

NTID National Advisory Group

The National Advisory Group advises the NTID president / RIT vice president and dean in developing and carrying out policies governing the operation and direction of the institute. The National Advisory Group comprises professionals concerned with the education of deaf and hard-of-hearing students, professionals concerned with postsecondary education and individuals familiar with the need for the services provided by NTID.

Active Members

Bedarius Bell, Jr.
State Coordinator of Deaf and Hard of Hearing Services, Alabama Department of Rehabilitation

Joyce Bender
CEO, Bender Consulting Services Inc.

Lisa Dallos
Founder, High10Media

Dr. Christopher Lehfeldt
Dentist, Elmwood Dental Group, P.C.; *Chair*

Mary Beth Mothersell
Senior Customer Relations Manager, Sprint

David Nelson
Senior Community Outreach Specialist, Amtrak

Gabrielle Nocciolino '09, '11
Theatre Arts Teacher and Performing Arts Coordinator, Texas School for the Deaf

Karen Putz
Owner, Ageless Passions

Joseph Riggio '92, '01
Regional Outreach Manager, ZVRS

Michael Tecklenburg
Counsel to House Democratic Leader Nancy Pelosi

Kathleen Treni
Principal, Continuum of Services for Deaf and Hard of Hearing Students, Bergen County Special Services District

Sean Virnig
Associate Director, State Special Schools and Services Division, California Department of Education

Douglas Watson
Professor Emeritus and former Director, Research and Training Center for Persons Who Are Deaf or Hard of Hearing, University of Arkansas

U.S. Department of Education

Brianne Burger
Director/Liaison, Office of Special Institutions, Office of Special Education and Rehabilitative Services

U.S. Government Representatives

The Honorable Charles E. Schumer
Member, U.S. Senate, New York State

The Honorable Louise M. Slaughter
Member, U.S. House of Representatives, New York State

NTID Foundation Board

The NTID Foundation is an organization of volunteers committed to the advancement of career development and personal growth opportunities for deaf and hard-of-hearing students at NTID.

Foundation Board members foster involvement and private investment to enrich the quality and vitality of the learning environment at NTID.

Active Members:

Timothy Beatty '80
Chief of Independent Living, U.S. Dept. of Health & Human Services

Gary Behm '78, '81
Director, NTID Center on Access Technology

Dr. Gerard J. Buckley '78
President, NTID; Vice President and Dean, RIT

Shraddha Chaplot
Greengineer/Hardware Test Engineer, Cisco Systems, Inc.

Michael Ellis
Global Director, Accessibility, Sprint

Sean P. Flanagan
Sr. Customer Business Manager, Bayer Consumer Care

Sue Flanagan
Volunteer Event Coordinator

Eric Gjerdingen '92

Sarah Gordon '07
Director of Community Relations, Convo

Gordon Hewitt '73, '75
Retired Chief for Strategic Enterprise Initiative Branch, U.S. Dept. of Homeland Security

Wendee Jaeger

Edward Latimer, M.D.
Psychiatrist

Jeff McCaw '89
Chief Financial Officer, Goodwill Industries International

Barbara Montan

Anthony Napoli '01
Case Manager, Environmental Protection Agency

Ken Peterson
Partner, Kolnichi, Peterson, Wirth, LLC

Maria Peterson
Owner, FitCore, Inc.

Chris Prilenski

RIT Officers

Dr. William W. Destler
President

Karen Barrows
Secretary of the Institute and Chief of Staff

Dr. Gerard J. Buckley '78
President, NTID; Vice President and Dean, RIT

Dr. Lisa Cauda
Vice President, Development and Alumni Relations

Dr. Jeremy Haefner
Provost and Senior Vice President for Academic Affairs

Dr. Keith Jenkins
Interim Vice President and Associate Provost for Diversity and Inclusion

Dr. Sandra S. Johnson
Senior Vice President for Student Affairs

Dr. Katherine J. Mayberry
Vice President for Strategic Planning and Special Initiatives

Dr. James G. Miller
Senior Vice President, Enrollment Management and Career Services

Dr. Daniel Ornt
Vice President, Institute of Health Sciences and Technology; Dean, College of Health Sciences and Technology

Dr. Ryne Raffaelle
Vice President for Research and Associate Provost for Outreach Programs

Deborah M. Stendardi
Vice President, Government and Community Relations

Dr. James H. Watters
Senior Vice President, Finance and Administration

Results of Financial Operations

Caitlyn Lacerra, of Marlborough, Massachusetts, graduated with her degree in Business Technology and was one of the Outstanding Graduate Award winners for students earning associate degrees. She completed a co-op at UMass Medical School in Shrewsbury, Massachusetts, working in the Center for Health Policy and Research.

Financial Operations Highlights

During FY 2016, NTID continued to enhance its impact by growing programming and operations in line with its primary and secondary missions. This effort resulted in an increase in total expenses of 2.6 percent over FY 2015 levels, which were absorbed by an increase in NTID's Federal appropriation of 1.6 percent (not including the $2 million set aside for outreach efforts in the southeast United States) and an increase in NTID's non-Federal funds of 5.2 percent.

As noted on the next page, the full fiscal 2016 Federal Appropriation for NTID was $70.016 million. The $2 million not included in the statement of financial operating results was specifically designated for outreach efforts in the southeast United States. During FY 2016, a nominal amount was expended for this effort as necessary organizational and operational contracts were drafted, approved and executed. Therefore, nearly $2 million remains available for this purpose and such funds were carried forward into FY 2017. None of the costs for this outreach effort are reflected in the statement of financial operating results.

Total Personnel Compensation for FY 2016 increased approximately $1.4 million (or 3.2 percent) over FY 2015. This increase is a result of merit increases awarded to faculty and staff, restoration of previously open positions within the college and the lack of the one-time accounting adjustments made to tuition waiver expense and NTID's vacation accrual during the prior year.

Total RIT Services decreased by approximately $706,000 (or 2.3 percent) over FY 2015 primarily as a result of an $845,760 decrease in overhead charges paid to RIT. This reduction in overhead costs is evidence of continued prudent fiscal management by RIT.

Total Other Expenditures increased by approximately $1.7 million (or 9.8 percent) over FY 2015. This increase was primarily the result of an increase in capital expenditures of approximately $2.8 million. During FY 2016 NTID saw an increase in equipment and construction/renovation costs as the college strives to provide state-of-the-art facilities for its students.

NTID's FY 2016 financial results demonstrate its continued commitment to excellent stewardship of resources and sound financial management and oversight.

Financial Operating Results

	FY 2015	FY 2016	Variance $	Variance %
EXPENSES				
Personnel Compensation Expenditures				
Salaries and Wages	$32,052,720	$34,062,237	$2,009,517	6.3%
Benefits	12,160,500	11,560,255	(600,245)	-4.9%
Total Personnel Compensation	**$44,213,220**	**$45,622,492**	**$1,409,272**	**3.2%**
RIT Services Expenditures				
Direct:				
Residence Halls/Food Service, Student Services	$7,267,449	$7,684,294	$416,845	5.7%
Cross-Registered Tuition	9,569,614	9,357,259	(212,355)	-2.2%
Physical Plant Services	2,454,258	2,389,550	(64,708)	-2.6%
Indirect:				
Overhead	11,833,396	10,987,636	(845,760)	-7.1%
Total RIT Services	**$31,124,717**	**$30,418,739**	**$(705,978)**	**-2.3%**
Other Expenditures				
Support Expenditures	$6,389,475	$6,977,120	$587,645	9.2%
Grant Cost Shares	171,693	146,920	(24,773)	-14.4%
Financial Aid	2,658,783	2,423,504	(235,279)	-8.8%
Capital	606,264	3,433,230	2,826,966	466.3%
Matching Endowment	309,000	387,666	78,666	25.4%
Plant Fund	7,412,267	5,901,533	(1,510,734)	-20.4%
Total Other	**$17,547,482**	**$19,269,973**	**$1,722,491**	**9.8%**
Total Expenses	**$92,885,419**	**$95,311,204**	**$2,425,785**	**2.6%**
REVENUE				
Federal Appropriation	$66,950,000	$68,016,000*	$1,066,000	1.6%
Non-Federal Funds	25,935,419	27,295,204	1,359,785	5.2%
Total Revenue	**$92,885,419**	**$95,311,204**	**$2,425,785**	**2.6%**

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* The FY 2016 Federal Appropriation was $70,016,000. The $2,000,000 not included here was specifically designated for outreach efforts in the southeast United States. A nominal amount of this $2,000,000 was expended during FY 2016 and the unused balance is carried forward to FY 2017. None of the FY 2016 incurred costs for this outreach effort are reflected in this financial statement.

Tuition, Room, Board and Other Fees

The tuition rate increased by 3.8 percent while the rates charged for room, board and fees increased by 3.0 percent for a total combined rate increase of 3.4 percent. These non-federal resource collections constituted approximately 29 percent of NTID's total operating revenue.

	Rates Charged Students				
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**
Tuition	$12,393	$13,512	$14,040	$14,570	$15,140
Room	6,309	6,530	6,758	6,954	7,162
Board	4,491	4,648	4,810	4,964	5,338
Fees	474	492	512	528	544
Total	**$23,667**	**$25,182**	**$26,120**	**$27,016**	**$28,184**
Collections	$25,222,569	$25,979,350	$25,935,419	$27,295,204	*
Enrollment (Fall)	1,529	1,432	1,387	1,413	1,300
Collections Per Student	**$16,496**	**$18,142**	**$18,699**	**$19,317**	*

In 2016, NTID's team of students won the National Association of the Deaf's College Bowl for the third consecutive year, and its sixth victory overall. Pictured here from left to right are: Dr. Gerry Buckley '78, NTID president; Gary Behm '78, '81, NTID faculty and College Bowl coach; Asher Kirschbaum, a mechanical engineering major from Washington Grove, Maryland; Lauren Berger, a psychology major from Rochester, New York; Emmanuel Perrodin-Njoku, a biomedical sciences major from Washington, D.C.; Eric Epstein, a software engineering major from Tuscon, Arizona; and Dr. Chris Kurz '95, NTID faculty and College Bowl coach.

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* As of the writing of this report, the collection information for FY 2017 is incomplete.

Financial Aid

The average student receives significant financial aid to apply to tuition, room, board, fees, books, transportation and other expenses.

Employer representatives who attended RIT/NTID gave back to NTID students at NTID's Job Fair by recruiting them for co-ops and job opportunities.

Financial Aid (Domestic Students)

Financial aid awards to domestic students totaled $22.7 million in FY 2016, a 2.4 percent decrease from FY 2015. Institutionally sponsored aid increased in FY 2016 by 14.9 percent and state and federal support decreased by 2.6 percent. Loans taken out by domestic students decreased in FY 2016 by 18 percent, while the number of awards, including loans, remained the same compared to FY 2015. Overall, the average financial aid (excluding loans) per domestic student decreased by 0.1 percent in FY 2016.

SOURCE OF AID	2015		2016		AMOUNT DIFF %
	Awards*	Amount	Awards*	Amount	
INSTITUTIONALLY SPONSORED SUPPORT					
Grant-in-Aid:					
NTID Grant-in-Aid	350	$1,360,033	245	$935,259	-31.2%
RIT Grant-in-Aid	32	99,950	34	100,137	0.2%
Subtotal Grant-in-Aid	382	$1,459,983	279	$1,035,396	-29.1%
Scholarships:					
NTID Merit	417	$1,279,250	449	$1,463,495	14.4%
RIT Merit	80	158,833	90	212,133	33.6%
NTID Endowments	714	1,366,411	956	2,235,002	63.6%
External Groups	95	238,223	94	225,868	-5.2%
Subtotal Scholarships	1,306	$3,042,717	1,589	$4,136,498	35.9%
Subtotal Institutionally Sponsored Support	**1,688**	**$4,502,700**	**1,868**	**$5,171,894**	**14.9%**
STATE AND FEDERAL SUPPORT					
Grants:					
Pell Grants	613	$2,662,380	595	$2,611,999	-1.9%
State Grants	225	458,527	217	453,851	-1.0%
Subtotal Grants	838	$3,120,907	812	$3,065,850	-1.8%
Other Federal Support:					
Vocational Rehabilitation	927	$10,821,731	895	$10,504,372	-2.9%
Federal Work Study	41	74,423	45	85,160	14.4%
Subtotal Other Support	968	$10,896,154	940	$10,589,532	-2.8%
Subtotal State and Federal Support	**1,806**	**$14,017,061**	**1,752**	**$13,655,382**	**-2.6%**
LOANS					
Subsidized Federal Student Loan	496	$1,725,225	442	$1,589,724	-7.9%
Unsubsidized Federal Student Loan	534	2,350,695	456	1,748,423	-25.6%
Parent PLUS Loans	72	699,111	76	577,586	-17.4%
Subtotal Loans	**1,102**	**$4,775,031**	**974**	**$3,915,733**	**-18.0%**
TOTAL ALL FINANCIAL AID	**4,596**	**$23,294,792**	**4,594**	**$22,743,009**	**-2.4%**
Domestic Student Enrollment		**1,343**		**1,366**	**1.7%**
Average Financial Aid per Student		**$17,345**		**$16,649**	**-4.0%**
Average Financial Aid per Student Excluding Loans		**$13,790**		**$13,783**	**-0.1%**

* Students receive more than one form of aid; therefore, the numbers of awards (grants, loans, scholarship, etc.) outnumber the student body.

External Funding Sources

In FY 2016, the RIT/NTID Joseph F. and Helen C. Dyer Arts Center hosted 18 exhibits, including the first-ever exhibit on Black Deaf artists. The Dyer Arts Center also provided space to 65 events hosted by various departments and student organizations.

The NTID Foundation

NTID received $1,113,890 in new commitments of support including outright gifts of cash and equivalents, gifts-in-kind, deferred gifts and pledges. These dollars were designated to support NTID endowed funds, upgrades to the Panara Theatre, international programming and a variety of research and pre- and post-college outreach programs.

Contributions of $1,000 and above received during FY 2016 include:

$500,000 and Above Level:	Anonymous
$50,000 - $499,999 Level:	Mr. & Mrs. Edward C. Lawson Mr. & Mrs. Bruce Martin Ms. Sherry K. Emerson Mutterer Dr. Noah Samara and Mrs. Martha Debebe
$10,000 - $49,999 Level:	DEAF Inc. Deaf Seniors of America, Inc. Dr. & Mrs. James J. DeCaro Walt Disney Company Foundation Dow Chemical Co. Foundation Easter Seals Inc. Jephson Educational Trust J.M. McDonald Foundation Montan Family Foundation Motorola Solutions Foundation Mr. Jarrod G. Musano Oldtime Baseball Game Resound North America ZVRS
$5,000 - $9,999 Level:	Bank of New York Mellon Bayer Corp. Mr. Robert W. Rice '94, '97 Sprint Fred & Floy Willmott Foundation
$1,000 - $4,999 Level:	Ms. Patricia M. Albanese '00 American School for the Deaf Anonymous S. & J. Braitman Family Supporting Fdn., Inc. Mr. & Mrs. Andrew N. Brenneman '88 Dr. & Mrs. Gerard J. Buckley '78 Dr. Richard V. Burkhauser Dr. Pamela L. Carmichael '04 Mr. & Mrs. Chun S. Chang CPM-US LLC Dr. Vincent A. Daniele Delta Sigma Phi Alumni Corporation Board Eastern Bank Charitable Foundation Mr. Mark C. Feder Dr. & Mrs. Terry Feigenbaum Mr. & Mrs. Frederick G. Feldman '77 Ms. Colleen M. Freeman Ms. Katharine F. Gillies '91 Ms. Marianne M. Gustafson Hamilton Relay

$1,000 - $4,999 Level:	Mr. William S. Hayes, III Mr. & Mrs. Gordon J. Hewitt '73, '75 Dr. Melinda J. Hopper Dr. & Mrs. T. Alan Hurwitz Mr. Bernard Hurwitz and Ms. Stacy Lawrence '93, '96 Mr. & Mrs. Richard Hymes Jewish Federation of Greater Rochester, Inc. Ms. Theresa L. Johnson, M.Ed. Dr. & Mrs. Ronald R. Kelly Drs. Christopher '95 & Kim Kurz '93, '95 Dr. Christopher Lehfeldt LU Engineers Ms. Gayle M. Macias '06 Dr. Mary Karol Matchett '88 Drs. Robert '70 & Susan Mather '74 Mr. Jeffrey Wayne McCaw Morgan Stanley Global Impact Funding Trust Mr. Anthony S. Napoli '01 Dr. Richard C. Nowell Mrs. Angela S. Officer '88 Mrs. Carole L. Pepe Rarus & Company, LLC Mr. John T. Reid '79 Rochester Area Community Foundation Mrs. Sidonie Merkel Roepke '79, '81, '83, '84 Mr. & Mrs. Bruce Schilling Kathryn L. Schmitz, Ph.D. '95 sComm, Inc. Dr. & Mrs. J. Matt Searls Mr. Erwin J. Smith Sprint Foundation Mr. James J. Stefano Stefano La Sala Foundation, Inc. Dr. Frank B. Sullivan Memorial Foundation, Inc. Mr. William Urich Wegmans Food Markets, Inc. Wells Fargo Financial

NTID Annual Fundraising Results

Through the ongoing support of the NTID Foundation, the college's development program continues to be successful. The substantial sums that NTID raises demonstrate NTID's commitment to seeking alternative sources of public and private support. In FY 2016, NTID development activity generated $450,505 for endowment and restricted purposes. Of that amount, $387,666 was matched with federal dollars and directed toward NTID's endowed scholarship funds.

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Endowment and Restricted Funds	$1,460,336	$935,832	$1,321,580	$1,348,092	$450,505
Equipment and Software	$141,740	$29,380	$57,117	$69,697	$43,738
Total	**$1,602,076**	**$965,212**	**$1,378,697**	**$1,417,789**	**$494,243**

NTID performed "Sherlock Holmes and the Crucifer of Blood," marking the end to director and NTID faculty member Jerry Argetsinger's 41-year career at NTID.

NTID Endowment Programs

A total of $775,332, including matching federal funds* of $387,666, was added to the Federal Matching Endowment Fund corpus in 2016. The market value of NTID's Federal Matching Endowment portfolio stands at $54,276,335.

The market value of NTID's total endowments, which include privately raised funds prior to the establishment of the Federal Matching Endowment program, is $59,515,260.

Value as of September 30, 2016

	Contributed Value	Market Value
Funds Subject to Federal Investment and Spending Guidelines		
Private	$6,199,717	$10,561,568
Federal	$6,210,871	$10,119,506
Subtotal	$12,410,588	$20,681,074
Funds No Longer Subject to Federal Investment and Spending Guidelines	$16,598,617	$33,595,261
Total Federal Endowment	**$29,009,205**	**$54,276,335**

Other Endowments	Contributed Value	Market Value
Private	$1,891,940	$5,238,925
Total Endowments	**$30,901,145**	**$59,515,260**

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* Any monies matched must be funded through operating funds efficiencies.

Scholarships, Endowed Funds and Estate Commitments

The generosity of a large number of friends of
NTID has resulted in the following scholarships,
endowed funds and estate commitments
benefiting NTID students.

Barlow Endowed Scholarship Fund

Alice Beardsley Memorial Endowed Scholarship Fund for Interpreting Students at NTID

Ned Behnke Memorial Endowed Scholarship Fund

Frank P. Benz Jr. Memorial Scholarship

Doris W. Blanchard Endowed Scholarship Fund

Farid Bozorgi Memorial Endowed Scholarship Fund

Bernard Bragg Deaf Theatre, Signed Arts and Deaf Cinema Endowment Fund

Andrew and Mary Brenneman Annual Scholarship

Gladys Brooks Endowed Fund for the Laboratory Science Technology Program

Dr. Gerard Buckley Student Leadership Endowment

Caption First Scholarship at NTID

Citicorp/Citibank Endowed Scholarship Fund at NTID

Dr. Karen K. Conner Annual Scholarship Fund

Continental Corporation Endowed Scholarship Fund at NTID

Lillian M. Cowin Memorial Endowed Scholarship Fund

Robert R. and Donna E. Davila Endowed Scholarship Fund

James J. DeCaro Endowed Scholarship Fund

Delta Sigma Phi Fraternity Endowed Scholarship Fund

Ronald Dodge Faculty/Staff Grants Endowed Fund

Ronald Dodge Memorial Endowed Scholarship Fund

Dreyfus Foundation Laboratory Science Technology Endowed Student Support Fund

Dorothy E. Ann Fund (D.E.A.F.) Endowed Scholarship Fund

Mr. and Mrs. Joseph F. Dyer Endowed Scholarship Fund

Joseph F. and Helen C. Dyer Arts Center Endowed Fund

Max Factor Family Foundation Endowed Scholarship Fund

Barbara M. Fallon KPMG Memorial Endowed Scholarship Fund

Rose and George Feigenbaum Endowed Scholarship Fund

Ruth H. Fenyvessy Memorial Endowed Scholarship Fund

Curt and Jean Feuer Scholarship at NTID

Maurice and Maxine Forman Endowed Scholarship Fund

Ann Wadsworth Frisina Memorial Endowed Scholarship Fund

Dr. Robert Frisina Award

Max and Helene Frumkes Memorial Endowed Scholarship Fund

Garlinghouse Endowed Scholarship Fund

Warren Goldmann Endowed Scholarship Fund

Allen and Gloria Gopen Endowed Scholarship Fund

Debbe A. Hagner Endowed Lecture at NTID

Mildred F. Hall Endowed Scholarship Fund

Hamilton Relay Scholarship

Jennifer Van Atta Hayes Memorial Endowed Scholarship

William Randolph Hearst Endowed Scholarship Fund for Financially Disadvantaged Students

Dr. Mary Jane Hellyar Endowed Scholarship Fund

Frank Horton Endowed Scholarship Fund

William "Dummy" Hoy OTB Endowed Scholarship

T. Alan and Vicki T. Hurwitz Family Endowed Scholarship Fund

Ralph Hymes Endowed Scholarship Fund

Linda A. Iacelli Endowed Student Support Fund

Interpretek Endowed Scholarship Fund

Andrew Jacobson Annual Scholarship

Lucille Ritter Jennings Endowed Scholarship Fund

Jephson Educational Trust Endowed Scholarship Fund for the Performing Arts

JHB Anonymous Scholarship Fund

Johnson Scholarship Foundation Endowed Scholarship for Innovation and Entrepreneurship

David T. Kearns Endowed Scholarship Fund for Technical Excellence

Ron and Lyn Kelly Endowed Scholarship for Deaf and Hard-of-Hearing Students

Drew and Frances King Endowment Fund

Sara L. Kuhnert Endowed Scholarship Fund

La Sala Foundation Doctoral Fellowship Fund

Johanna Larson Endowed Scholarship in the Allied Health Disciplines

Michael E. Lawson Endowed Scholarship

Edward H. Lichtenstein Memorial Endowed Scholarship Fund

Dr. Frank W. Lovejoy Jr. Endowment for Deafness Research

Edmund Lyon Memorial Lectureship Fund

Dr. James C. Marsters Endowed Scholarship Fund

Martin Family Endowed Scholarship

Dr. Robert S. and Carol D. Menchel Endowed Scholarship Fund

Kevin Mowl Memorial Endowed Scholarship Fund

Mageeda Murad Endowed Scholarship Fund

Dr. Genji Murai Endowed Scholarship Fund

Mutterer Family Endowed Scholarship Fund

M. L. Navrat Endowed Scholarship Fund for NTID

Ruth G. Norton Endowed Scholarship Fund

NTID Alumni Association Endowed Scholarship Fund

NTID Anonymous #12 Endowed Scholarship Fund

NTID Architectural Technology Award Endowed Scholarship Fund

NTID Business Careers Endowed Scholarship Fund

NTID Emergency EYF Student Scholarship Fund

NTID Endowed Scholarship in the Visual Arts Disciplines

NTID Foundation Endowed Scholarship Fund

NTID Merit Scholarship Fund

NTID Performing Arts Endowed Scholarship Fund

NTID President and Dean's Scholarship for Academic Excellence

NTID Science and Engineering Careers Endowed Scholarship Fund

NTID Student Leadership Endowed Fund

NTID Visual Communications Endowed Scholarship Fund

NYS Federation of Home Bureaus, Inc. Endowed Scholarship Fund in Honor of Martha Perry

Milton H. and Ray B. Ohringer Endowed Scholarship Fund

Robert F. Panara Endowed Scholarship Fund

Shirley M. Panara Memorial Endowed Fund

Pulver Family Endowed Scholarship Fund

Robert W. Rice Endowed Scholarship Fund

RIT Celebration of Community Endowed Fund

Mary Hope Robinson Endowment for the Performing Arts

Dr. Ellie Rosenfield Endowed Scholarship Fund

Rothman Family Endowment Fund

Elizabeth Dunlap Sargent Memorial Endowed Scholarship Fund

Royichi Sasakawa / James J. DeCaro Endowed Scholarship Fund

Edward L. Scouten Endowed Fund for English Literacy

Wilfrid and Isabel Searjeant Endowed Scholarship Fund

S. Richard Silverman Endowed Scholarship Fund for International Deaf Students

Carolie R. Simone Endowed Scholarship Fund

Edythe and Edward Sklar Endowed Scholarship Fund

David Smith Memorial Endowed Scholarship Fund

Benjamin J. Soukup Endowed Scholarship Fund

Sprint Endowed Scholarship Fund

Dr. Frank B. Sullivan Memorial Exemplary Business Student Award

Frank B. Sullivan Memorial Scholarship

Solon E. Summerfield Foundation Endowed Scholarship Fund

Michael A. Swartzman Memorial Endowed Scholarship Fund

Paul L. and Sally A. Taylor Endowed Scholarship Fund

Michael Thomas Endowed Scholarship Fund in the Performing Arts

Scholarships, Endowed Funds and Estate Commitments (continued)

Eloise Thornberry Endowed Scholarship Fund

W. Paul Urich Memorial Endowed Scholarship Fund

Al Van Nevel Memorial Foundation Scholarship for Excellence in Business Studies at NTID

Joseph C. and Loretta F. Wolf Endowed Scholarship Fund

Louis S. and Molly B. Wolk Foundation Endowed Scholarship Fund for Deaf Students at RIT

The Woman's Club of Rochester Endowed Scholarship Fund for Deaf Students at RIT

Women's Council Endowed Scholarship Fund for Deaf and Hard-of-Hearing Students at RIT

James Ventimiglia Memorial Printing Award Endowed Fund

Elizabeth W. Williams Endowed Fund for the Performing Arts

RIT's College of Liberal Arts Performing Arts Program and NTID's Performing Arts Program presented "Tribes," a comedy/drama about family conflict that arises when a deaf son brings his girlfriend, who was born to deaf parents and is becoming deaf herself, home to meet his hearing parents.

Grants and Contracts

During FY 2016 NTID had 33 new grant proposals totaling $13,308,409 that were submitted for funding. Nine, totaling $4,287,675, were funded; 17 are still pending; seven were not funded.

As of September 30, 2016, the annual reimbursed expenditures of all grants and contracts at NTID totaled $3,579,892 with a total value of $14,392,138 over the lives of the projects.

Project Title	Grant Provider	Year	Amount FY 2016	Total Value
Deaf STEM Community Alliance: Supporting Postsecondary Deaf and Hard-of-Hearing Students	National Science Foundation	5/5	$308,209	$1,770,022
Accountability Initiative with Special Emphasis on Recruitment of STEM and Minority Teachers of Deaf and Hard-of-Hearing Students	Department of Education	5/5	$263,211	$1,247,197
Language, Learning and Cognition Among Deaf Students With and Without Cochlear Implants	National Institutes of Health	4/4	$519,989	$2,253,710
Deaf Learners' Lexical Acquisition of English Verbs and Their Component Properties	National Science Foundation	4/4	$68,477	$300,502
Stereotype Threat Effects and Deaf and Hard of Hearing College Students	National Science Foundation	3/3	$205,887	$534,204
Rochester Prevention Research Center - Year 2	National Institutes of Health	1/1	$68,207	$61,784
REU SITE: Accessible Multimodal Interfaces	National Science Foundation	2/3	$120,603	$385,433
Renewal of DeafTEC: Technological Education Center for Deaf and Hard-of-Hearing Students	National Science Foundation	2/4	$707,884	$3,999,807
CTEA: Perkins IV Formula Funding	Department of Education	1/1	$34,239	$40,795
Facilitating Knowledge Building in Cooperative Learning	National Science Foundation	2/3	$88,321	$499,830
U.S.-Swedish Workshop on Assessment of Multimodal, Multilingual Outcomes in Deaf and Hard-of-Hearing Children	National Science Foundation	1/2	$64,879	$64,879
Mechanism of Health Literacy and Information Accessibility	National Institutes of Health	1/5	$63,052	$224,177
Substance and Alcohol Intervention Services for the Deaf	NYS Office of Mental Health-Rochester Psychiatric Center	1/1	$144,598	$165,743
Internet Protocol Captioned Telephone Service (IP-CTS) Assessment on Quality and Usability	National Institutes of Health	1/2	$8,402	$14,614
Development of Temporal Visual Selective Attention in Deaf Children	National Science Foundation	1/3	$16,717	$449,947

Grants and Contracts (continued)

RoadMAPPs to Careers: A New Approach to Mobile Apps Education featuring a Mapp for Deaf and Hard-of-Hearing Students	National Science Foundation	1/3	$46,432	$820,504
Addiction Treatment Services for Deaf and Hard-of-Hearing Individuals (Norris Clinic)	NYS Office of Mental Health-Rochester Psychiatric Center	4/5	$55,186	$276,988
Pre-College Education Network (P-CEN) - Year 5 NTID Proposal to the Nippon Foundation of Japan	The Nippon Foundation	1/1	$440,015	$848,615
Software Development Project - 2016	VTC Secure	1/1	$15,230	$20,285
Android Development collaboration with VL2 (VL2 ADC Project) - Supplement	National Science Foundation	1/2	$1,000	$2,000
FCC CLIN2: Project Management	FCC/VTC Secure	1/1	$261,889	$333,637
Broadening Participation of Deaf Students in Sign Language Research - 2015	National Science Foundation	1/1	$77,465	$77,465
Total			**$3,579,892**	**$14,392,138**